



Indo Japan Trade Potentials in the Context of Bilateral Relations

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1. Introduction

Historically Indo Japan relations are centuries old. Japan had special relation with India, when Buddhism was introduced to Japan via the Korean Peninsula. During Meiji era (1868-1912), bilateral relations developed with Japanese purchases of cotton directly from India, (Roy, 2008). India's friendship with Japan after the war helped a great deal when Japan returned to the international arena. Since 1952, Japan and India maintained diplomatic relations and enjoyed cordial relations based on trade, economic and technical cooperation. After the WW II, the focus of Japan's economic relations with India switched from the pre-war import of cotton to the import of iron ore. Relations developed steadily as Japan's imports of ore and exports of manufactured products increased. Following Japanese Prime Minister Nobusuke Kishi's visit to India in 1957, yen loans to India began in 1958, as the first loan aid extended by Japan. In 1958 Japan participated in the Consortium Meeting of India's creditor countries hosted by the World Bank and embarked on the full-scale assistance to India that has continued to the present. Since fiscal 1986 Japan has been India's largest aid donor. Japan and India have traditionally enjoyed cordial and friendly relations and the feelings of Indian people towards Japan have been good, (Banga,

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2004). Early 1990s set a new trend between two nations. India initiated its economic reform process in 1991 opening its economy and Japan initiated new economic initiatives during late 1990s after it passed through depression. This paper attempts to analyze imports and exports of commodities to and fro these countries to see the effect of bilateral relations on trade, after India initiated trade reforms in 1991. Section II discusses the background of India's economic reform process and its effect, section III explores Japan's position during 1980 and how new initiatives were taken to improve trade policies, section IV discusses what happened after 1991 between Indo Japan trade relations, Section V analyses the trade data to explore potentials and section VI concludes.

2. India's Economic Reform Process

The financial and others problems faced by Indian economy in 1991, triggered reforms. The fall of communist governments in the former Soviet Union and Eastern Europe, development experiences of South Asian countries during the last two decades, Chinese economic reforms towards liberalization and out-ward orientation as well as lesson of India's experimentation with a closed economy and state directed policy regime during the first four decades of planning, further necessitated economic reforms in India, (Sankar and Kalirajan 2001). Srinivasan (1996) observed that extent of poverty had gone down since independence, and reduction in poverty arising from a more rapid debt-led growth without structural reforms, meant its future sustainability was doubtful. In contrast to the targets for income growth of 5.5% - 7.5% per year in the various five-year plans since the second, except the fifth, national income grew only at an average rate of less than 4% per year in the forty years period (1950-51 to 1990-91). Self-sufficiency, at very modest levels of consumption, was achieved in a number of commodities including, notably, food grains. The share of gross domestic capital formation in GDP almost doubled from 14.7% in 1950-51 to 23.6% in 1990-91. However there was no commensurate increase in the rate of growth of GDP because of capital-intensive character of the investment. Until the 1991 reform measures, government control over production, investment, technology and location choice, prices and foreign trade had become so extensive that there was no possibility of exercising the discretion vested in the layers of bureaucracy by the system of controls in a rational manner, (Bhagwati, 1992). India's share of foreign trade (exports plus imports) fell from its level above 2% at the independence to about 0.5% in 1990. The share of foreign trade (exports plus imports) in GDP at market prices was virtually unchanged,

increasing from 12% in 1950-51 to 14% in 1990-91, (Sachdeva, 2009). India's foreign trade regime till the reforms initiated in 1991 was primarily dictated by two important considerations, a quest for import substituting industrialization and concern for dwindling foreign exchange resources, (Srinivasan, 1996).

Structural adjustment programs were initiated to initiate the process of liberalization, privatisation and globalization. Economic reforms and WTO agreements paved the way for competition within India as well as in the world. Indian exports got a boost. India's exports increased from 17.8 billion USD in 1991 to 168.7 billion USD in 2008 growing at the compounded rate of growth at 13.73% while imports have increased from 19 billion USD in 1991 to 287.7 billion USD growing at the compounded rate of growth of 16.14% in 2008. During initial stages of reforms, improvement of exports was due to rupee devaluation, (Sachdeva, 2009), later exports rose due to export-import policies of Government of India.

3. Japan after 1991

Japan's "miracle" growth of the 1960s and its successful transformation often became a matter of discussion in the discourse of the developing economies. During 1946-60 and 1960-75, Japan grew at annual rates of 9.4 and 8.3 per cent, (Bose, 2006). The tremendous growth was due to a number of factors, which included improvement in productivity in each individual sector of the economy and the shift of labour from low productivity to high productivity sectors through rapid technology borrowing to strengthen its manufacturing base and by pursuing an export-led growth strategy based on light manufactures, (Burkett and Hart-Landsberg 2000; Iyotani 1995 in Uma, 2006). Exports expanded rapidly in both heavy and chemical industries and light-industrial products such as textiles, toys and simple electrical appliances. These goods accounted for 65 per cent of all Japanese exports in 1955 and by 1965 they continued to account for 52.8 per cent. This export success was at the expense of other capitalist countries which responded with import restrictions [Brenner 1998 in Uma, 2006]. External pressures and internal rising wages made difficult for Japan's light manufactured exports to remain internationally competitive and it slowed down the growth in the mid- 1960s. The Japanese government adopted the strategy of moving light manufacturing plants to the East Asian countries, mainly South Korea, Taiwan and the ASEAN countries. Production of cotton textiles was moved in the mid-1960s followed shortly by synthetic textiles (Steven 1983 in Uma, 2006). This resulted in a

decline in the share of labour-intensive exports to 43.5 per cent in 1973 [Krause and Sekiguchi 1976 in Uma 2006]. Despite rising wages and external trade frictions, this dual strategy of heavy industrialisation and exports of light manufactured goods brought about an impressive growth rate of 8 per cent per annum, with manufacturing growth at 11 per cent. The high investment and high export strategy helped in establishing the manufacturing base in the economy, and this sector contributed almost 40 per cent of income in 1970, (Uma, 2006).

The period from 1974 to 1985 was that of stable growth, when the economy grew at 3.7 per cent. The combined impact of the yen's revaluation and a sharp rise in oil prices was felt severely by simple electronics and the heavy and chemical industries. The heavy chemical industries processed large amounts of imported oil and other material into exports, and it affected their profitability and competitiveness. To overcome the crisis, firms tried to scale down production and reduce labour costs by reducing overtime and dismissing temporary and part-time workers.

During the period of recession, 1985-1992, the new high value added consumer goods from Japan in the world market continued to create problems for the developed capitalist world, most of whom were facing recession, unemployment and trade deficits due to rising costs of oil imports. Trade tensions between the US and Japan escalated, as more than 40 per cent of all Japanese machinery exports between 1983 and 1985 were sold in north America, and this included 60 per cent of Japanese motor vehicle exports [Steven 1990 in Uma, 2006]. This export success of Japan was creating problems especially for the US, as their trade deficits were growing and deindustrialisation was taking place. All these factors culminated in the Plaza Accord in 1985 to bring about more balanced trade. Towards such efforts exchange rate adjustments were made, which led to appreciation of the yen in 1985, (Uma, 2006).

The Japanese growth slumped to 1.6 per cent during 1990-2001 and 1.5 per cent during 2001-05. The decline which began with the bursting of the asset bubble in 1990 and slump in stock markets and real estate markets brought with it massive downward adjustments in investment and consumption demand and increased joblessness across the economy. Deflation became a chronic problem. Between 1998 and 2005, there was a near continuous fall in overall price levels in the economy, (Bose, 2006).

Financial system reform, "the Japanese Big Bang," commenced in November 1996 under the three principles of "free, fair and global". As a first step, the Foreign

Exchange Law was changed to totally liberalise cross-border transactions in April 1998. The Financial System Reform Law along with revisions to the Banking Law, the Securities and Exchange Law, and the Insurance Business Law were enforced in December 1998. With exports playing a crucial role in restoring demand in the economy, trade dependency in Japan grew. It is this rise in export, with accretions to demand originating from within Asia, particularly China, that Japan could turn to its advantage to engineer an export-led economic recovery, (Bose, 2006).

4. Indo Japan Bilateral Relations after 1991

4.1 Changing Scenario in Asia

If Asia is to increase its economic and political weight in world affairs, India's involvement would have to be an integral part of the Asia-wide cooperation. It is in this context that closer cooperation among Japan, ASEAN, South Korea, India and China would provide considerable win-win opportunities and will have far-ranging implications for the world, (Asher and Sen, 2005)

Two regional aspects have strategically transformed Asia and contributed largely to the economic integration of the continent. Firstly, liberalisation and globalisation have indeed transformed East Asia into one de facto community to a huge extent. East Asians now realise that they have a common destiny with a region that is fast becoming interdependent and borderless. Secondly, East Asians have become more aware of a better and greater redistribution of wealth, development, social and health benefits within the region. Otherwise, richer regions would never be exempt from social problems which could originate from poorer and lesser-developed areas in East Asia. East Asian regionalism has in fact increased due to (i) Intra-regional trade (ii) the current account surpluses East Asian nations and (iii) an enormous pool of foreign reserves, but this transformation has been more profound for the 13 East Asian countries (under the 'ASEAN+3' framework). It can be expected that India would increasingly join this accelerated 'regional movement' and gets more intertwined with the trade and development process, (Eric, 2005).

4.2 Indo Japan Bilateral Progress

India and Japan share a special relationship as fellow democracies seeking greater economic engagement in Asia. In the late 19th and early 20th centuries, Indian companies based in Japan exported cotton crepe, cotton yarn, knitwear, silk pieces, buttons, celluloid bangles, bags, fans, toys, purses, matting, umbrellas, willow hampers, matches, wood products, brassware, celluloid-ware, glassware, lacquerware, perfumes, soap, paper, camphor, brushes, lanterns etc. from Japan and imported raw cotton, rubber, ivory, Arabic gum, sheep skins, tapioca, pepper, shellac gum, etc, (Rajmohan et al, 2008).

There was a change in the major export and import items from the early 1900s. The major traded

Commodities changed from cotton-related products in the early 1900s to heavy machinery in the 1970s. In 1970-72 iron ore became the major item that Japan imported from India and other imports include hemp fabrics, textile products, and precious and semi-precious stones. During the same period heavy industrial products were the major export commodities from Japan besides metal and metal products like iron and steel and steel plates, (Rajmohan et al, 2008).

During the Cold War era, if India was guilty of dismissing Japan as a camp follower of the US, the Japanese in turn perceived India as a chaotic, dysfunctional, desperately poor country and not as a potential partner. With the end of the Cold War, India began its “Look East” policy in the early 1990s that dovetailed with the opening up and liberalization of its economy, (Rajmohan et al, 2008).

The 1980s marked the beginning of a new phase in Indo-Japan relations with the establishment of joint venture – the *Maruti-Suzuki* plant to manufacture cars in India. The visit of Prime Minister Yasuhiro Nakasone to India in 1984 – the first visit by a Japanese PM in 23 years – followed by the visits of Prime Minister Rajiv Gandhi to Japan in 1985, 1987 and 1988 established a high-level political dialogue. The Science and Technology Agreement signed during Rajiv Gandhi’s visit in November 1985 increased the frequency of exchanges in this area, (Rajmohan et al, 2008).

During the early 1990s when India undertook major economic reforms by liberalizing the country’s economy, and adopted an open-door policy, bilateral trade² and Japanese

² Used as Dummy 1 in cause and effect relationship

investment in India began to increase, as India began to be seen favourably as a long-term prospect in Japanese business planning. However, of the total Japanese global trade, India had a minuscule share and ranks 20th among Japan's trade partners, well below the US, China, European Union, and East and Southeast Asian countries.

The Indian nuclear tests of 1998 marked a low point in bilateral relations³; Japan suspended all political exchanges and even economic assistance was frozen for nearly three years. In August 2000, however, Japanese Prime Minister Yoshiro Mori made a five-day visit to India that helped propel ties forward, (Rajmohan et al, 2008). However, to quite a few analysts Japan's "strong bilateral, strategic, and global partnership" with India was redefined with the visit of then Prime Minister Koizumi in April 2005⁴. The changing politico-economic-security-energy- nuclear needs and ambitions of both India and Japan slowly persuaded each other, to enter into "probably the most important bilateral relationship", (Pinto, 2006b)

Warmness of relations increased with the high-profile visits of Japan's three self-defence force (SDF) chiefs (maritime, army, and air) to India in January and April 2006. These unique and significant visits all together sent a firm signal to Asian countries and the US that Tokyo and New Delhi had finally squared the proverbial circle in their security relations. Japan now recognises India not only as an emergent economic and political power in the region with its own areas of interest and concern, but intends to join forces in promoting "strategic interests". This was a significant development and a turning point in Indo-Japanese relations at the diplomatic, political and military levels, (Pinto, 2006a)

According to Pinto (2006), when Prime Minister Manmohan Singh's visited Japan during December 13-15, 2006, it was roses and roses all the way. Launching of a joint task force to develop an economic partnership agreement (EPA)/comprehensive economic partnership agreement (CEPA) between India and Japan and the seven memorandums of understanding (MoUs) signed between the two governments marked a new phase. The EPA and CEPA were an outcome of the recommendations submitted by the "Report of the India-Japan Joint Study Group (IJJSG)" in June 2006. The IJJSG made a series of recommendations to further develop and diversify the economic

³ Used as dummy 2 for analysis

⁴ Used as dummy 3 for analysis

engagement between India and Japan, with the objective of bringing about comprehensive expansion of bilateral economic and commercial relations. The specific areas marked for such cooperation were trade in goods and services, and investment flows. The other area of economic cooperation is the establishment of the “India-Japan Special Economic Partnership Initiative” (SEPI) that promote Japanese investment to India and “help develop India’s infrastructure and manufacturing capacity,”⁵, (Pinto, 2006b).

If one accepts the maxim that foreign policy is conducted in line with national interests and objectives, and then Japan is clearly furthering its strategic objectives by strengthening its domestic economy through foreign trade and investment relationships with India. Japan, as do other countries, sees India as a source of labour force, low manufacturing costs, and a large and rising middle class – currently estimated at “300-million-strong and which is not only gaining from the country’s rapidly expanding economy, but is also driving the consumption boom. India provides a ready market for its consumer durable goods, has stable democratic institutions, and is governed by rule of law, (Pinto, 2006b; Banga, 2004).

5. Indo Japan Merchandise Trade

Indo Japan merchandise trade has been analysed by getting the data for commodities from UN Comtrade database under Harmonised System of Nomenclature for the period 1992 to 2008. Only individual commodities with trade value above 5 million USD for the year 2008 were considered for analysis.

5.1 Indo Japan’s share of basket to each other

India exports only 1.99% of its total exports to Japan while Japan exports 1.01% of its total exports to India. India imports 2.47% of its total import from Japan while Japan imports 0.69% of total imports, as observed during the year 2008⁶, table 1

Table 1 Share of Trade in Total Trade in percentage

India's basket to Japan in 2008	1.99
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⁵ ‘Joint Statement: Towards India-Japan Strategic and Global Partnership’,

⁶ All calculations in USD

Japan's Basket to India in 2008	1.01
India's import share from Japan	2.47
Japan's import share from India	0.69

Effects of bilateral relations on India's export to Japan have been calculated as following model⁷.

$$\text{IndianExp} = 1.99 D_1 - 0.171 D_2 + 1.41 D_3$$

$$(7.9095^*) \quad (-0.5656) \quad (4.814^*)$$

$$N = 17 \quad R^2 = 0.97, \text{ Adj } R^2 = 0.95, F = 101.04$$

Bilateral relations during 1992 and 2006 gave good impetus to India's export to Japan. It is further observed that 1998 Pokharan tests in India affected India's export to Japan, but that was not statistically significant.

Effects of bilateral relations on Japan's export to India have been shown by following model.

$$\text{JapanExp} = 2.31 D_1 + 0.34 D_2 + 3.69 D_3$$

$$(4.8273^*) \quad (0.64) \quad (6.28^*)$$

$$N = 17 \quad R^2 = 0.97, \text{ Adj } R^2 = 0.94, F = 80.014$$

Bilateral relations during 1992 and 2006 have given good boost to Japan's export to India. It is further observed that 1998 break of bilateral relation never affected negatively on Japan's export to India, but that was not statistically significant.

5.2 Trade Intensity

Economists have suggested two important models i) total trade intensity, and ii) export intensity index to see the impact of bilateral relation on total trade and export.

i) ***Total Trade Intensity*** is interpreted as a relative measure of two ratios. The numerator represents the share of bilateral trade between country i and j as a percentage of total trade of country i. The second ratio in the denominator represents

⁷ In multiple regression constant has been forced as zero, D1 starts from 1993, D2 starts from 1998 while D3 starts from 2005.

the total trade of country j with the world excluding country i as a share of total world trade excluding country i. This forms the denominator of the total trade intensity index.

The bilateral trade intensity index for total trade is as follows:

$$T_{ij} = [(X_{ij} + M_{ij}) / (X_i + M_i)] / \{ [X_{wj} + M_{wj}] - (X_{ij} + M_{ij}) \} / [(X_w + M_w) - (X_i + M_i)]$$

where: T_{ij} = Total trade intensity index of country i with country j; X_{ij} = Exports of country i to j; M_{ij} = Imports of country i from j; X_i = Total exports of country i; M_i = Total imports of country i; X_{wj} = Total world exports to country j; M_{wj} = Total world imports from country j; and X_w = Total world exports; M_w = Total world imports.

Asher and Sen (2005) argue that if the numerator exceeds the denominator, i.e., if the value of $T_{ij} > 1$, it implies that the bilateral trade intensity for country i with country j is greater than in comparison to country i's trade with the rest of the world (ROW). Table 2 shows that India's bilateral trade intensity with Japan never crossed the value of 1 during the period 1992 to 2008. It is seen that trade intensity remained in the range of 0.95 to 0.92 during the period 1992-98, thereafter it started retarding and never improved and by the year 2008, it reached 0.49. This clearly shows the bilateral relations never improved after 1998 despite all political efforts.

Table 2 India's bilateral Trade Intensity towards Japan

India's bilateral trade intensity	
Year	Intensity
1992	0.95
1993	0.91
1994	0.97
1995	0.92
1996	0.84
1997	0.79
1998	0.92

Table 3 India's Export Intensity towards Japan

Year	India's Export Intensity	Japan's Export Intensity
1992	1.29	0.70
1993	1.27	0.70
1994	1.24	0.81
1995	1.10	0.83
1996	0.95	0.83
1997	0.92	0.72
1998	1.01	0.84

	1999	0.78		1999	0.88	0.69
	2000	0.65		2000	0.76	0.65
	2001	0.60		2001	0.66	0.60
	2002	0.64		2002	0.71	0.52
	2003	0.56		2003	0.59	0.54
	2004	0.51		2004	0.51	0.51
	2005	0.49		2005	0.51	0.45
	2006	0.51		2006	0.49	0.47
	2007	0.53		2007	0.51	0.55
	2008	0.49		2008	0.42	0.51

ii) Bilateral ***Export Intensity Index*** among country i and country j may be stated as follows:

$$X_{ija} = [X_{ij}/X_i]/[(M_j - M_{ji})/(M_w - M_i)]$$

where: in addition to the notations in the bilateral trade intensity index, M_j = Total imports of country j and M_{ji} = Imports of country j from country i. A value of this index above unity implies that country i's relative share of exports to country j exceeds country j's share of imports from the ROW. This implies an overrepresentation of country j in country i's export market. From country i's point of view, the value of greater than one indicates that country i has relatively more intense preference for exporting to country j as compared to country j's imports from the ROW.

India's export intensity remained above 1 during 1992 to 1995 which means India preferred to trade more intensely with Japan than trading with the rest of the world. However after 1996, it started falling, except the year 1998 when it was approximately 1 again, (table 3). The trade intensity analysis clearly shows that relations started deteriorating much before nuclear test in India. Similarly Japan's export intensity was always less than 1 and it was 0.51 during the period 2008. By comparing the export intensity of both countries, it is observed both the countries preferred to trade with Rest of world than each other and the effect of bilateral talks is yet to be seen.

5.3 India's Potential Commodities for Japan

According to International Product Life Cycle concept, new products are developed first in developed countries and later produced in developing countries. First developing countries produce and sell agricultural products and later medium and small machinery. This appears to be true in case of India's export to Japan. India exports Fish-shrimps, animal/vegetable fats oils, iron ore, petroleum products, cotton yarn, diamond jewellery, Ferro chromium etc. Based on Compounded growth rate, present market share and growth of market share strategic position of the commodities have been mentioned in column 5 of table 4. Indian small and medium machinery has high potential in Japan as it has low market share but high growth rate. Market share is also rising at the compounded growth rate of 15.30% which is statistically significant at 1% level. India is losing its traditional business of shrimps. Once upon a time India used to hold a good position in Japanese market, but shrimps market is losing its glitter at the rate of 5.21% due to high competition. Apparels have very low market share and low growth rate. India is losing business of iron ore, may be due to domestic demand and uncompetitive prices. Ferro Chromium market needs to be observed as it is losing business, may be due to price competitiveness.

5.4 Japan's Potential Commodities for India

Japan has high growth, high rising market share in flat rolled iron, earth moving machines, transfer machines, and forging machinery. Many of the products have high market share, high growth rate but market share is falling. Falling market share with rising growth means firms face tough competition due to entries from other countries. Such products are organic chemicals, plastic articles, rubber articles, hot rolled iron, alloy steel, tubes/seamless iron, tools and dies, parts of combustion engines, telephony apparatus, and medical apparatus as mentioned in table 5. Japan's position is not good in case of service with low growth and falling market share. Though transfer machinery export has high potential but appears to be highly volatile.

Table 4 India' Market Share in Japan

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HSN	Commodity	CGR	Market Share during 2008	CGR of Market Share during 1992-2008	Instability in Market Share ⁸	Strategic status
30613	Shrimps Prawns Frozen	-5.21*	11.20	-1.42	27.18	Losing
15	Animal/Veg Oil/Fats	10.34*	3.77	5.87*	41.66	Potential
230400	Soya-been Oil Cake	12.35*	51.10	4.47	56.09	Potential
260111	Iron ore	1.05	4.81	-5.78*	34.48	Losing
271000#	Oil Petroleum (except crude)	54.15*	5.18	25.90**	62.00	High Potential
29	Organic Chemical	13.76*	1.56	7.61*	39.64	High Potential
5205	Cotton Yarn	5.42*	28.00	12.52*	64.11	High Potential
62	Apparels	1.38	1.30	-2.09	26.57	Stagnant growth/compete
710239	Diamond Jewellery	-3.55*	37.83	2.59*	14.53	Potential
7112\$	Waste of precious metal	NC	0.22	NC	NC	Entry
720110#	Pig iron	86.43	15.06	34.44	182.56	High Potential
720241	Ferro Chromium	2.65	12.61	-4.81**	44.25	Compete
84	Small and Medium Machinery	24.99*	0.28	15.30*	74.47	High Potential

Data from 2002 to 2008

\$ Data only form 3 years

VI Conclusions

After passing through the long period of closed economy with import substitution policy, India opened up its economy with a strategy to look east. After passing through a recessionary phase in early 1990s, Japan initiated financial system reforms with fair, free and global strategy in 1996. The bilateral relation initiatives commenced during 1980s had a break when India carried out nuclear test. Relations improved with visits of various Prime Minister to each other's countries. All efforts have been made to improve trade relationships between two countries, however data analysis reveals that

⁸ Instability = standard deviation of Log of export for the year t

India's trade intensity with Japan was high till 1996 but started declining thereafter. Trade intensity with Japan is half of what it is with world. It has further been observed that export and import were affected much before 1998, it is not worth saying that trade declined due to tests. Japan's export intensity to India is higher than India's, however it is very less than it is with world. India exports shrimps, ores from earth crust and light machinery to Japan while the counter part exports heavy machinery to India. Both India and Japan face tough competition as their market share is falling. India's high potential commodities are oil and petroleum products (except crude) organic chemicals cotton yarn, pig iron, and small and medium machinery. Japan's potential commodities are flat and rolled iron, earth moving machines, motor vehicle parts, but Japan faces tough competition from other importers in India.

Table 5 Japan's Market Share in India

HSN	Commodity	CGR	Market Share during 2008	CGR of Market Share during 1992-2008	Instability in Market Share	Strategic status
<u>27</u>	Mineral Fuels	14.42*	0.36	-3.37	68.07	Compete
<u>29</u>	Organic Chemicals	4.58*	3.27	-7.12*	39.22	Compete
<u>39</u>	Plastic and articles	8.04*	4.45	-4.30*	30.04	Compete
<u>40</u>	Rubber and articles	3.99*	6.41	-8.84*	50.95	Compete
<u>7208</u>	Hot rolled iron	10.01**	4.99	-5.14*	59.07	Compete
<u>7210</u>	Flat rolled iron	18.83*	26.26	2.27***	26.38	High Potential
<u>7225</u>	Flat rolled alloy steel	7.11**	13.62	-5.14*	36.13	Compete
<u>7304</u>	Tubes, seamless iron	6.08**	13.61	-3.7*	31.58	Compete
<u>8207</u>	Tools and dies	12.76*	17.11	-1.99	41.95	Potential
<u>8409</u>	Parts of Combustion engines	1.68	7.99	-8.82*	58.95	Compete
<u>8414</u>	Vacuum pumps, compressor	14.82*	11.02	-2.45**	26.55	Compete
<u>8429</u>	Earth Moving Machines	31.81*	42.04	2.85	39.32	High Potential
<u>8457</u>	Transfer machines	75.77*	50.96	40.84*	403.59	High Potential
<u>8462</u>	Forging Machines	25.04*	29.69	7.21**	59.93	High Potentials

847989	Other machinery	12.04*	9.77	-1.88	48.01	Potential
8483	Shafts, cranks, pulleys	7.49*	6.69	-4.19*	40.32	Potential
8517	Telephony apparatus	3.39	0.64	-19.68*	124.40	Compete
8542	ICs, Micro assemblies	3.92*	8.20	-5.53*	36.56	Compete
8703	Cars	20.75*	20.96	-0.26	36.06	Potential
8708	Motor vehicles parts	-1.52	19.68	-12.11*	72.65	High Competition
90	Medical apparatus	9.42*	8.80	-4.73*	25.65	Competition
99	Services	-8.08*	2.69	-7.68*	59.38	Losing

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