Volume 10 Nomor 2, Mei 2008 ISSN 1410-9204

EKONOMI DAN BISNIS E&B

Berkala Publikasi Gagasan Konseptual, Hasil Penelitian, Kajian, dan Terapan Teori

Surat Keputusan Akreditasi Dirjen Dikti Depdiknas No 26/DIKTI/Kep/2005 Tanggal 30 Mei 2005
Penerbit: Program Studi Ilmu Ekonomi dan Studi Pembangunan, Fakultas Ekonomi, Universitas Surabaya

Ekon. Bisnis | Vol.10 | No.2 | Halaman 109-184 | Surabaya, Mei 2008 | ISSN 1410-9204

Petunjuk Bagi Penulis

1. Ekonomi & Bisnis merupakan jurnal tentang kajian penelitian di mana teori atau teknik baru diterapkan dalam kajian kebijakan ekonomi dan bisnis, dan bukan sekedar membahas perkembangan teori yang merupakan isu universal.
2. Sistematika Penulisan: naskah artikel meliputi: (a) judul, (b) nama penulis (tanpa gelar) dan afiliasi lembaga, (c) abstrak (d) kata kunci 3-5 buah, (e) pendahuluan yang berisi latar belakang dan tujuan atau ruang lingkup tulisan (f) kerangka teoritik, (g) metodologi penelitian, (h) pembahasan, (i) diskusi dan penutup, serta (j) daftar rujukan (cantumkan yang dirujuk saja).
3. Abstrak menyajikan deskripsi tentang artikel, berupa tujuan, metode, skope, dan beberapa hal penting dalam artikel, yang bertujuan menarik minat pembaca.
4. Pembabab: Semua naskah ditulis dalam bentuk esai, disertai judul bab dan subbab *(heading)*. Peringkat judul subbab letaknya rata tepi kiri, dengan jenis huruf sebagai berikut:

   PERINGKAT 1 (huruf besar semua, tebal).
   Peringkat 2 (huruf besar-kecil, tebal).
   Peringkat 3 (huruf besar-kecil tebal miring).

5. Artikel hendaknya mempunyai kajian teoritis yang terkini, yang ditentukan dengan melihat daftar rujukan yang didominasi oleh jurnal internasional dan nasional yang mempunyai kualifikasi tinggi dalam kurun waktu 5 (lima) tahun terakhir.
6. Daftar Rujukan disajikan mengikuti tatacara seperti contoh berikut dan diurutkan secara alfabetis.

   Chang, Ha-Joon, 2002, "Breaking the Mould: an Institutionalist Political Economy Alternative to the Neo-Liberal Theory of Market and the State", *Cambridge Journal of Economics*, 26(5), p 539-559.

   Gujarati, Damodar N., 2003, *Basic Econometrics*, 4th edition, McGraw-Hill International Edition, Boston.

7. Naskah merupakan hasil karya sendiri dan belum pernah diterbitkan dalam media cetak lain, dengan panjang sekitar 10-20 halaman dalam bentuk ketikan dengan spasi 1 (satu) di atas kertas ukuran A4 (margin atas dan bawah 3 cm, margin kiri dan kanan 2 cm) sebanyak 1 (satu) eksemplar dan pada disket menggunakan program pengolah kata Microsoft Word (MS WORD) atau yang kompatibel.

8. Untuk tulisan berbahasa Indonesia, tatacara penulisan artikel memperhatikan aturan tentang penggunaan tanda baca dan ejaan yang dimuat dalam Pedoman Umum Ejaan Bahasa Indonesia yang Disempurnakan.

Informasi lebih lanjut bisa menghubungi ketua penyunting: A. Hery Pratono (hery_pra@ubaya.ac.id atau hpratono@gmail.com)

Volume 10 Nomor 2, Mei 2008 ISSN 1410-9204

EKONOMI DAN BISNIS

Berkala Publikasi Gagasan Konseptual, Hasil Penelitian, Kajian, dan Terapan Teori

E&B

Surat Keputusan Akreditasi Dirjen Dikti Depdiknas No 26/DIKTI/Kep/2005 Tanggal 30 Mei 2005
Penerbit: Program Studi Ilmu Ekonomi dan Studi Pembangunan, Fakultas Ekonomi, Universitas Surabaya

Ekon.Bisnis	Vol.10	No.2	Halaman 109-184	Surabaya, Mei 2008	ISSN 1410-9204

Volume 10 Nomor 2, Mei 2008 ISSN 1410-9204

EKONOMI DAN BISNIS

Berkala Publikasi Gagasan Konseptual, Hasil Penelitian, Kajian, dan Terapan Teori

Surat Keputusan Akreditasi Dirjen Dikti Depdiknas No 26/DIKTI/Kep/2005 Tanggal 30 Mei 2005
Penerbit: Program Studi Ilmu Ekonomi dan Studi Pembangunan, Fakultas Ekonomi, Universitas Surabaya

Ekon.Bisnis	Vol.10	No.2	Halaman 109-184	Surabaya, Mei 2008	ISSN 1410-9204

E&B

EKONOMI
dan BISNIS

THE CONTRIBUTION OF FOREIGN DIRECT INVESTMENT ON INDONESIA'S MANUFACTURING INDUSTRY

Suyanto

ABSTRACT

The current study assesses the contributions of foreign direct investment (FDI) on Indonesian manufacturing. By taking advantage of the availability of plant-level survey data from Badan Pusat Statistik (BPS), for the period 1975-2005, this study assesses the impacts of FDI on five strategic factors: capital, employment, technology transfer, domestic suppliers, and trade performance. The results show that foreign firms in Indonesian manufacturing played an important role on these five factors. Although foreign firms were minor in manufacturing sector, their share on capital in this sector was significant. They also played an increasingly important role on employment over the last four decades. Sectors that received significant employment effect from foreign firms were metal products and textiles. Besides creating employment opportunity, foreign firms in Indonesian manufacturing also generated high value added to Indonesian manufacturing sector. The contribution of foreign firms to technology transfer depends on several factors, such as the level of research and development in domestic firms, labour skills for the new technology, and technological gaps between foreign and domestic firms. Based on the ratio of local procurement, foreign firms in manufacturing has contributed to upstream industries through domestic input contains. The upward trend in local procurement suggests that the linkages of foreign firms and domestic suppliers are getting stronger overtime. Moreover, foreign firm also played crucial roles in manufacturing exports, which accounted to more than 30 percent of total export in manufacturing. However, foreign firms in Indonesia manufacturing relied heavily on imported material. The value of their imported material accounted for more than 40 percent of total imported material in manufacturing.

Keyword: *Foreign Direct Investment, Manufacturing Industry, Economic Contribution.*

Suyanto
Faculty of Economics, Universitas Surabaya

The flows of FDI to developing countries not only can contribute to capital accumulation but also introduce a new technology and managerial know-how, provide a market for domestic suppliers and related industries, and stimulate domestic firms to achieve higher efficiency and productivity. For policy makers and the government of the host country, FDI inflows may be considered as a source to help them to utilize domestic resources in achieving economic plan or policy targets. Such investment may be seen as a strategic factor to fill a gap between domestic saving and investment, to finance the government budget deficit, promote exports, and generate foreign exchange. FDI may also assist policy makers in attaining macroeconomic policy objectives, such as reducing unemployment and stimulating industry development. For domestic consumers, the existence of foreign companies can result in higher quality goods with a lower price, which may increase the consumer surplus.

Despite these important roles, it is difficult to measure the economic contributions of FDI to the host country precisely. Even the direction of the contributions may not be easy to detect. For example, the entry of foreign companies in the domestic market may increase efficiency and productivity of domestic firms through competition, but at the same time, the existence of foreign companies may reduce the market share of domestic companies or even force them to quit the market (Blomstrom, 1998). Since each foreign investment introduces a complex package of contributions to the economic environment, the exact separation of their contributions on certain factors may not be easy to measure. The aggregate contributions of foreign firms to the host economy may also be difficult to be quantified.

Although it may be hard to measure the exact contribution of FDI to the Indonesian economy, an attempt to assess whether their contributions are favorable may be possible to conduct. By taking advantage of the availability of plant-level data for manufacturing industry in Indonesia, this paper conducts a qualitative assessment of the impacts of FDI to capital, employment, technology transfer, domestic suppliers, and trade performance on Indonesia's manufacturing industry.[1] Data from other

[1] The effect of FDI on capital, employment, technology, local suppliers, and trade performance overtime is possible to examine given the availability of annual survey data of medium and large scale manufacturing enterprises in Indonesia.

sources, such as from the Bank of Indonesia and BKPM, are also used in this assessment.

To the best of the author's knowledge, the only research that attempts to provide qualitative assessment of the impact of FDI in Indonesian manufacturing is a paper by Dhanani and Hasnain (2002). Most studies on Indonesian manufacturing tests the impacts of FDI using quantitative econometric approaches or case studies. Following Dhanani and Hasnain (2002), this study attempts to provide a qualitative assessment of the contributions of FDI on the manufacturing sector. This section extends Dhanani and Hasnain's study by using a longer period of data, including the period after the economic crisis.

FDI Contribution to Capital

FDI can be seen as a source of supplement funds for domestic savings in creating new investments and increasing capital accumulation. In economic growth theory, capital formation plays an important role in achieving higher national output. Countries with larger capital accumulations will achieve a higher national output compared to those with a small amount of capital accumulation. The higher the capital accumulations generated, the higher the national income achieved. However, developing countries such as Indonesia often face a saving-investment gap in their effort to promote higher economic growth. Domestic savings appear to be insufficient to generate higher capital accumulation, especially during the early developing and crisis periods. This section presents the contribution of FDI to capital formation in the overall economy and the share of foreign firms' capital stocks in total capital stock in Indonesian manufacturing.

The Aggregate FDI and Gross Fixed Capital Formation

Table 1 shows the role of gross fixed capital formation (GFCF) in the Indonesian economy and the role of FDI in overall capital formation in Indonesia. It can be seen that the proportion of GFCF to GDP rose from 15.91 percent for the period 1970-1974 to 19.72 percent for the period 1975-1979. This figure continued to increase and reached a peak of 25.18 percent for the period 1990-1994. There was a slight decrease during 2000-2004, but it started to rise again in the period 2005-2006. This trend

suggests that continuous investment plays an important role in the development of the Indonesian economy.

However, the FDI played a relatively minor role compared to the important role of capital formation in the Indonesian economy. The contributions of FDI to GFCF were on average only 3.15 percent over the past three decades. FDI played a relatively important role during the early years of the New Order, when the government introduced the foreign investment law (law no.1/1976), and during the dramatic reform (the government regulation no. 20 /1994) in the second part of the 1990s. The economic crisis reduced the contribution of FDI to capital formation, since during this period net FDI inflows to Indonesia were negative. In recent years (2005-2006), net FDI inflows have contributed 7.19 percent to the capital formation, which is relatively high compared to the 1980s and 1990s period. This increase reflects to recent government policies devised to improve investment climates.

Table 1. Average GFCF and FDI in Indonesia, 1970-2006

	GDP (million USD)	GFCF (million USD)	FDI (million USD)	GFCF/GDP (%)	FDI/GFCF (%)
1970 - 1974	18,982.97	3,020.57	292.22	15.91	9.67
1975 - 1979	56,596.64	11,158.11	583.67	19.72	5.23
1980 - 1984	106,308.79	22,587.54	234.42	21.25	1.04
1985 - 1989	101,247.15	23,464.12	442.20	23.18	1.88
1990 - 1994	157,814.64	39,737.23	1,691.00	25.18	4.26
1995 - 1999	193,529.37	47,779.24	2,622.40	24.69	5.49
2000 - 2004	200,574.22	39,730.05	-1,216.85	19.81	-3.06
2005 - 2006	325,398.50	77,484.36	5,570.00	23.81	7.19
Average	**130,434.21**	**29,523.06**	**929.33**	**22.63**	**3.15**

Source: GDP and GFCF are taken from the Central Bureau of Statistics, Economic Indicators, successive editions. FDI is taken from the Central Bank of Indonesia, Indonesian Financial Statistics, successive editions. Values of GDP and GFCF have been converted to USD at the average exchange rate for each year.

In comparison to other countries in South-East and the East Asia regions, the contribution of FDI in capital formation was also relatively low after 1980 (Table 2). The relatively low share of FDI in capital formation in Indonesia was similar to Korea and Taiwan (except during the economic crisis, the share of FDI in GFCF in Taiwan was relatively high). Other small South-East Asian countries, such as Vietnam and

Cambodia, have relied on FDI in their capital formation since 1990. Other high performance South-East Asian countries, such as Singapore, Malaysia, and Thailand, have a relatively high share of FDI in total capital formation, while Hongkong and Brunei Darussalam are extreme cases in relying on FDI as their GFCF.

Table 2. FDI Inflows as a Percentage of GFCF

	1970-4	1975-9	1980-4	1985-9	1990-4	1995-9	2000-4	2005-6
World	2.2	1.9	2.4	3.5	3.8	9.3	11.7	11.5
Developed economies	2.0	1.7	2.2	3.6	3.3	8.5	11.2	10.5
Developing economies	3.3	2.3	2.9	3.3	5.6	11.6	12.6	13.2
Asia	1.9	2.2	3.0	3.0	5.5	9.5	10.2	12.1
East Asia	4.9	2.2	1.7	3.7	5.7	10.5	11.2	10.0
China	0.0	0.0	0.7	2.5	8.8	14.0	9.6	8.4
Hong Kong, China	8.7	10.8	14.7	23.0	15.2	28.7	71.6	97.1
Korea, Republic of	5.3	0.6	0.4	1.2	0.6	3.1	3.5	2.5
Taiwan Province of China	2.5	1.2	1.2	3.4	2.4	13.2	4.0	6.3
South-East Asia	8.3	6.3	5.4	7.4	10.7	16.0	16.3	20.4
Brunei Darussalam	281.4	-7.9	-3.0	0.4	1.7	148.1	267.8	59.2
Cambodia	0.4	0.1	0.3	0.0	12.3	48.2	16.5	35.6
Indonesia	9.6	5.2	1.0	1.9	4.3	5.5	-3.1	7.2
Malaysia	14.4	13.4	11.9	8.7	20.3	16.6	12.7	17.7
Myanmar	0.1	0.3	0.0	2.4	21.9	55.5	22.7	14.8
Philippines	2.0	2.5	2.0	6.8	7.7	8.8	7.1	13.4
Singapore	17.0	14.6	20.7	31.7	30.4	37.5	56.1	68.5
Thailand	3.2	1.5	2.7	3.9	4.7	13.5	14.4	17.0
Viet Nam	0.2	0.2	2.6	0.6	33.5	28.2	12.2	12.0

Source: Data for Indonesia are taken from the last column of Table 2.5. Data for other countries are taken from UNCTAD, *World Investment Report*, available at http://www.unctad.org, last accessed: 07/04/08.

Foreign Firms and Their Capitals

Taking advantage of the availability of establishment level survey data (from hereafter SI) by the Indonesian Central Bureau of Statistics, the contribution of foreign firms on capital in Indonesia's manufacturing industry can be measured from the share of fixed capital in foreign firms to total fixed capital in the manufacturing industry. This measure is the simplest way for measuring the contribution of foreign firms to manufacturing capitals. However, instead of using the raw value of fixed capital data

from SI, this study uses the non-wage value added as proxy to the value of fixed capital.[2] Table 3 presents the share of fixed capital in foreign firms to total fixed capital using this proxy.

In general, the number of foreign firms as percentage of total manufacturing firms increased over time. Although foreign firms account for only around 5 percent of total firms in the manufacturing industry, their contribution to manufacturing capital accounts for more than 25 percent over the last three decades. The contribution has increased over time, from 23.19 percent in 1975 to 38.88 percent in 2005. The significant share of foreign capital in the manufacturing sector is mainly due to the much bigger size of foreign firms compared to domestic firms. Another reason is because foreign investment in Indonesia mostly flowed to high technology industries with large establishment capitals and some of them are heavily capital intensive, such as basic metal, metal products, and the chemical and pharmaceuticals sector.

Table 3. Foreign Firms and Their Capital

Year	Number of Establishment in Manufacturing Industry	Foreign Firms (% of total manufacturing firms)	Foreign Capital (% of total manufacturing capital)
1975	7469	3.90	23.19
1980	8079	4.07	29.61
1985	12,909	3.32	21.83
1990	16,536	3.61	22.79
1995	21,551	5.77	26.90
2000	22,174	7.96	40.08
2005	20,729	8.18	38.88

Source: Calculated from Annual Survey of Large and Medium Manufacturing Industry, Indonesian Central Bureau of statistics (Badan Pusat Statistik, BPS), various issues

[2] The direct used of fixed capital data from SI for this study may not be appropriate since they are subject to at least three limitations. First, data for fixed capital is not available for the whole period of this study from 1975 to 2005. The data are only available for the period 1980-2005. Second, there are many establishments reporting zero or missing value for their fixed capitals for the period 1980-2005. For example, data of fixed capitals in the 1996 survey are missing for almost 50 percent of total surveyed establishments. Third, there is relatively high year-to-year variation of fixed capital values in some establishments. Previous studies suggest two proxies for value of fixed capital: non-wage value added and replacement value of fixed capital (Blalock and Gertler 2006; Todo and Miyamoto 2006; Vial 2006). This study uses the first proxy for simplicity in calculation.

The increase in the number of foreign firms in the manufacturing sector corresponds to the increasing importance of the manufacturing sector in the Indonesia economy.[3] Since full liberalization, beginning in 1986, the role of FDI to Indonesia has been increasingly important, following the high growth of manufacturing production. The increase in the number of foreign establishments in Indonesian manufacturing reveals the growing expectations of foreign investors and the demonstration effect of foreign investments.

To sum up, although the contribution of FDI to capital in Indonesia may not appear to be important in the overall economy, foreign firms have contributed significantly to the manufacturing capitals.

FDI Contribution to Employment

FDI is believed to be a potential contribution for employment in host countries, especially developing countries. In practice, however, the large inflows of FDI are not a guarantee that such investments create new employment for domestic labour. Studies on the labour market often identify that FDI generates positive as well as negative contributions, both direct and indirect, to domestic employment. Their positive and negative contribution can be seen in the forms of quantity, quality, and location of employment. Table 4 describes the potential positive and negative effects generated from foreign investment.

In direct employment effects, a 'greenfield' FDI may result in the creation of new jobs for domestic employees. A new plant built by a foreign company, especially one with high labour intensity, tends to provides new employment. The more labour intensive the firm the more jobs tend to be created. A foreign firm with high labour intensity and a long term commitment may provide stable employment to the economy of the host country. FDI can also lead to higher level of wages and labour productivity. Foreign firms often bring with them higher labour standards and wages, as in their

[3] Between 1970 and 2005, the Indonesian economy experienced a rapid structural transformation away from agriculture to manufacturing. Before 1988, the contribution of manufacturing to GDP was lower than the contribution of agriculture. For example, manufacturing production accounted for only 9.8 percent of GDP in 1975, while agriculture contributed for 44.9 percent (World Bank Indicator Online). After the full liberalization, the share of manufacturing production in GDP took over those of agriculture production. In 1995, for example, the manufacturing production accounted for 24.1 percent of GDP, while the contribution of agriculture production was only 17.1 percent (World Bank Indicator Online).

home countries, than those in host countries. This happens usually for FDI to developing countries such as Indonesia, where the exchange rate and the average standard of wage are low. Through training, foreign firms generate high productivity for their labour, which is often higher than the average generated by domestic firms. Furthermore, the 'greenfield' FDI in certain targeted or priority areas (in the case of Indonesia, this is outside Java and Sumatera) with a high unemployment rate tends to provide new and perhaps better jobs for the workforce.

Table 4. The Potential Positive and Negative Effects of FDI on Employment in Host Countries

	Direct		Indirect	
	Positive	Negative	Positive	Negative
Quantity	creates new jobs in expanding industries	merger and acquisition may result in rationalization and job losses	creates jobs through backward and forward linkages and multiplier effects in local economy	reliance on imports or displacement of existing firms
Quality	Pays higher wages and has higher productivity	Introduces practices in, e.g. hiring and promotion, that are considered undesirable	Spillover of "best practice" work organization to domestic firms	Erodes wage levels as domestic firms try to compete
Location	Adds new and perhaps better jobs in areas with high unemployment	crowds already congested urban areas and worsens regional Imbalances	Encourages migration of supplier firms to areas with available labour supply	Displaces local producers, adding to regional unemployment, if foreign affiliates substitute for local production or rely on imports

Source: UNCTAD (1994)

However, FDI may not always provide positive direct impacts on employment creation. FDI in the form of the merger and acquisition of domestic companies may result in rationalization and job losses. Foreign firms which are highly capital intensive and that require skilled-labour to run their production often import their workers from home countries, which tends to reduce the job opportunities for domestic workers. The

introduction of new practices, for example in promotion and hiring, by foreign subsidiaries may be considered undesirable for domestic workers. Furthermore, new foreign firms located in major regions, which are highly concentrated industrial areas (in the case of Indonesia, this is in Java island), increase the regional industrial imbalances.

The indirect employment effects generated from FDI usually take the form of job creation through multiplier and spillover effects on upstream and downstream industries. Foreign firms that buy their input from domestic suppliers tend to contribute to employment in domestic upstream industries. Foreign firms, which sell their products to domestic buyers, may contribute to job creation in domestic downstream industries. Foreign firms may also act as 'best practice' for spillovers on productivity and work organization to domestic firms. However, the negative indirect employment effects can also be created by the presence of foreign firms. The merger and acquisition FDI on high capital intensive companies tends to have high import propensity, which then reduce their local input contents. Such investments tend to replace domestic inputs suppliers with imported input.

In Indonesian manufacturing, foreign firms contribute significantly to employment. Although foreign firms account for only around 5 percent of total manufacturing firms between 1975 and 2005, their share in employment is more than 15 percent (Table 5). Foreign firms played a significant role in employment in sectors such as metal products (ISIC 38)[4], textiles and leather (ISIC 32), and chemicals and pharmaceuticals (ISIC 35). Moreover, the significant role of foreign firms in manufacturing employment has increased over time. The share of foreign firms in the employment increased from 8.44 percent in 1975 to 9.85 in 1985, and continued to increase with greater magnitude after the full investment reform (beginning in 1986) to 17.17 percent in 1995 and 23.60 percent in 2005.

Another important issue is that foreign firms have significantly high value added. In 1995 for example, value added of foreign firms was 31.94 percent of total manufacturing value added, even though foreign firms only accounted for 5.57 percent of total manufacturing firms. The contribution of foreign firms on value added is above average in basic metals (ISIC 37), chemicals and pharmaceuticals (ISIC 35), and metal

[4] ISIC is Indonesian Standard of Industrial Code, which follows the International Standard of Industrial Code.

products (ISIC 38) sectors. The evidence in Indonesian manufacturing supports the hypothesis that foreign firms generate high value added.

Table 5. Employment Effects of Foreign Firms in Manufacturing 1975-2005

ISIC	Foreign Firms (% of total firm in the same sector)				Number of Workers in foreign firms (% of total worker in the same sector)				Value Added (% of total VA in the same sector)			
	1975	1985	1995	2005[*)]	1975	1985	1995	2005[*)]	1975	1985	1995	2005[*)]
31	2.67	1.34	2.75	3.78	4.09	3.94	5.89	11.92	15.30	8.35	14.63	25.64
32	1.52	1.98	5.18	6.78	7.68	11.50	23.02	26.33	5.60	9.24	11.86	14.15
33	4.81	3.90	2.75	5.70	11.32	11.48	7.24	10.52	8.02	4.94	9.69	7.91
34	3.56	1.82	4.79	4.51	7.07	4.96	15.72	16.30	10.86	3.18	10.06	12.92
35	9.40	8.00	10.07	11.94	16.74	13.75	16.28	21.31	31.21	27.19	48.98	26.72
36	1.71	1.28	1.97	3.09	10.09	7.68	10.14	15.89	7.76	16.85	10.87	14.66
37	20.00	10.00	16.57	18.31	12.65	19.41	19.19	24.26	31.54	34.22	84.35	36.94
38	9.04	8.18	13.31	24.48	18.21	17.86	32.66	54.08	21.30	21.23	35.43	40.57
39	1.32	3.82	12.90	8.70	4.10	12.68	40.13	32.01	0.85	26.11	27.04	17.48
All	3.60	3.32	5.57	8.18	8.44	9.85	17.17	23.60	2.01	16.21	31.94	26.00

Source: same as Table 3

[*)] The industrial code has been revised twice since 1975. The first was in 1990 (when the BPS adopted ISIC revision 2) and the second was in 1998 (when the BPS replaced ISIC revision 2 with ISIC revision 3). The first revision did not change much the industrial classification since the BPS only updated the last digit of the five digit ISIC code. The second revision changed the entire industrial code. To obtain comparable and consistent figures, the 2005 industrial code was adjusted to the code of 1990 using the special map provided by the BPS.

FDI Contribution to Technology

FDI has been recognized as a most plausible channel of international technology transfers among other international activities, such as trade in goods, trade in services, migration, and international licensing (Baldwin, 2005). Such investments are crucial for developing countries since they provide technology transfer with much lower costs than invention and innovation through research and development (R&D). Beside technology transfer, FDI also introduces new skills and knowledge that complement the new technology. These new skills and knowledge spill over to domestic companies when workers move from foreign to domestic firms.

Studies on international technology transfer in Indonesia indicate that foreign investors tend to choose FDI more than international licensing. The weak protection

of intellectual property rights in Indonesia tends to discourage foreign investors to get involved in international licensing (Wie, 2005). By licensing, foreign companies may lose control over their business secrets, since licensees have a potential advantage to imitate directly their licensers' technology. From the viewpoint of domestic firms, restrictions attached to licensing, such as obligation for licensees to purchase materials or components from licensors, restriction to export, and limitation of sales to domestic market, tend to prevent domestic firms from engaging in licensing agreements (Wie 2005). Furthermore, the technology transferred from licensers is often old technology compared to the technology offered by MNC through direct investment. Given these obstacles for both parties, licensing agreements become unfavorable. However, the unavailability of comprehensive data on licensing agreements in Indonesia prevents further comparison between international licensing and FDI.

Although it is not easy to identify the speed of technology transfers from FDI, the subsequent growth in FDI inflows to Indonesia, at least, can be used as an indication, since FDI not only provides capital inflows but also generates technological progress and knowledge improvements. However, the presence of foreign firms in the economy is not a guarantee that technology transfers take place. There are certain factors required for domestic firms to gain benefits from technology transfers. Empirical studies on foreign firms in Indonesia indicate that factors such as research and development (Todo, 2006), labour skills (Okamoto, 2005), and technological gaps (Sjoholm, 1999) determine the ability of domestic firms to take advantage of technology transfers from FDI. Wie (2001) notes that Indonesian manufacturing industries have not been very successful in taking advantage of technology transfers from FDI compared to other East Asian countries, particularly in the period before the investment reforms beginning in 1986. Factors such as non-transparency in licensing procedure and high costs in land leasing were among the obstacles that caused low technology transfers in Indonesia during the period (Wie 2001). The gradual liberalization of the investment regime since 1986 was shown to be beneficial for technology transfers in the form of productivity spillovers (see for example Takii 2005).

FDI Contribution on Linkages

FDI may also contribute to domestic suppliers and buyers. The contribution of FDI to domestic suppliers is often known as backward linkage, whereas the impact to

domestic buyers is called forward linkage. The linkage effects are generated when foreign firms demand inputs from downstream industries and supply output to upstream industries. The 'greenfield' FDI often provides more incentives for linkages effects compared to the merger and acquisition FDI (as noted in section 3 of this current study).

In practice, forward linkages are more difficult to measure for they are more diversified and concealed (Wang, 1996). Therefore, backward linkages generally receive more attention from researchers. There are at least two approaches often used for backward linkages. The first approach, which is the most popular and the simplest measure, is the local procurement ratio. This ratio can be crudely calculated by dividing the value of material purchased from domestic markets over the total material expenditure of a foreign firm. The second approach, which is a more sophisticated and a more complex measure, is weighted ratio from input-output tables. This latter approach is often used to detect the magnitude of direct and indirect linkages resulting from the input and output relation among industries, while the former approach can be used only to measure the direct backward linkages from foreign firms to domestic suppliers. However, for simplicity, the first approach is presented here.

Figure 1 shows the local procurement ratio of the Indonesian manufacturing sector from 1980 to 2005. In general, the local procurement ratio by foreign firms in Indonesian manufacturing increases over time, from 35 percent in 1980 to 59 percent in 2005. A sector with high use of domestic materials is wood and wood products (ISIC 33), with 99% of the material being from domestic suppliers. Although the trend shows that the local procurement ratio in this sector is decreasing over time, the percentage of local materials used is still highest among manufacturing sectors. The high percentage of local inputs used in wood and wood products can be explained by the abundance of wood materials extracted from the forests in Kalimantan and Papua.[5] Paper and paper products (ISIC 34) is the sector that has the lowest local procurement ratio among manufacturing sectors before 1995, with only 16 percent of its material input from domestic markets. However, the local procurement ratio in this sector increased sharply to 82 percent in 2005. Other sectors that have a similar trend are

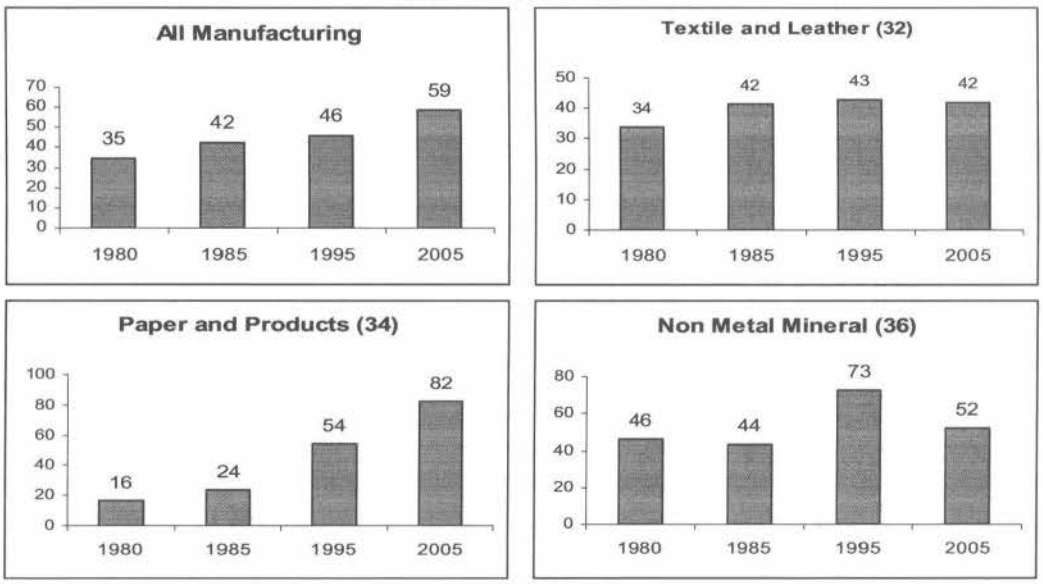
[5] The government provides licenses (Hak Pengusahaan Hutan, HPH) for extracting timber in certain forest areas, which are known as the industrial plantation areas. Companies that receive licenses, including joint venture companies, are allowed to utilize timbers for commercial use.

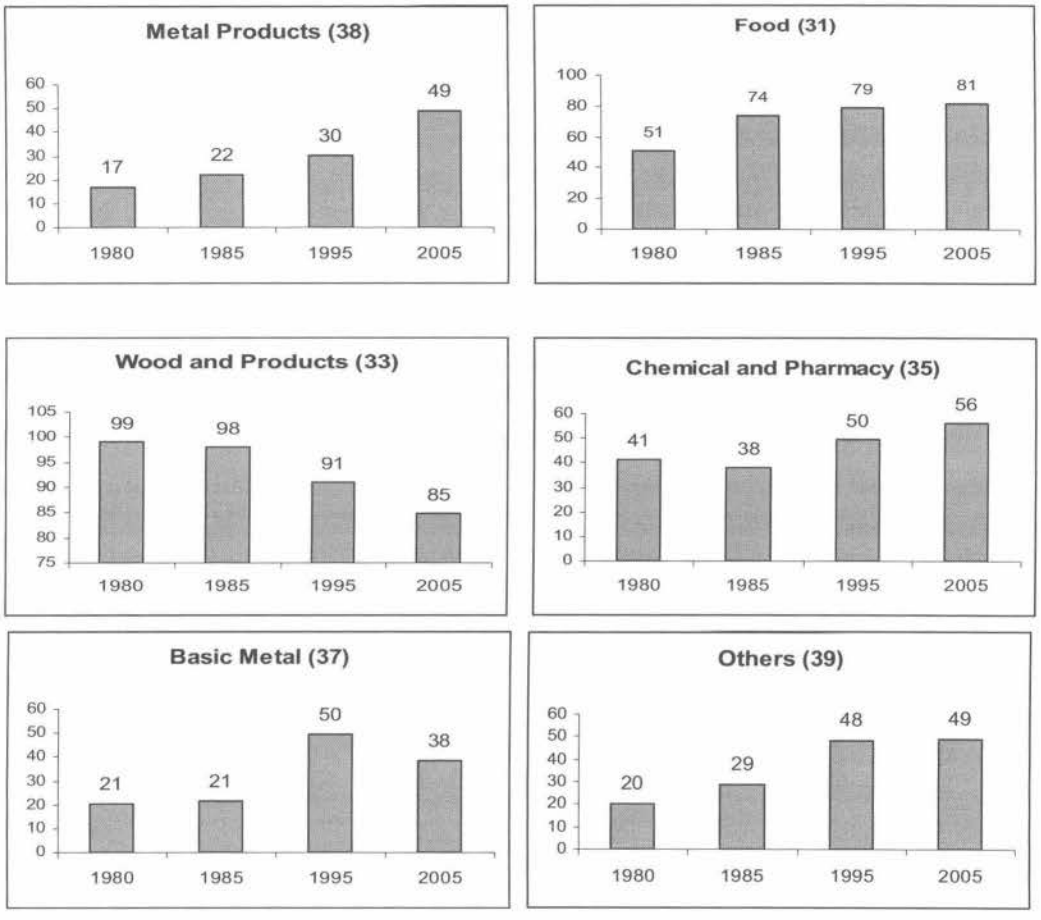
basic metals (ISIC 37) and metal products (ISIC 38), whereas food (ISIC 31), textiles and leather (ISIC 32) and chemical and pharmacy (ISIC 35) have a relatively high and stable local procurement ratio between 1980 and 2005.

The subsequent increasing trend in the local procurement ratio in all manufacturing sectors indicates that the linkages of foreign firms and domestic suppliers are getting stronger over time. Foreign firms in manufacturing generated increasing backward linkages effects to upstream industries. With the entry of new foreign firms to Indonesian manufacturing sectors, the domestic upward industries may receive advantages from the backward linkages effects through increasing in demand for material inputs. The increasing trend in the local procurement ratio also suggests the existence of spillover effects from foreign firms to domestic suppliers.

Figure 1. Local Procurement by Foreign Firms in Indonesian Manufacturing 1980-2005 (%)

(Source: same as Table 3)





FDI Contribution to Trade Balance

The impact of FDI on the trade balance of a host country can be examined from two perspectives: the effect on export promotion and the effect on import contents of material inputs by foreign firms. If the entry of new foreign firms is to serve the export market by taking advantage of the abundance of resources in host countries, then FDI is expected to have a positive effect on export growth. However, if foreign firms in host countries are for market access and penetration, then FDI may not contribute to exports. The same logic is also applied to the impact on FDI to imports. Foreign firms

that come to host countries for the resources may not affect the imports of host countries and, hence, may not generate an impact on trade balance. In contrast, new foreign firms that come to host countries to access the domestic market and rely heavily on the imported inputs tend to increase imports, and then deteriorate the trade balance. Therefore, the contribution of FDI on the trade balance of host countries depends on the dominant motive of the foreign firms.

The motivation of foreign firms investing in developing countries tends to be different to the motivation investing in developed countries. Foreign subsidiaries in developing countries are often motivated by resource seeking, while the inflows to developed countries are mostly to penetrate the market and to avoid trade barriers (Brouthers, 1996). Therefore, developing countries that adopt an export-oriented trade regime are likely to gain trade surplus from the entry of new foreign firms to the economy.

Using the firm-level data of Indonesian manufacturing, the evidence shows that the share of the foreign firms' exports to total manufacturing exports has increased during the last three decades (Table 6). Foreign firms' exports accounted for 22.15 percent of total manufacturing exports in 1990[6], and rose to 33.19 percent in 1995, and 45.4 percent in 2004.[7] Sectors that have a high share of foreign firm exports are metal products, basic metals, and paper and paper products. Foreign firms in the food industry contributed a very small proportion of exports in 1990, only 4.84 percent of total exports in the food industry, but the contribution had risen recently to 30.17 percent in 2004. In general, the share of foreign firm exports has significantly increased for all sectors in manufacturing.

[6] Data on exports had been available since 1990.

[7] The data on firms' export are not readily available for the year 2005. The BPS changed the question related to export share from "what percent of your production are exported?" to "is there any production that was exported?" in the 2005 survey's questionnaire. Therefore, it is not possible to calculate the export share of foreign firms for the year of 2005.

Table 6. Export and Imported Material of Foreign Firms in Manufacturing Sectors

ISIC	Export (% of Total Export in the same Sectors)			Imported Material (% of Total Imported Material in the same Sectors)			
	1990	1995	2004	1980	1985	1995	2005
31	4.84	11.05	30.17	33.23	19.41	32.00	35.89
32	19.51	34.49	47.49	38.14	36.90	38.51	37.94
33	13.16	13.32	15.11	3.85	15.67	31.00	24.27
34	52.42	15.70	54.41	37.77	30.44	40.43	33.93
35	25.60	29.03	37.06	47.62	43.71	47.70	55.96
36	12.15	31.98	65.70	55.15	27.85	20.59	34.88
37	50.89	68.99	54.09	57.72	50.26	18.93	29.69
38	69.60	82.36	85.35	40.05	35.49	59.32	69.66
39	35.67	65.46	69.16	86.96	37.32	70.93	67.12
All	22.15	33.19	45.40	41.12	36.48	45.93	46.63

Source: same as Table 3

Table 6 also shows that the share of imported materials by foreign firms to total imported materials in manufacturing is relatively large compared to the percentage of foreign firms in manufacturing. The imported materials by foreign firms accounted for around 40 percent of total imported materials in manufacturing between 1980 and 2005, while the percentage of foreign firms in manufacturing is only around 5 percent (as shown in Table 5). Sectors that have a higher share of imported materials by foreign firms than the average are metal products (ISIC 38) and others (ISIC 39), while sector that have a lower share of imported materials by foreign firms are wood and wood products (ISIC 33), paper and paper products (ISIC 34) and the food industry (ISIC 31). In general, the foreign firms in Indonesia manufacturing contributed considerably to the total import of material inputs.

The evidence from export and import data suggests that foreign firms in Indonesia contribute significantly to exports as well as imports in the manufacturing industry. The export-oriented trade regime appears to increase the export share of foreign firms. However, foreign firms in Indonesian manufacturing also rely greatly on imported materials.

SUMMARY

This paper has assessed the economic contributions of FDI to five strategic factors (i.e. capital, employment, technology transfer, upstream and downstream industries, and trade performance) in Indonesia's manufacturing industry. The results show that foreign firms in Indonesian manufacturing played an important role on these five factors.

Foreign firms played an important role on total capital in manufacturing industries. Although foreign firms were minor in manufacturing sector, their share on capital in the manufacturing industry was significant. Foreign firms are also crucial in employment. They played an increasingly important role on employment over the last four decades. Sectors that received significant employment effect from foreign firms were metal products and textiles. Besides creating employment opportunity, foreign firms in Indonesian manufacturing also generated high value added to Indonesian manufacturing sector.

The continuous growth of FDI inflows to Indonesia can be used an indication of transfer technology since FDI is believed not only provide capital flows but also technology transfer. The contribution of foreign firms to technology transfer depends on several factors, such as the level of research and development in domestic firms, labour skills for the new technology, and technological gaps between foreign and domestic firms. Although it is not easy to identify the speed of technology transfer, the increasing on firms' productivity due to the present of foreign investments can be used as a measure for technology transfer. This is known as productivity spillovers from FDI.

Based on the ratio of local procurement, foreign firms in manufacturing has contributed to upstream industries through domestic input contains. The upward trend in local procurement suggests that the linkages of foreign firms and domestic suppliers are getting stronger overtime. Moreover, foreign firm also played crucial roles in manufacturing exports, which accounted to more than 30 percent of total export in manufacturing even though they were minor in the manufacturing sector. However, foreign firms in Indonesia manufacturing relied heavily on imported material. The value of their imported material accounted for more than 40 percent of total imported material in manufacturing.

REFERENCES

Baldwin, R., H. Braconier, and R. Forslid, 2005, Multinationals, Endogenous Growth, and Technological Spillovers: Theory and Evidence, *Review of International Economics* 13 (5): 945-963.

Blomstrom, M., and A. Kokko, 1998, Multinational Corporation and Spillovers, *Journal of Economic Surveys* 12 (2): 247-277.

Brouthers, L. E., S. Werner, and T. J. Wilkinson, 1996, The Aggregate Impact of Firms' FDI Strategies on the Trade Balances of Host. *Journal of International Business Studies* 27 (2): 359-373.

Dhanani, S., and S. A. Hasnain, 2002, The Impact of Foreign Direct Investment on Indonesia's Manufacturing Sector, *Journal of the Asia Pasific Economy* 7 (1): 61-94.

Okamoto, Y., and F. Sjoholm, 2005, FDI and the Dynamics of Productivity in Indonesian Manufacturing, *Journal of Development Studies* 41 (1): 160-182.

Sjoholm, F., 1999a, Technology Gap, Competition, and Spillovers from Foreign Direct Investment: Evidence from Establishment Data. *Journal of Development Studies* 36: 53-73.

Takii, S., 2005, Productivity Spillovers and Characteristics of Foreign Multinational Plants in Indonesian Manufacturing 1990-95, *Journal of Development Economics* 76: 521-542.

Todo, Y., and K. Miyamoto, 2006, Knowledge Spillovers from Foreign Direct Investment and the Role of R&D Activities: Evidence from Indonesia, *Economic Development and Cultural Change* 55 (173-200):

UNCTAD, 1994, *World Investment Report 1994: Transnational Corporations, Employment and the Workplace*, New York and Geneva: United Nations.

Wang, W.T., 1996, Foreign Direct Investment, Spillovers and Catching Up: the Case of Taiwan, *Unpublished Thesis*, The Australia-Japan Research Centre, The Australian National University, Canberra

Wie, T.K., 2001, The Role of Foreign Direct Investment in Indonesia's Industrial Technology Development, *International Journal of Technology Management* 22 (5-6): 583-598.

_____, 2005, The Major Channels of International Technology Transfer to Indonesia: An Assessment, *Journal of Asia Pacific Economy* 10 (2): 214-236.

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : JURNAL ILMIAH

11

Judul Karya Ilmiah(artikel) : The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

Jumlah Penulis : 1 Orang

Status Pengusul : Penulis Mandiri

Identitas Jurnal Ilmiah :

a. Nama Jurnal : Ekonomi dan Bisnis ,
b. Nomor ISSN : 1410-9204
c. Vol, No, Bln, Thn : Vol. 10, No. 2, Mei 2008
d. Penerbit : Program Studi IESP Fakultas Ekonomi Universitas Surabaya
e. DOI Artikel(jika ada):
f. Alamat Web Jurnal :
g. Terindeks di :

Kategori Publikasi Jurnal Ilmiah : (beri √ pada ketegori yang tepat)

- ☐ Jurnal Ilmiah Internasional / Internasional Bereputasi
- ☑ Jurnal Ilmiah Nasional Terakreditasi
- ☐ Jurnal Ilmiah Nasional / Nasional Terindeks di DOAJ, CABI, COPERNICUS

Hasil Penilaian *Peer Review* :

No.	Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh …(2)
		Internasional ☐	Nasional Terakreditasi …(1) ☑	Nasional ☐	
1.	Kelengkapan unsur isi jurnal (10%)	---	**2,5**	---	2,5
2.	Ruang lingkup dan kedalaman pembahasan (30%)	---	**7,5**	---	7,5
3.	Kecukupan dan kemutahiran data/infromasi dan metodologi (30%)	---	**7,5**	---	7,0
4.	Kelengkapan unsur dan kualitas penerbit (30%)	---	**7,5**	---	7,5
	Total = (100%)	---	**25**	---	24,5
	Nilai Pengusul=				

Catatan Penilaian Artikel oleh Reviewer:
Jurnal terakreditasi DIKTI no. 26/DIKTI/Kep/2005. Masa akreditasi 2005-2009. Telah dilakukan cek similarity. Tulisan berkualitas baik dengan kontribusi pada analisis pengaruhi faktor-faktor makro, termasuk di dalamnya penanaman modal asing, terhadap pertumbuhan industri manufaktur. Analisis bersifat makroekonomi dan dilakukan dengan detail terhadap 9 industri terkait.

Surabaya, 13 Mei 2016

Reviewer 1

Prof. Dr. R. Wilopo, Ak., CA, CFE

NIP / NPK …(3) : 36940141

Unit Kerja …(4) : STIE PERBANAS Surabaya

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : JURNAL ILMIAH

Judul Karya Ilmiah(artikel) : The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

Jumlah Penulis : 1 Orang

Status Pengusul : Penulis Mandiri

Identitas Jurnal Ilmiah :

a. Nama Jurnal : Ekonomi dan Bisnis ,
b. Nomor ISSN : 1410-9204
c. Vol, No, Bln, Thn : Vol. 10, No. 2, Mei 2008
d. Penerbit : Program Studi IESP Fakultas Ekonomi Universitas Surabaya
e. DOI Artikel(jika ada):
f. Alamat Web Jurnal :
g. Terindeks di :

Kategori Publikasi Jurnal Ilmiah : (beri √ pada ketegori yang tepat)

- ☐ Jurnal Ilmiah Internasional / Internasional Bereputasi
- ☑ Jurnal Ilmiah Nasional Terakreditasi
- ☐ Jurnal Ilmiah Nasional / Nasional Terindeks di DOAJ, CABI, COPERNICUS

Hasil Penilaian *Peer Review* :

No.	Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh …(2)
		Internasional ☐	Nasional Terakreditasi …(1) ☑	Nasional ☐	
1.	Kelengkapan unsur isi jurnal (10%)	---	**2,5**	---	2,5
2.	Ruang lingkup dan kedalaman pembahasan (30%)	---	**7,5**	---	7,5
3.	Kecukupan dan kemutahiran data/infromasi dan metodologi (30%)	---	**7,5**	---	7,0
4.	Kelengkapan unsur dan kualitas penerbit (30%)	---	**7,5**	---	7,5
	Total = (100%)	---	**25**	---	24,5
	Nilai Pengusul=				

Catatan Penilaian Artikel oleh Reviewer:
Hasil cek file, jurnal terakreditasi nasional dengan SK DIKTI no 26/DIKTI/Kep/2005. Ketika tulisan diterbitkan, jurnal masih aktif terakreditasi. Gaya selingkung belum terlihat, mungkin karena tahun terbitan 2008. Terdapat cek similarity. Kualitas tulisan baik. Originalitas terdapat pada analisis detail terkait perusahaan-perusahaan di 9 industri manufaktur. Referensi cukup up-to-date.

Surabaya, 14 Juni 2016

Reviewer 2

Prof. Dr. Munawar Ismail, SE, DEA

NIP / NPK …(3) : 19570212198401003

Unit Kerja …(4) : FEB Universitas Brawijaya

The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

by 9 Suyanto

Submission date: 28-Mar-2018 11:53AM (UTC+0700)
Submission ID: 937422780
File name: lll.1.C.4.4_asli.doc (189K)
Word count: 5565
Character count: 33363

The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

Suyanto
Fakultas Ekonomi Universitas Surabaya

Abstract

The current study assesses the contributions of foreign direct investment (FDI) on Indonesian manufacturing. By taking advantage of the availability of plant-level survey data from Badan Pusat Statistik (BPS), for the period 1975-2005, this study assesses the impacts of FDI on five strategic factors: capital, employment, technology transfer, domestic suppliers, and trade performance. The results show that foreign firms in Indonesian manufacturing played an important role on these five factors. Although foreign firms were minor in manufacturing sector, their share on capital in this sector was significant. They also played an increasingly important role on employment over the last four decades. Sectors that received significant employment effect from foreign firms were metal products and textiles. Besides creating employment opportunity, foreign firms in Indonesian manufacturing also generated high value added to Indonesian manufacturing sector. The contribution of foreign firms to technology transfer depends on several factors, such as the level of research and development in domestic firms, labour skills for the new technology, and technological gaps between foreign and domestic firms. Based on the ratio of local procurement, foreign firms in manufacturing has contributed to upstream industries through domestic input contains. The upward trend in local procurement suggests that the linkages of foreign firms and domestic suppliers are getting stronger overtime. Moreover, foreign firm also played crucial roles in manufacturing exports, which accounted to more than 30 percent of total export in manufacturing. However, foreign firms in Indonesia manufacturing relied heavily on imported material. The value of their imported material accounted for more than 40 percent of total imported material in manufacturing.
Keyword: Foreign direct investment, manufacturing industry, economic contribution

I. Introduction

The flows of FDI to developing countries not only can contribute to capital accumulation but also introduce a new technology and managerial know-how, provide a market for domestic suppliers and related industries, and stimulate domestic firms to achieve higher efficiency and productivity. For policy makers and the government of the host country, FDI inflows may be considered as a source to help them to utilize domestic resources in achieving economic plan or policy targets. Such investment may be seen as a strategic factor to fill a gap between domestic saving and investment, to finance the government budget deficit, promote exports, and generate foreign exchange. FDI may also assist policy makers in attaining macroeconomic policy objectives, such as reducing unemployment and stimulating industry development. For domestic consumers, the existence of foreign companies can result in higher quality goods with a lower price, which may increase the consumer surplus.

Despite these important roles, it is difficult to measure the economic contributions of FDI to the host country precisely. Even the direction of the contributions may not be easy to detect. For example, the entry of foreign companies in the domestic market may increase efficiency and productivity of domestic firms through competition, but at the same time, the existence of foreign companies may reduce the market share of domestic companies or even force them to quit the market (Blomstrom, 1998). Since each foreign investment introduces a complex package of contributions to the economic environment, the exact separation of their contributions on certain factors may not be easy to measure. The aggregate contributions of foreign firms to the host economy may also be difficult to be quantified.

Although it may be hard to measure the exact contribution of FDI to the Indonesian economy, an attempt to assess whether their contributions are favorable may be possible to conduct. By taking advantage of the availability of plant-level data for manufacturing industry in Indonesia, this paper conducts a qualitative assessment of the impacts of FDI to capital, employment, technology transfer, domestic suppliers, and trade performance on Indonesia's manufacturing industry.[1] Data from other sources, such as from the Bank of Indonesia and BKPM, are also used in this assessment.

To the best of the author's knowledge, the only research that attempts to provide qualitative assessment of the impact of FDI in Indonesian manufacturing is a paper by Dhanani and Hasnain (2002). Most studies on Indonesian manufacturing tests the impacts of FDI using quantitative econometric approaches or case studies. Following Dhanani and Hasnain (2002), this study attempts to provide a qualitative assessment of the contributions of FDI on the manufacturing sector. This section extends Dhanani and Hasnain's study by using a longer period of data, including the period after the economic crisis.

[1] The effect of FDI on capital, employment, technology, local suppliers, and trade performance overtime is possible to examine given the availability of annual survey data of medium and large scale manufacturing enterprises in Indonesia.

II. FDI Contribution to Capital

FDI can be seen as a source of supplement funds for domestic savings in creating new investments and increasing capital accumulation. In economic growth theory, capital formation plays an important role in achieving higher national output. Countries with larger capital accumulations will achieve a higher national output compared to those with a small amount of capital accumulation. The higher the capital accumulations generated, the higher the national income achieved. However, developing countries such as Indonesia often face a saving-investment gap in their effort to promote higher economic growth. Domestic savings appear to be insufficient to generate higher capital accumulation, especially during the early developing and crisis periods. This section presents the contribution of FDI to capital formation in the overall economy and the share of foreign firms' capital stocks in total capital stock in Indonesian manufacturing.

A. The Aggregate FDI and Gross Fixed Capital Formation

Table 1 shows the role of gross fixed capital formation (GFCF) in the Indonesian economy and the role of FDI in overall capital formation in Indonesia. It can be seen that the proportion of GFCF to GDP rose from 15.91 percent for the period 1970-1974 to 19.72 percent for the period 1975-1979. This figure continued to increase and reached a peak of 25.18 percent for the period 1990-1994. There was a slight decrease during 2000-2004, but it started to rise again in the period 2005-2006. This trend suggests that continuous investment plays an important role in the development of the Indonesian economy.

However, the FDI played a relatively minor role compared to the important role of capital formation in the Indonesian economy. The contributions of FDI to GFCF were on average only 3.15 percent over the past three decades. FDI played a relatively important role during the early years of the New Order, when the government introduced the foreign investment law (law no.1/1976), and during the dramatic reform (the government regulation no. 20 /1994) in the second part of the 1990s. The economic crisis reduced the contribution of FDI to capital formation, since during this period net FDI inflows to Indonesia were negative. In recent years (2005-2006), net FDI inflows have contributed

7.19 percent to the capital formation, which is relatively high compared to the 1980s and 1990s period. This increase reflects to recent government policies devised to improve investment climates.

Table 1
Average GFCF and FDI in Indonesia, 1970-2006

	GDP (million USD)	GFCF (million USD)	FDI (million USD)	GFCF/GDP (%)	FDI/GFCF (%)
1970 - 1974	18,982.97	3,020.57	292.22	15.91	9.67
1975 - 1979	56,596.64	11,158.11	583.67	19.72	5.23
1980 - 1984	106,308.79	22,587.54	234.42	21.25	1.04
1985 - 1989	101,247.15	23,464.12	442.20	23.18	1.88
1990 - 1994	157,814.64	39,737.23	1,691.00	25.18	4.26
1995 - 1999	193,529.37	47,779.24	2,622.40	24.69	5.49
2000 - 2004	200,574.22	39,730.05	-1,216.85	19.81	-3.06
2005 - 2006	325,398.50	77,484.36	5,570.00	23.81	7.19
Average	130,434.21	29,523.06	929.33	22.63	3.15

Source:
GDP and GFCF are taken from the Central Bureau of Statistics, Economic Indicators, successive editions.
FDI is taken from the Central Bank of Indonesia, Indonesian Financial Statistics, successive editions.
Values of GDP and GFCF have been converted to USD at the average exchange rate for each year.

Table 2
FDI Inflows as a Percentage of GFCF

	1970-4	1975-9	1980-4	1985-9	1990-4	1995-9	2000-4	2005-6
World	2.2	1.9	2.4	3.5	3.8	9.3	11.7	11.5
Developed economies	2.0	1.7	2.2	3.6	3.3	8.5	11.2	10.5
Developing economies	3.3	2.3	2.9	3.3	5.6	11.6	12.6	13.2
Asia	1.9	2.2	3.0	3.0	5.5	9.5	10.2	12.1
East Asia	4.9	2.2	1.7	3.7	5.7	10.5	11.2	10.0
China	0.0	0.0	0.7	2.5	8.8	14.0	9.6	8.4
Hong Kong, China	8.7	10.8	14.7	23.0	15.2	28.7	71.6	97.1
Korea, Republic of	5.3	0.6	0.4	1.2	0.6	3.1	3.5	2.5
Taiwan Province of China	2.5	1.2	1.2	3.4	2.4	13.2	4.0	6.3
South-East Asia	8.3	6.3	5.4	7.4	10.7	16.0	16.3	20.4
Brunei Darussalam	281.4	-7.9	-3.0	0.4	1.7	148.1	267.8	59.2
Cambodia	0.4	0.1	0.3	0.0	12.3	48.2	16.5	35.6
Indonesia	9.6	5.2	1.0	1.9	4.3	5.5	-3.1	7.2
Malaysia	14.4	13.4	11.9	8.7	20.3	16.6	12.7	17.7
Myanmar	0.1	0.3	0.0	2.4	21.9	55.5	22.7	14.8
Philippines	2.0	2.5	2.0	6.8	7.7	8.8	7.1	13.4
Singapore	17.0	14.6	20.7	31.7	30.4	37.5	56.1	68.5
Thailand	3.2	1.5	2.7	3.9	4.7	13.5	14.4	17.0
Viet Nam	0.2	0.2	2.6	0.6	33.5	28.2	12.2	12.0

Source:
Data for Indonesia are taken from the last column of Table 2.5
Data for other countries are taken from UNCTAD, *World Investment Report*, available at http://www.unctad.org, last accessed: 07/04/08.

In comparison to other countries in South-East and the East Asia regions, the contribution of FDI in capital formation was also relatively low after 1980 (Table 2). The relatively low share of FDI in capital formation in Indonesia was similar to Korea and Taiwan (except during the economic crisis, the share of FDI in GFCF in Taiwan was relatively high). Other small South-East Asian countries, such as Vietnam and Cambodia, have relied on FDI in their capital formation since 1990. Other high performance South-East Asian countries, such as Singapore, Malaysia, and Thailand, have a relatively high share of FDI in total capital formation, while Hongkong and Brunei Darussalam are extreme cases in relying on FDI as their GFCF.

B. Foreign Firms and Their Capitals

Taking advantage of the availability of establishment level survey data (from hereafter SI) by the Indonesian Central Bureau of Statistics, the contribution of foreign firms on capital in Indonesia's manufacturing industry can be measured from the share of fixed capital in foreign firms to total fixed capital in the manufacturing industry. This measure is the simplest way for measuring the contribution of foreign firms to manufacturing capitals. However, instead of using the raw value of fixed capital data from SI, this study uses the non-wage value added as proxy to the value of fixed capital.[2] Table 3 presents the share of fixed capital in foreign firms to total fixed capital using this proxy.

In general, the number of foreign firms as percentage of total manufacturing firms increased over time. Although foreign firms account for only around 5 percent of total firms in the manufacturing industry, their contribution to manufacturing capital accounts for more than 25 percent over the last three decades. The contribution has increased over time, from 23.19 percent in 1975 to 38.88 percent in 2005. The significant share of

[2] The direct used of fixed capital data from SI for this study may not be appropriate since they are subject to at least three limitations. First, data for fixed capital is not available for the whole period of this study from 1975 to 2005. The data are only available for the period 1980-2005. Second, there are many establishments reporting zero or missing value for their fixed capitals for the period 1980-2005. For example, data of fixed capitals in the 1996 survey are missing for almost 50 percent of total surveyed establishments. Third, there is relatively high year-to-year variation of fixed capital values in some establishments. Previous studies suggest two proxies for value of fixed capital: non-wage value added and replacement value of fixed capital (Blalock and Gertler 2006; Todo and Miyamoto 2006; Vial 2006). This study uses the first proxy for simplicity in calculation.

foreign capital in the manufacturing sector is mainly due to the much bigger size of foreign firms compared to domestic firms. Another reason is because foreign investment in Indonesia mostly flowed to high technology industries with large establishment capitals and some of them are heavily capital intensive, such as basic metal, metal products, and the chemical and pharmaceuticals sector.

Table 3
Foreign Firms and Their Capital

Year	Number of Establishment in Manufacturing Industry	Foreign Firms (% of total manufacturing firms)	Foreign Capital (% of total manufacturing capital)
1975	7469	3.90	23.19
1980	8079	4.07	29.61
1985	12909	3.32	21.83
1990	16536	3.61	22.79
1995	21551	5.77	26.90
2000	22174	7.96	40.08
2005	20729	8.18	38.88

Source: Calculated from Annual Survey of Large and Medium Manufacturing Industry, Indonesian Central Bureau of statistics (Badan Pusat Statistik, BPS), various issues

The increase in the number of foreign firms in the manufacturing sector corresponds to the increasing importance of the manufacturing sector in the Indonesia economy.[3] Since full liberalization, beginning in 1986, the role of FDI to Indonesia has been increasingly important, following the high growth of manufacturing production. The increase in the number of foreign establishments in Indonesian manufacturing reveals the growing expectations of foreign investors and the demonstration effect of foreign investments.

To sum up, although the contribution of FDI to capital in Indonesia may not appear to be important in the overall economy, foreign firms have contributed significantly to the manufacturing capitals.

[3] Between 1970 and 2005, the Indonesian economy experienced a rapid structural transformation away from agriculture to manufacturing. Before 1988, the contribution of manufacturing to GDP was lower than the contribution of agriculture. For example, manufacturing production accounted for only 9.8 percent of GDP in 1975, while agriculture contributed for 44.9 percent (World Bank Indicator Online). After the full liberalization, the share of manufacturing production in GDP took over those of agriculture production. In 1995, for example, the manufacturing production accounted for 24.1 percent of GDP, while the contribution of agriculture production was only 17.1 percent (World Bank Indicator Online).

III. FDI Contribution to Employment

FDI is believed to be a potential contribution for employment in host countries, especially developing countries. In practice, however, the large inflows of FDI are not a guarantee that such investments create new employment for domestic labour. Studies on the labour market often identify that FDI generates positive as well as negative contributions, both direct and indirect, to domestic employment. Their positive and negative contribution can be seen in the forms of quantity, quality, and location of employment. Table 4 describes the potential positive and negative effects generated from foreign investment.

Table 4
The Potential Positive and Negative Effects of FDI on Employment in Host Countries

	Direct		Indirect	
	Positive	Negative	Positive	Negative
Quantity	creates new jobs in expanding industries	merger and acquisition may result in rationalization and job losses	creates jobs through backward and forward linkages and multiplier effects in local economy	reliance on imports or displacement of existing firms
Quality	Pays higher wages and has higher productivity	Introduces practices in, e.g. hiring and promotion, that are considered undesirable	Spillover of "best practice" work organization to domestic firms	Erodes wage levels as domestic firms try to compete
Location	Adds new and perhaps better jobs in areas with high unemployment	crowds already congested urban areas and worsens regional Imbalances	Encourages migration of supplier firms to areas with available labour supply	Displaces local producers, adding to regional unemployment, if foreign affiliates substitute for local production or rely on imports

Source: UNCTAD (1994)

In direct employment effects, a 'greenfield' FDI may result in the creation of new jobs for domestic employees. A new plant built by a foreign company, especially one with high labour intensity, tends to provides new employment. The more labour intensive the firm the more jobs tend to be created. A foreign firm with high labour intensity and a long term commitment may provide stable employment to the economy of the host country. FDI can also lead to higher level of wages and labour productivity. Foreign firms often bring with them higher labour standards and wages, as in their home countries, than those in host countries. This happens usually for FDI to developing

countries such as Indonesia, where the exchange rate and the average standard of wage are low. Through training, foreign firms generate high productivity for their labour, which is often higher than the average generated by domestic firms. Furthermore, the 'greenfield' FDI in certain targeted or priority areas (in the case of Indonesia, this is outside Java and Sumatera) with a high unemployment rate tends to provide new and perhaps better jobs for the workforce.

However, FDI may not always provide positive direct impacts on employment creation. FDI in the form of the merger and acquisition of domestic companies may result in rationalization and job losses. Foreign firms which are highly capital intensive and that require skilled-labour to run their production often import their workers from home countries, which tends to reduce the job opportunities for domestic workers. The introduction of new practices, for example in promotion and hiring, by foreign subsidiaries may be considered undesirable for domestic workers. Furthermore, new foreign firms located in major regions, which are highly concentrated industrial areas (in the case of Indonesia, this is in Java island), increase the regional industrial imbalances.

The indirect employment effects generated from FDI usually take the form of job creation through multiplier and spillover effects on upstream and downstream industries. Foreign firms that buy their input from domestic suppliers tend to contribute to employment in domestic upstream industries. Foreign firms, which sell their products to domestic buyers, may contribute to job creation in domestic downstream industries. Foreign firms may also act as 'best practice' for spillovers on productivity and work organization to domestic firms. However, the negative indirect employment effects can also be created by the presence of foreign firms. The merger and acquisition FDI on high capital intensive companies tends to have high import propensity, which then reduce their local input contents. Such investments tend to replace domestic inputs suppliers with imported input.

In Indonesian manufacturing, foreign firms contribute significantly to employment. Although foreign firms account for only around 5 percent of total manufacturing firms

between 1975 and 2005, their share in employment is more than 15 percent (Table 5). Foreign firms played a significant role in employment in sectors such as metal products (ISIC 38)[4], textiles and leather (ISIC 32), and chemicals and pharmaceuticals (ISIC 35). Moreover, the significant role of foreign firms in manufacturing employment has increased over time. The share of foreign firms in the employment increased from 8.44 percent in 1975 to 9.85 in 1985, and continued to increase with greater magnitude after the full investment reform (beginning in 1986) to 17.17 percent in 1995 and 23.60 percent in 2005.

Another important issue is that foreign firms have significantly high value added. In 1995 for example, value added of foreign firms was 31.94 percent of total manufacturing value added, even though foreign firms only accounted for 5.57 percent of total manufacturing firms. The contribution of foreign firms on value added is above average in basic metals (ISIC 37), chemicals and pharmaceuticals (ISIC 35), and metal products (ISIC 38) sectors. The evidence in Indonesian manufacturing supports the hypothesis that foreign firms generate high value added.

Table 5
Employment Effects of Foreign Firms in Manufacturing 1975-2005

ISIC	Foreign Firms (% of total firm in the same sector)				Number of Workers in foreign firms (% of total worker in the same sector)				Value Added (% of total VA in the same sector)			
	1975	1985	1995	2005*)	1975	1985	1995	2005*)	1975	1985	1995	2005*)
31	2.67	1.34	2.75	3.78	4.09	3.94	5.89	11.92	15.30	8.35	14.63	25.64
32	1.52	1.98	5.18	6.78	7.68	11.50	23.02	26.33	5.60	9.24	11.86	14.15
33	4.81	3.90	2.75	5.70	11.32	11.48	7.24	10.52	8.02	4.94	9.69	7.91
34	3.56	1.82	4.79	4.51	7.07	4.96	15.72	16.30	10.86	3.18	10.06	12.92
35	9.40	8.00	10.07	11.94	16.74	13.75	16.28	21.31	31.21	27.19	48.98	26.72
36	1.71	1.28	1.97	3.09	10.09	7.68	10.14	15.89	7.76	16.85	10.87	14.66
37	20.00	10.00	16.57	18.31	12.65	19.41	19.19	24.26	31.54	34.22	84.35	36.94
38	9.04	8.18	13.31	24.48	18.21	17.86	32.66	54.08	21.30	21.23	35.43	40.57
39	1.32	3.82	12.90	8.70	4.10	12.68	40.13	32.01	0.85	26.11	27.04	17.48
All	3.60	3.32	5.57	8.18	8.44	9.85	17.17	23.60	2.01	16.21	31.94	26.00

Source: same as Table 3

*) The industrial code has been revised twice since 1975. The first was in 1990 (when the BPS adopted ISIC revision 2) and the second was in 1998 (when the BPS replaced ISIC revision 2 with ISIC revision 3). The first revision did not change much the industrial classification since the BPS only updated the last digit of the five digit ISIC code. The second revision changed the entire industrial code. To obtain comparable and consistent figures, the 2005 industrial code was adjusted to the code of 1990 using the special map provided by the BPS.

[4] ISIC is Indonesian Standard of Industrial Code, which follows the International Standard of Industrial Code.

IV. FDI Contribution to Technology

FDI has been recognized as a most plausible channel of international technology transfers among other international activities, such as trade in goods, trade in services, migration, and international licensing (Baldwin, 2005). Such investments are crucial for developing countries since they provide technology transfer with much lower costs than invention and innovation through research and development (R&D). Beside technology transfer, FDI also introduces new skills and knowledge that complement the new technology. These new skills and knowledge spill over to domestic companies when workers move from foreign to domestic firms.

Studies on international technology transfer in Indonesia indicate that foreign investors tend to choose FDI more than international licensing. The weak protection of intellectual property rights in Indonesia tends to discourage foreign investors to get involved in international licensing (Wie, 2005). By licensing, foreign companies may lose control over their business secrets, since licensees have a potential advantage to imitate directly their licensers' technology. From the viewpoint of domestic firms, restrictions attached to licensing, such as obligation for licensees to purchase materials or components from licensors, restriction to export, and limitation of sales to domestic market, tend to prevent domestic firms from engaging in licensing agreements (Wie 2005). Furthermore, the technology transferred from licensers is often old technology compared to the technology offered by MNC through direct investment. Given these obstacles for both parties, licensing agreements become unfavorable. However, the unavailability of comprehensive data on licensing agreements in Indonesia prevents further comparison between international licensing and FDI.

Although it is not easy to identify the speed of technology transfers from FDI, the subsequent growth in FDI inflows to Indonesia, at least, can be used as an indication, since FDI not only provides capital inflows but also generates technological progress and knowledge improvements. However, the presence of foreign firms in the economy is not a guarantee that technology transfers take place. There are certain factors required for domestic firms to gain benefits from technology transfers. Empirical studies on foreign

firms in Indonesia indicate that factors such as research and development (Todo, 2006), labour skills (Okamoto, 2005), and technological gaps (Sjoholm, 1999) determine the ability of domestic firms to take advantage of technology transfers from FDI. Wie (2001) notes that Indonesian manufacturing industries have not been very successful in taking advantage of technology transfers from FDI compared to other East Asian countries, particularly in the period before the investment reforms beginning in 1986. Factors such as non-transparency in licensing procedure and high costs in land leasing were among the obstacles that caused low technology transfers in Indonesia during the period (Wie 2001). The gradual liberalization of the investment regime since 1986 was shown to be beneficial for technology transfers in the form of productivity spillovers (see for example Takii 2005).

2.4.4. FDI Contribution on Linkages

FDI may also contribute to domestic suppliers and buyers. The contribution of FDI to domestic suppliers is often known as backward linkage, whereas the impact to domestic buyers is called forward linkage. The linkage effects are generated when foreign firms demand inputs from downstream industries and supply output to upstream industries. The 'greenfield' FDI often provides more incentives for linkages effects compared to the merger and acquisition FDI (as noted in section 3 of this current study).

In practice, forward linkages are more difficult to measure for they are more diversified and concealed (Wang, 1996). Therefore, backward linkages generally receive more attention from researchers. There are at least two approaches often used for backward linkages. The first approach, which is the most popular and the simplest measure, is the local procurement ratio. This ratio can be crudely calculated by dividing the value of material purchased from domestic markets over the total material expenditure of a foreign firm. The second approach, which is a more sophisticated and a more complex measure, is weighted ratio from input-output tables. This latter approach is often used to detect the magnitude of direct and indirect linkages resulting from the input and output relation among industries, while the former approach can be used only to measure the direct

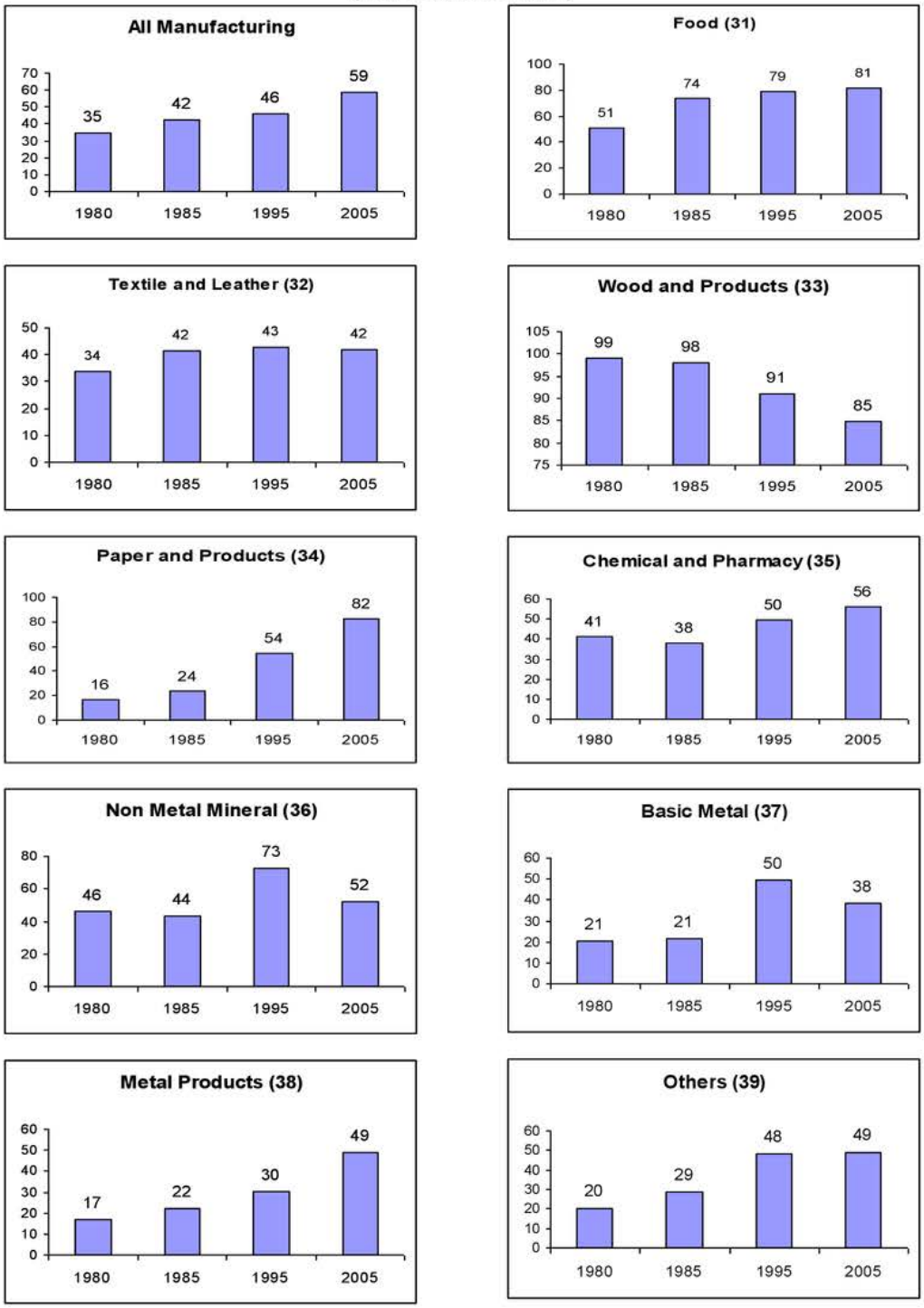
backward linkages from foreign firms to domestic suppliers. However, for simplicity, the first approach is presented here.

Figure 1 shows the local procurement ratio of the Indonesian manufacturing sector from 1980 to 2005. In general, the local procurement ratio by foreign firms in Indonesian manufacturing increases over time, from 35 percent in 1980 to 59 percent in 2005. A sector with high use of domestic materials is wood and wood products (ISIC 33), with 99% of the material being from domestic suppliers. Although the trend shows that the local procurement ratio in this sector is decreasing over time, the percentage of local materials used is still highest among manufacturing sectors. The high percentage of local inputs used in wood and wood products can be explained by the abundance of wood materials extracted from the forests in Kalimantan and Papua.[5] Paper and paper products (ISIC 34) is the sector that has the lowest local procurement ratio among manufacturing sectors before 1995, with only 16 percent of its material input from domestic markets. However, the local procurement ratio in this sector increased sharply to 82 percent in 2005. Other sectors that have a similar trend are basic metals (ISIC 37) and metal products (ISIC 38), whereas food (ISIC 31), textiles and leather (ISIC 32) and chemical and pharmacy (ISIC 35) have a relatively high and stable local procurement ratio between 1980 and 2005.

The subsequent increasing trend in the local procurement ratio in all manufacturing sectors indicates that the linkages of foreign firms and domestic suppliers are getting stronger over time. Foreign firms in manufacturing generated increasing backward linkages effects to upstream industries. With the entry of new foreign firms to Indonesian manufacturing sectors, the domestic upward industries may receive advantages from the backward linkages effects through increasing in demand for material inputs. The increasing trend in the local procurement ratio also suggests the existence of spillover effects from foreign firms to domestic suppliers.

[5] The government provides licenses (Hak Pengusahaan Hutan, HPH) for extracting timber in certain forest areas, which are known as the industrial plantation areas. Companies that receive licenses, including joint venture companies, are allowed to utilize timbers for commercial use.

Figure 1
Local Procurement by Foreign Firms in Indonesian Manufacturing 1980-2005 (%)
(Source: same as Table 3)



2.4.5. FDI Contribution to Trade Balance

The impact of FDI on the trade balance of a host country can be examined from two perspectives: the effect on export promotion and the effect on import contents of material inputs by foreign firms. If the entry of new foreign firms is to serve the export market by taking advantage of the abundance of resources in host countries, then FDI is expected to have a positive effect on export growth. However, if foreign firms in host countries are for market access and penetration, then FDI may not contribute to exports. The same logic is also applied to the impact on FDI to imports. Foreign firms that come to host countries for the resources may not affect the imports of host countries and, hence, may not generate an impact on trade balance. In contrast, new foreign firms that come to host countries to access the domestic market and rely heavily on the imported inputs tend to increase imports, and then deteriorate the trade balance. Therefore, the contribution of FDI on the trade balance of host countries depends on the dominant motive of the foreign firms.

The motivation of foreign firms investing in developing countries tends to be different to the motivation investing in developed countries. Foreign subsidiaries in developing countries are often motivated by resource seeking, while the inflows to developed countries are mostly to penetrate the market and to avoid trade barriers (Brouthers, 1996). Therefore, developing countries that adopt an export-oriented trade regime are likely to gain trade surplus from the entry of new foreign firms to the economy.

Using the firm-level data of Indonesian manufacturing, the evidence shows that the share of the foreign firms' exports to total manufacturing exports has increased during the last three decades (Table 6). Foreign firms' exports accounted for 22.15 percent of total manufacturing exports in 1990[6], and rose to 33.19 percent in 1995, and 45.4 percent in 2004.[7] Sectors that have a high share of foreign firm exports are metal products, basic metals, and paper and paper products. Foreign firms in the food industry contributed a

[6] Data on exports had been available since 1990.

[7] The data on firms' export are not readily available for the year 2005. The BPS changed the question related to export share from "what percent of your production are exported?" to "is there any production that was exported?" in the 2005 survey's questionnaire. Therefore, it is not possible to calculate the export share of foreign firms for the year of 2005.

very small proportion of exports in 1990, only 4.84 percent of total exports in the food industry, but the contribution had risen recently to 30.17 percent in 2004. In general, the share of foreign firm exports has significantly increased for all sectors in manufacturing.

Table 6
Export and Imported Material of Foreign Firms in Manufacturing Sectors

ISIC	Export (% of Total Export in the same Sectors)			Imported Material (% of Total Imported Material in the same Sectors)			
	1990	1995	2004	1980	1985	1995	2005
31	4.84	11.05	30.17	33.23	19.41	32.00	35.89
32	19.51	34.49	47.49	38.14	36.90	38.51	37.94
33	13.16	13.32	15.11	3.85	15.67	31.00	24.27
34	52.42	15.70	54.41	37.77	30.44	40.43	33.93
35	25.60	29.03	37.06	47.62	43.71	47.70	55.96
36	12.15	31.98	65.70	55.15	27.85	20.59	34.88
37	50.89	68.99	54.09	57.72	50.26	18.93	29.69
38	69.60	82.36	85.35	40.05	35.49	59.32	69.66
39	35.67	65.46	69.16	86.96	37.32	70.93	67.12
All	22.15	33.19	45.40	41.12	36.48	45.93	46.63

Source: same as Table 3

Table 6 also shows that the share of imported materials by foreign firms to total imported materials in manufacturing is relatively large compared to the percentage of foreign firms in manufacturing. The imported materials by foreign firms accounted for around 40 percent of total imported materials in manufacturing between 1980 and 2005, while the percentage of foreign firms in manufacturing is only around 5 percent (as shown in Table 5). Sectors that have a higher share of imported materials by foreign firms than the average are metal products (ISIC 38) and others (ISIC 39), while sector that have a lower share of imported materials by foreign firms are wood and wood products (ISIC 33), paper and paper products (ISIC 34) and the food industry (ISIC 31). In general, the foreign firms in Indonesia manufacturing contributed considerably to the total import of material inputs.

The evidence from export and import data suggests that foreign firms in Indonesia contribute significantly to exports as well as imports in the manufacturing industry. The export-oriented trade regime appears to increase the export share of foreign firms. However, foreign firms in Indonesian manufacturing also rely greatly on imported materials.

2.5. Summary

This paper has assessed the economic contributions of FDI to five strategic factors (i.e. capital, employment, technology transfer, upstream and downstream industries, and trade performance) in Indonesia's manufacturing industry. The results show that foreign firms in Indonesian manufacturing played an important role on these five factors.

Foreign firms played an important role on total capital in manufacturing industries. Although foreign firms were minor in manufacturing sector, their share on capital in the manufacturing industry was significant. Foreign firms are also crucial in employment. They played an increasingly important role on employment over the last four decades. Sectors that received significant employment effect from foreign firms were metal products and textiles. Besides creating employment opportunity, foreign firms in Indonesian manufacturing also generated high value added to Indonesian manufacturing sector.

The continuous growth of FDI inflows to Indonesia can be used an indication of transfer technology since FDI is believed not only provide capital flows but also technology transfer. The contribution of foreign firms to technology transfer depends on several factors, such as the level of research and development in domestic firms, labour skills for the new technology, and technological gaps between foreign and domestic firms. Although it is not easy to identify the speed of technology transfer, the increasing on firms' productivity due to the present of foreign investments can be used as a measure for technology transfer. This is known as productivity spillovers from FDI.

Based on the ratio of local procurement, foreign firms in manufacturing has contributed to upstream industries through domestic input contains. The upward trend in local procurement suggests that the linkages of foreign firms and domestic suppliers are getting stronger overtime. Moreover, foreign firm also played crucial roles in manufacturing exports, which accounted to more than 30 percent of total export in manufacturing even though they were minor in the manufacturing sector. However, foreign firms in Indonesia

manufacturing relied heavily on imported material. The value of their imported material accounted for more than 40 percent of total imported material in manufacturing.

References

Baldwin, R., H. Braconier, and R. Forslid. 2005. Multinationals, Endogenous Growth, and Technological Spillovers: Theory and Evidence. *Review of International Economics* 13 (5): 945-963.

Blomstrom, M., and A. Kokko. 1998. Multinational Corporation and Spillovers. *Journal of Economic Surveys* 12 (2): 247-277.

Brouthers, L. E., S. Werner, and T. J. Wilkinson. 1996. The Aggregate Impact of Firms' FDI Strategies on the Trade Balances of Host. *Journal of International Business Studies* 27 (2): 359-373.

Dhanani, S., and S. A. Hasnain. 2002. The Impact of Foreign Direct Investment on Indonesia's Manufacturing Sector. *Journal of the Asia Pasific Economy* 7 (1): 61-94.

Okamoto, Y., and F. Sjoholm. 2005. FDI and the Dynamics of Productivity in Indonesian Manufacturing. *Journal of Development Studies* 41 (1): 160-182.

Sjoholm, F. 1999a. Technology Gap, Competition, and Spillovers from Foreign Direct Investment: Evidence from Establishment Data. *Journal of Development Studies* 36: 53-73.

Takii, S. 2005. Productivity Spillovers and Characteristics of Foreign Multinational Plants in Indonesian Manufacturing 1990-95. *Journal of Development Economics* 76: 521-542.

Todo, Y., and K. Miyamoto. 2006. Knowledge Spillovers from Foreign Direct Investment and the Role of R&D Activities: Evidence from Indonesia. *Economic Development and Cultural Change* 55 (173-200):

UNCTAD. 1994. *World Investment Report 1994: Transnational Corporations, Employment and the Workplace*. New York and Geneva: United Nations.

Wang, W. T. 1996. Foreign Direct Investment, Spillovers and Catching Up: the Case of Taiwan. Unpublished Thesis, The Australia-Japan Research Centre, The Australian National University, Canberra

Wie, T. K. 2001. The Role of Foreign Direct Investment in Indonesia's Industrial Technology Development. *International Journal of Technology Management* 22 (5-6): 583-598.

Wie, T. K. 2005. The Major Channels of International Technology Transfor to Indonesia: An Assessment. *Journal of Asia Pacific Economy* 10 (2): 214-236.

The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

PAGE 17

The Contribution of Foreign Direct Investment on Indonesia's Manufacturing Industry

ORIGINALITY REPORT

15%	12%	11%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	mpra.ub.uni-muenchen.de Internet Source	1%
2	Submitted to University of Essex Student Paper	1%
3	d-nb.info Internet Source	1%
4	Submitted to University of Leeds Student Paper	1%
5	Submitted to Curtin University of Technology Student Paper	1%
6	repub.eur.nl Internet Source	1%
7	www.bon.com.na Internet Source	1%
8	www.brad.ac.uk Internet Source	<1%
9	www.degit.ifw-kiel.de	

	Internet Source	<1%
10	www.idsc.gov.eg Internet Source	<1%
11	eprints.port.ac.uk Internet Source	<1%
12	Submitted to University of Northumbria at Newcastle Student Paper	<1%
13	Shafiq Dhanani. "THE IMPACT OF FOREIGN DIRECT INVESTMENT ON INDONESIA'S MANUFACTURING SECTOR", Journal of the Asia Pacific Economy, 2/1/2002 Publication	<1%
14	Yasuyuki Todo. "Intra-industry Knowledge Spillovers from Foreign Direct Investment in Research and Development: Evidence from China's “Silicon Valley” : KNOWLEDGE SPILLOVERS FROM FDI IN R&D", Review of Development Economics, 08/2011 Publication	<1%
15	www.veam.org Internet Source	<1%
16	theses.gla.ac.uk Internet Source	<1%

17	Zámborský, Peter. "Competitiveness gap and host country effects of FDI in the new OECD", International Journal of Trade and Global Markets, 2012. Publication	<1%
18	www.icsead.or.jp Internet Source	<1%
19	www.lib.kobe-u.ac.jp Internet Source	<1%
20	www.unn.edu.ng Internet Source	<1%
21	minerva-access.unimelb.edu.au Internet Source	<1%
22	www.fao.org Internet Source	<1%
23	waikato.researchgateway.ac.nz Internet Source	<1%
24	www.tandfonline.com Internet Source	<1%
25	Saadi, Mohamed. "Does foreign direct investment increase exports' productivity? Evidence from developing and emerging countries", International Review of Applied Economics, 2014. Publication	<1%

26	ssb.no Internet Source	<1%
27	Submitted to CITY College, Affiliated Institute of the University of Sheffield Student Paper	<1%
28	researchonline.jcu.edu.au Internet Source	<1%
29	Narjoko, Dionisius, and Chandra Tri Putra. "Industrialization, globalization, and labor market regime in Indonesia", Journal of the Asia Pacific Economy, 2014. Publication	<1%
30	www.pide.org.pk Internet Source	<1%
31	www.eaber.org Internet Source	<1%
32	Fauzel, Sheereen Seetanah, Boopen Sannasee, R.V.. "Productivity spillovers of FDI in the manufacturing sector of Mauritius. Evidence from a dynamic fra", Journal of Developing Areas, Spring 2015 Issue Publication	<1%
33	Ahiakpor, J.C.W.. "The profits of foreign firms in a less developed country", Journal of Development Economics, 198607/08 Publication	<1%

34	www.ilo.org Internet Source	<1%
35	www.adb.org Internet Source	<1%
36	www.kadin-indonesia.or.id Internet Source	<1%
37	"ASEAN Industries and the Challenge from China", Springer Nature, 2011 Publication	<1%
38	www.rieti.go.jp Internet Source	<1%
39	www.mtk.ut.ee Internet Source	<1%
40	www.econ.uniurb.it Internet Source	<1%
41	augurproject.eu Internet Source	<1%
42	Submitted to North West University Student Paper	<1%
43	131.220.86.34 Internet Source	<1%
44	belfercenter.ksg.harvard.edu Internet Source	<1%

Richard Baldwin. "Multinationals, Endogenous

45	Growth, and Technological Spillovers: Theory and Evidence*", Review of International Economics, 11/2005 Publication	<1%
46	eprints.mdx.ac.uk Internet Source	<1%
47	es.scribd.com Internet Source	<1%
48	www.unctad.org Internet Source	<1%
49	eujournal.org Internet Source	<1%
50	www.econstor.eu Internet Source	<1%
51	www.ccmfuwi.org Internet Source	<1%
52	gala.gre.ac.uk Internet Source	<1%
53	repository.upenn.edu Internet Source	<1%
54	www.gcbe.us Internet Source	<1%
55	Todo, Y.. "Knowledge spillovers from foreign direct investment in R&D: Evidence from	<1%

Japanese firm-level data", Journal of Asian Economics, 200612
Publication

---

56 "Multinationals and Foreign Investment in Economic Development", Springer Nature, 2005 <1%
Publication

---

57 J. A. Mollett. "Agricultural investment and economic development—some relationships", Outlook on Agriculture, 2016 <1%
Publication

---

58 Batool, Husna. "Impact of Foreign Ownership on Total Factor Productivity: Evidence from Food, Tobacco and Financial Business Sectors of Pakistan", Journal of Economic Cooperation & Development/13087800, 20090401 <1%
Publication

---

59 Contributions to Management Science, 2013. <1%
Publication

---

60 L. Davidsson. "Micronutrient Interactions on Risk of Infantile Anemia: Going beyond Iron Alone!", S. Karger AG, 2003 <1%
Publication

---

61 Natalja von Westernhagen. "Chapter 5 The Role of FDI in the Transition Process of Selected CIS and CEECs", Springer Nature, 2002 <1%

Publication

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		