

**A STUDY OF THE PATTERN OF ANTI DUMPING ACTIVITIES: A
COMPARISON OF INDIA, CHINA AND THE US**

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Abstract

Dumping is one of the ill effects of increased international trade that has resulted from the undue advantage taken by some developed countries as well as developing countries such as China, and Korea. The countries affected by such dumping naturally initiates anti-dumping (AD) initiatives against the countries accused of dumping. Increased antidumping cases by various countries of the world during last two decades are the clear indication of increased unfair practices of dumping. The present paper is an attempt to carry out a comparative study of the pattern of Ad activities launched by India, China and the US.

In order to find out the study, data has been gleaned from the secondary sources of information. The data so collected are tabulated and content analyzed to derive meaningful findings.

The analysis of the data revealed that AD initiatives have increased during the period 1995-2016. Moreover, it shows a definite pattern of AD initiatives launched by various countries. It has been found that India has initiated a highest number of AD initiatives (being the most vulnerable to dumping), whereas China tops in the list of countries that has faced a highest number of AD initiatives, and thus most actively involved in dumping activities.

The outcome is expected to help the Industries and Government to take more efficient measures to curb the dumping activities and thus safeguard the local industries.

Key Words: Dumping, Anti-Dumping Initiatives, Anti-Dumping Cases, Pattern of Anti-Dumping Activities

I. INTRODUCTION:

The creation of an international free trade system through the formation of World Trade Organization,1995, has given a major thrust to phenomenal growth of globalization and cross country trade and business, aided by advancement in the field of Information Technology, communication and transportation. This in turn has had a profound effect on the lives of people around the world, improving the quality of their lives, redefining the way they live.

Dumping is one of the ill effects of increased international trade. It has resulted from the undue advantage taken by some countries (developed as well as developing countries like China, Korea, etc.) that adversely affect the health of the industries in the importing countries.

Antidumping laws target allegedly “unfair” trading practices of foreign countries accused of exporting (or dumping) products into other countries at price below the cost of the production, or the price charged in the domestic or third market. Then using the provision of the WTO Antidumping Agreement of 1994, importing countries can impose duties on the dumped products, rendering domestic products more competitive. (Claude Barfield)

Increased antidumping cases by various countries of the world during last two decades are the clear indication of increased unfair practices of dumping. On the other side antidumping activities may inhibit the pace of growth of the international trade and hence global welfare. Thus antidumping has become the burning and most controversial issue the world over.

Traditionally developed countries, particularly European Union, Canada, Australia and United States were heavy users of antidumping actions but since inception of WTO in 1995, developing countries like India, Brazil and China have increasingly been using antidumping actions.

India has been one of the leading countries who have tried to combat the dumping activities by filing a large number of cases, resulting in imposition of Antidumping duties with a view to protect the health of domestic industry and the economy.

On worldwide basis, during the period 1995 to 2010, India has taken the highest number of Anti-dumping investigations (637) which exceeds far more than United States which stands second in the number of Anti-dumping investigations (443). (Rekha Acharya and Raksha Thakur)⁸⁸

In light of the above the author has analyzed the incidences of antidumping initiations and measures with the help of graphical analysis, to find some important inference which can be useful for further study and analysis so as to improve international trade and reduce the incidences of the necessary evil, i.e. anti dumping activities.

For the analysis the secondary data from WTO web sites for the period 1-1-1995 to 31-12-2016 are taken.

⁸⁸ A paper on Anti Dumping <http://shodhganga.inflibnet.ac.in/bitstream/10603/127538/8/>

II. CONCEPTUAL FRAME WORK***

The concepts related to dumping, antidumping and relevant Indian laws have been gleaned from the official website of the Directorate of Antidumping and other websites.

Concept of Antidumping

According to Department of Commerce, Government of India, “*Dumping is said to occur when the goods are exported by a country to another country at a price lower than its normal value*”. This is an unfair trade practice which can have a distortive effect on international trade and competition. Anti dumping is a measure that is available to the affected industry / business house to fight against dumping. Such anti-dumping measures are permitted by the WTO as long as it amounts to establish a fair trade practice. Thus, “*anti dumping is an instrument for ensuring fair trade and is not a measure of protection per se for the domestic industry*”.

In laymen’s term, anti dumping is a measure of protection for domestic industry. However, it provides remedy to the domestic industry against the injury caused by the dumping by the exporters of other countries.

Dumping

According to WTO, dumping means “*export of goods by one country / territory to the market of another country / territory at a price lower than the normal value*”. Thus, there are two fundamental parameters used for determination of dumping, namely, **the normal value** and **the export price**. Both these elements have to be compared at the same level of trade, usually at ex-factory level, to determine whether the exports can be termed as dumping.

Often, dumping is mistaken as cheap /low priced imports. In the legal sense, dumping means export of goods by a country to another country at a price lower than its normal value. Therefore, import of cheap products through illegal trade channels like smuggling does not fall within the purview of anti-dumping measures.

Difference between anti dumping duty and Normal Customs duty

*** (Concept of antidumping and Indian Laws related to antidumping have been extracted from from - <http://www.eximguru.com/exim/indian-customs/anti-dumping-duty/anti-dumping-duty-introduction.aspx>, <http://www.helpline.law.com/govt-agencies-and-taxation/ADPN/laws-of-anti-dumping-in-india.h>. & <http://tpm.in/faqs.aspx>)

Though anti dumping duty is levied and collected by the Customs Authorities, it is different from the Customs duties. The difference between the two has been explained below:

- Conceptually, anti dumping and the like measures aim to establish fair trade practices. The objective of these duties is to provide the business and industry, protection against the consequences of unfair trade practices; whereas the levies of customs duties serve as a means to generate revenue for the development of the country.
- Customs duty is a part of trade and fiscal policies of the Government; whereas anti dumping and anti subsidy measures serve as remedial measures for trade and industry to offset the damaging effects of international price discrimination.
- Anti dumping duties are not necessarily in the nature of a tax measure unlike customs duty.
- Anti dumping and anti subsidy duties are country / exporter specific; whereas the customs duties are universally applicable to all imports irrespective of the country of origin and the exporter.

The anti dumping duty is levied over and above the normal customs duty chargeable on the import of goods in question.

WTO Provisions:

GATT/WTO has laid down certain principles and procedures to be followed by the member countries for imposition of antidumping duties. Detailed guidelines are provided under the specific Antidumping Agreement and are incorporated in the national legislation of the member countries of the WTO. Indian laws were also amended with effect from 01-01-1995 according to the provisions of the respective GATT Agreement.

Legal framework for Anti-dumping, Anti Subsidy and Safeguard measures in India

Various laws such as the Customs Tariff Act, 1975 (amended in 1995); the Customs Tariff (Identification, Assessment and Collection of Anti-dumping Duty on Dumped Articles and for Determination of Injury) Rules, 1995 and Customs Tariff (Identification, Assessment and Collection of Countervailing Duty on Subsidized Articles and for Determination of Injury) Rules, 1995 have been framed in accordance with the WTO Agreements on Anti Dumping and Anti Subsidy countervailing measures.

Institutional arrangement for Anti-dumping, Anti-subsidy and Safeguard action in India

Directorate General of Anti dumping and Allied Duties (DGAD) functioning in the Dept. of Commerce in the Ministry of Commerce and Industry administers anti-dumping and anti-subsidies & countervailing measures in India. Its function, however, is only to conduct investigations pertaining to the anti-dumping / anti-subsidy & countervailing duty and make recommendation to the Government. Such duty is finally imposed/ levied by the Ministry of Finance.

III. REVIEW OF LITERATURE

The Uruguay Round of Multilateral Trade Negotiations, formally concluded on 15 April 1994 in Marrakesh, Morocco, led to the adoption by the WTO Members of new Agreements dealing with the major instruments of contingent protection, i.e. Anti-dumping, Countervailing and Safeguard Measures. Many researchers have tried to analyze the use of Anti-dumping measures, its pattern and probable causes.

Xiaohua Bao and Larry D. Qiu^{†††}, in their article on “Is China’s Antidumping More Retaliatory than that of the US?” in *Review of International Economics*, 19(2), 374–389, 2011 observes that antidumping (AD) investigations have been growing rapidly since the formation of the WTO. According to the WTO Report (2007), from 1995 to 2005, 42 countries launched a total number of 3044 AD investigations against 98 countries. AD filings/investigations have two main features. First, the pattern of AD users has changed significantly. Developing countries accounted for only about 20% of the total AD cases filed in the early 1990s, but since 1995 they have initiated over half of the total number of AD investigations. India, together with Argentina, Brazil, and China, are the heaviest AD users from developing countries. Today, AD is a major trade issue between various countries of the world. Second, there exists a severe asymmetry for a country as a plaintiff and as a defendant. For example, India has been the heaviest AD user in the world, having 457 AD investigations. China was subject to 536 (the largest number) AD investigations while it launched 133 AD investigations. During the same period, the US faced 175 AD investigations and initiated 373 AD investigations. It is commonly believed that the widespread and rapid increase in the use of AD measures, including AD filings and positive AD decisions, is a result of the WTO. First AD measures are used by importing countries to substitute

^{†††} From “Is China’s Antidumping More Retaliatory than that of the US?”
Review of International Economics, Vol. 19, No. 2, pp. 374-389, 2011
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1808442

tariffs that have been reduced continuously during various rounds of GATT/WTO negotiations (Deardorff and Stern, 2005; Feinberg and Reynolds, 2007). For this reason AD is regarded as one of the most important protectionism measures nowadays. Second, AD measures are used by countries as a safety-valve because the WTO does not provide sufficient mechanisms to safeguard domestic import competing-industries (Moore and Zanardi, 2009)^{###}. Third, AD is abused by many countries because the WTO does not have strong control on the use of AD measures (Hansen and Prusa, 1995)^{§§§}. For whatever reasons, the increased use of AD investigations and AD duties has already had serious impacts on global trade flows (Xiaohua Bao and Larry D. Qiu, 2011).

Gunner Niels and Adriaan Ten Kate, in their study of “Antidumping Protection in a Liberalizing Country: Mexico’s Antidumping Policy and Practice” by an Oxford Publication^{****} also conforms the safety valve argument. (First published: 16 July 2004 - <https://doi.org/10.1111/j.1467-9701.2004.00637.x>)

<Table: 1>

The overall success ratio in Mexico is found 67.4 % as against worldwide ratio of 56% during 1981 to 2001 (Zanardi, 2002 Table 7).

Chad P. Bown,(2008)^{****} in his paper on “The WTO and Antidumping in Developing Countries” investigates determinants of industry pursuit of AD across nine major developing countries in the 1995–2002 period and provides evidence that this use is consistent with industry characteristics predicted by the WTO’s evidentiary requirements, the theory of endogenous trade policy and macroeconomic shocks. After controlling for country-specific effects, a general increase in AD use in these countries over this time period, and that industries like chemicals and steel are major users across countries, he finds that the industries

^{##} From Trade Liberalization and Antidumping: Is There a Substitution Effect?

Michael O. Moore & Maurizio Zanardi 2008

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.451.318&rep=rep1&type=pdf>

^{§§§} Taken from “The Road Most Taken: the Rise of Title VII Protection” by Wendy L.

Hansen & Thomas J. Prusa

<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9701.1995.tb00214.x>

^{****} Taken from an Oxford Publication (First published: 16 July 2004 -

<https://doi.org/10.1111/j.1467-9701.2004.00637.x>

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“Anti-dumping Protection in a Liberalising Country”: Mexico’s Anti-dumping Policy and Practice By Gunnar Niels Adriaan Ten Kate

^{****} Taken from the article “The WTO and Antidumping in Developing Countries”

Economics & Politics, Vol. 20, Issue 2, pp. 255-288, June 2008³⁴ Pages Posted: 8 May 2008

by Chad P. Bown https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1130533

that successfully pursue new import protection via AD have the following characteristics: they are larger, they face substantial import competition and more rapidly declining industry output, and they are more likely to have been confronted with negative exchange rate and real GDP shocks. Finger and Nogue's (2005)^{###}, contains arguments that AD in many of the Latin American countries in their sample helped provided an escape valve to manage an overall program of trade liberalization. The theory is that AD may positively affect the sustainability of the overall liberalization commitment and/or increase a country's willingness to take on more extensive liberalization commitments than it would have taken without such an option. (Chad P. Bown, 2008).

It would be worthwhile to analyze the Anti-dumping activities of various countries to understand the trend up to the date so as to suggest some measures to improve the International Trade, and Universal Welfare.

The author has tried to study the antidumping activities during the period 1-1-1995 to 31-12-2016 to make some important inferences.

Imports and Exports of India in 2016^{####}

As per Press Information Bureau, Government of India, Ministry of Commerce & Industry announcement (28-November-2016) by the Commerce and Industry Minister Smt. Nirmala Sitharaman^{****} in a written reply in Lok Sabha, the Imports and Exports of India is as available in table: 2.

Imports

In 2016 India imported \$344B, making it the **14th largest importer in the world**. During the last five years the imports of India have decreased at an annualized rate of -8.912%, from \$420B in 2011 to \$344B in 2016. The most recent imports are led by Crude Petroleum which represent 17.6% of the total imports of India, followed by Gold, which account for 6.65%.

Exports

In 2016 India exported \$256B, making it the **18th largest exporter in the world**. During the last five years the exports of India have decreased at an annualized rate of -1.585%, from \$274B in 2011 to \$256B in 2016. The most recent exports

^{###} Unequal Exchange: Developing Countries in the International Trade Negotiations By Julio J. Nogue's: Article *in* **Contributions to Economic Analysis** · March 2005

^{####} Data related to exports and imports are collected from

http://stat.wto.org/CountryProfiles/IN_e.htm ;

<https://atlas.media.mit.edu/en/profile/country/ind/>

^{****} <http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Country=IN&Language=F>

are led by Refined Petroleum which represents 9.9% of the total exports of India, followed by Diamonds, which account for 9.3%.

India is the 18th largest export economy in the world. In 2016, India exported \$256B and imported \$344B, resulting in a negative trade balance of \$88.1B in net Imports. As compared to their trade balance in 1995 when they had a positive trade balance of \$340M in net exports

In 2016 the GDP of India was \$2.26T and its GDP per capita was \$6.57k.

The top export destinations of India are the United States (\$42B), the United Arab Emirates (\$30B), Hong Kong (\$13.2B), China (\$8.92B) and the United Kingdom (\$8.57B).

The top import origins are China (\$58.4B), the United States (\$21.7B), Hong Kong (\$15.4B), Switzerland (\$14.6B) and South Korea (\$11.6B).

India's Imports By main origin, % (2016)

China	17%	European Union	11.3%
United States	5.7%	United Arab Emirates	5.4%
Saudi Arabia	5.2%		

India's Exports By main destination, % (2016)

European Union	17.6%	United States	16.1%
United Arab Emirates	11.5%	Hong Kong	5.1%
China	3.4		

Thus India's major trading partners are:

China, United States, Hong Kong, Switzerland, South Korea, United Arab Emirates, United Kingdom, Saudi Arabia

IV. METHODOLOGY

Objectives of this research paper are:

- To identify and understand the pattern of Anti dumping activities across the world.
- To study anti dumping activities of India and identify patterns if any, and compare with those of other countries.
- To study anti dumping activities (initiations and measures) launched by Indian companies and their outcome.

Scope of the study is limited to antidumping cases filed by different countries in the world from 1995 to 2016 for the sector wise analysis and country wise analysis.

This study is based on secondary source of data (1995 to 2016) from WTO sites (www.wto.org).

The country-level information for India's AD filings is taken from DGAD (Directorate General of Anti dumping and Allied Duties) Information website (www.comerce.nic.in).

For finding patterns and meaningful inferences, the analysis of data is done using various statistical tools like percentage, mean, ratios, regression are used and presented in the form of tables and graphs.

V. ANALYSIS AND FINDINGS

<Table: 3>

Top 13 countries facing AD initiations from other countries:

China is the country against which a huge no. of AD initiations is made. [1217]

Also it has an increasing trend from 1995 to 2016.

All other countries are far below in the graph.

Korea is the country against which second highest no. of AD initiations are made. [398]

Chinese Taipei is the country against which 3rd highest no. of initiations are made. [285]

<Figure: 1>

Regression Analysis:

<Table: 4>

If we separate the countries with negative coefficient and positive coefficient of regression, we find that mostly developing countries like Brazil, India, China, Pakistan, have positive coefficient i.e. increasing trend; and developed countries like European Union, United States, Australia, Canada have negative coefficient i.e. decreasing trend. Even the overall trend at world level is decreasing.

<Table: 5>,

<Table: 6>

<Table: 7>

India, U.S., E.U., Brazil, Argentina are top five countries in taking maximum number of measures.

India is leading with 609 (17.89%) measures, followed by U.S. with 395 (11.60%) measures.

<Table: 8> and <Table: 9>**As per the regression analysis of the measures by the reporting member:**

Developing countries like Brazil, China, India, and Pakistan have positive coefficient of regression, i.e. they have increasing trend during the period 1-1-1995 to 31-12-2016.

Developed countries like E.U., U.S., Canada and Korea have negative coefficient of regression, i.e. they have decreasing trend over the period 1-1-1995 to 31-12-2016

Top 6 users of AD Initiations: India, U.S., E.U., Brazil, Argentina, Australia.**<Figure: 2>****Top 3 users of AD Initiations: India, U.S., E.U.****<Figure: 3>**

If we consider top three countries, up to 1998, U.S. and E.U. continued to be the top user of antidumping activities (Initiations), and then India has emerged as the top user of Anti-dumping activities.

<Table: 10>**<Figure: 4>**

India has initiated maximum number of AD cases (839 i.e. around 16 % of the total cases).

China and Republic of Korea have faced highest no. of initiations from other countries, 1217 (23.02 %) and 398 (7.53 %) respectively.

<Table: 11>

The success ratio for India is 73%, which is more than world average, which is 64%.

That means in India, more number of initiations are converted into measures.

The success ratio of China, Turkey and Mexico are even higher, more than 80 %.

The success ratio of Australia, Indonesia and Pakistan are very low, 45 % or less.

VI. CONCLUSION

There is a phenomenal increase in the number of AD cases post 1980s and the number has increase during the period 1995 to 2016. The analysis of data further revealed a definite pattern of AD activities. The developing countries have emerged as new user of AD activities. This is confirmed by the fact that traditional users and new users accounted for 31% and 53% respectively during the period 1995-2016.

Traditional users of AD activities are Australia, Canada, European Union and the United States, whereas new users include Argentina, Brazil, China, India, South Africa, and Mexico.

The analysis of AD initiations against exporters shows that China has faced highest number of AD initiations (1217), followed by Korea, which has faced far less AD initiations (398) compare to China.

China has faced much more AD initiations than it has initiated against other countries. The case is reverse for India. This indicates that India is not much involved in dumping activities. India not only tops in the list of AD initiations, its success ratio (ratio of number of measures taken to number of initiations made) is 73%, which is more than world average of 64%.

Now, owing to WTO membership many countries have abandoned orthodox trade practices and have ventured into free trade. However, we find anti-dumping measures have been increasingly used by the developing member countries to safeguard their domestic industries.

Limitations of the study:

The researcher tried to contact the officials of large companies, which are stake holders in filing AD cases, but it was extremely difficult as they refrained from revealing any data or giving their opinion. Only the small and medium size industries gave positive response. They were contacted by snow-ball technique. Further in depth research may be instituted to suggest improvement in the system to the policy makers.

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APPENDIX:

Table: 1 Mexican Anti-dumping Investigations and Success Rate by Industry (1987–2000)

Industry	Number of investigations	Share of Investigations Over Share in Imports	Success Rate (%)
Steel and steel products	52	570	82.7
Chemicals	39	731	64.1
Textiles and textile products	17	186	47.1
Plastics and plastic products	12	120	58.3
Electrical equipment	9	24	55.6
Processed food	9	201	66.7
Machinery and non-electrical equipment	8	32	62.5
Wood and paper products	5	88	40
Rubber and rubber products	5	208	80
Other manufactures	10	n.a.	60
Miscellaneous	6	n.a.	83.3
Total	172	100	67.4

(Source: Gunnar Niels and Adriaan, July 2004)

<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9701.2004.00637.x>

Table: 2 Share in Imports and Exports:

Country	Share in world total imports (%)	Share in world total exports (%)
	2016	2016
India	2.21	1.65
United States	13.88	9.12
China	9.78	13.35

Table: 3

Exporter	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
China	20	43	33	27	43	43	55	50	53	49	53	73	61	78	78	44	51	60	76	63	70	94	1217
Korea, Republic of	14	11	15	27	35	23	23	23	17	24	12	10	13	9	8	9	11	22	25	18	17	32	398
Taipei, Chinese	4	9	16	10	22	14	19	16	13	21	13	13	6	11	12	5	9	22	17	13	10	10	285
United States	12	21	15	16	14	13	15	11	21	14	12	11	7	8	14	19	10	9	13	11	5	5	276
India	3	11	8	13	13	10	12	16	14	8	14	6	4	6	7	4	7	10	11	15	13	12	217
Thailand	8	9	5	2	19	12	17	12	7	9	13	8	9	13	8	5	8	10	14	9	3	10	210
Japan	5	6	14	14	22	12	14	13	16	9	7	9	4	3	5	5	5	6	11	7	8	12	207
Indonesi a	7	7	9	5	20	13	18	12	8	8	14	9	5	11	10	4	5	6	7	5	6	9	198
Russian Federatio n	2	7	7	13	18	12	9	20	2	8	4	5	6	2	4	2	3	3	5	4	7	12	155
Brazil	8	10	5	6	13	9	13	3	3	10	4	7	2	3	12	3	3	2	6		7	13	142
Malaysia	2	3	5	4	7	9	6	4	8	6	14	5	7	10	7	4	2	3	9	10	3	10	138
European Union	0	1	2	4	7	9	9	10	10	3	5	3	2	4	6	9	3	5	8	8	3	7	118
Germany	7	9	13	8	11	6	9	7	3	2	2	2	4	1	3	3	2	3	7	4	4	1	111
Total	157	226	246	264	359	296	372	311	234	222	199	203	165	218	217	173	165	208	287	236	229	300	5286

Table: 4

Reporting Member	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
India	6	21	13	28	64	41	79	81	46	21	28	31	47	55	31	41	19	21	29	38	30	69	839
United States	14	22	15	36	47	47	77	35	37	26	12	8	28	16	20	3	15	11	39	19	42	37	606
European Union	33	25	41	22	65	32	28	20	7	30	24	35	9	19	15	15	17	13	4	14	11	14	493
Brazil	5	18	11	18	16	11	17	8	4	8	6	12	13	24	9	37	16	47	54	35	23	11	403
Argentina	27	22	15	6	24	41	28	10	1	12	9	10	7	19	28	14	7	12	19	6	6	25	348
Australia	5	17	44	13	24	15	24	16	8	9	7	11	2	6	9	7	18	12	20	22	10	17	316
China	0	0	0	3	2	11	14	30	22	27	24	10	4	14	17	8	5	9	11	7	11	5	234
South Africa	16	34	23	41	16	21	6	4	8	6	23	3	5	3	3	0	4	1	10	2	0	0	229
Canada	11	5	14	8	18	21	25	5	15	11	1	7	1	3	6	2	2	11	17	13	3	14	213
Turkey	0	0	4	1	8	7	15	18	11	25	12	8	6	23	6	2	2	14	6	12	16	17	213
Mexico	4	4	6	12	11	6	6	10	14	6	6	6	3	1	2	2	6	4	6	14	9	6	144
Indonesia	0	11	5	8	8	3	4	4	12	5	0	5	1	7	7	3	6	7	14	12	6	7	135
Korea, Republic of	4	13	15	3	6	2	4	9	18	3	4	7	15	5	0	3	0	2	8	6	4	4	135
Pakistan	0	0	0	0	0	0	0	1	3	3	13	4	0	3	26	11	7	5	6	0	12	24	118
Total	157	226	246	264	359	296	372	311	234	222	199	203	165	218	217	173	165	208	287	236	229	300	5286

Table: 5

Reporting Member	Total Initiations 01/01/1995 - 31/12/2016	Coefficient of Regression by	Average no of cases per year	Reporting Member	Total Initiations 01/01/1995 - 31/12/2016	Coefficient of Regression by	Average no of cases per year
India	839	0.320158	38.14	Canada	213	-0.24901	9.68
United States	606	-0.40542	27.55	Turkey	213	0.391304	9.68
European Union	493	-1.34331	22.41	Mexico	144	-0.04178	6.55
Brazil	403	1.092603	18.32	Indonesia	135	0.147374	6.14
Argentina	348	-0.42801	15.82	Republic of Korea	135	-0.23772	6.14
Australia	316	-0.28346	14.36	Pakistan	118	0.688876	5.36
China	234	0.175042	10.64	Total	5286	-0.60474308	240.27
South Africa	229	-1.29588	10.41				

Table: 6

Countries with negative coefficient of regression		Countries with positive coefficient of regression	
Reporting Member	Coefficient of Regression byt	Reporting Member	Coefficient of Regression byt
European Union	-1.34330887	Indonesia	0.147374365
South Africa	-1.29587804	China	0.175042349
Argentina	-0.42800678	India	0.320158103
United States	-0.40542067	Turkey	0.391304348
Australia	-0.28345567	Pakistan	0.688876341
Canada	-0.24901186	Brazil	1.092603049
Republic of Korea	-0.2377188		
Mexico	-0.0417843		

Table: 7

Reporting Member	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
India	07	02	08	22	23	55	38	64	52	29	18	16	24	31	30	32	26	30	12	15	38	37	609
United States	33	12	20	16	24	31	33	27	13	14	18	05	05	23	15	17	04	07	07	22	14	35	395
European Union	15	23	23	28	18	41	13	25	02	10	20	12	12	16	09	05	11	03	12	01	10	05	314
Brazil	03	06	02	14	05	09	13	05	02	05	03	00	09	11	16	05	13	14	30	32	31	13	241
Argentina	13	20	11	13	09	16	14	22	19	01	08	04	08	05	16	15	08	09	09	09	11	01	241
China	00	00	00	03	02	05	00	05	33	14	16	24	12	04	12	15	06	05	08	12	05	11	192
Turkey	11	00	00	00	01	08	02	11	28	16	09	21	06	11	09	10	02	01	08	09	07	09	179
Australia	01	01	01	20	06	05	11	09	10	04	03	05	01	03	02	02	05	10	09	14	10	05	137
South Africa	00	08	18	13	36	13	05	15	01	04	00	07	01	03	03	01	00	01	02	01	05	00	137
Canada	07	00	07	10	10	14	19	00	05	08	04	00	03	03	02	03	01	10	07	06	13	03	135
Mexico	16	04	07	07	07	06	03	04	07	07	08	05	00	00	01	02	01	04	02	08	09	12	120
Korea, Republic of	00	05	10	08	00	05	00	01	04	10	03	08	00	12	04	00	02	00	05	05	03	03	088
Indonesia	00	00	04	02	07	00	01	00	01	08	04	02	00	05	01	05	02	04	05	03	06	00	060
Egypt	00	00	00	05	14	01	02	07	04	01	00	12	02	03	00	01	01	00	01	00	01	04	059
Pakistan	00	00	00	00	00	00	00	01	02	04	01	07	04	00	06	05	07	06	07	00	01	02	053
Thailand	00	00	01	02	00	00	00	01	20	01	02	00	01	00	03	00	03	02	07	04	00	05	052
Peru	02	02	03	00	03	04	01	07	07	08	03	04	01	00	02	01	01	00	01	00	01	01	052
Malaysia	00	02	02	04	01	01	00	01	07	00	07	00	00	00	00	00	00	00	11	02	05	05	048
Ukraine	00	00	00	00	00	00	01	02	02	02	06	02	01	05	07	00	00	07	02	01	01	02	041
Total	12 0	92	12 7	18 5	19 0	23 8	16 9	21 8	22 4	15 4	13 8	14 2	10 6	14 3	14 3	13 5	99	12 0	16 1	15 7	18 1	16 3	3405

Table: 8

Reporting Member	Total Measures	coefficient of regression by	Average Measures per year
India	609	0.36194241	28
United States	395	-0.42744212	18
European Union	314	-0.96668549	14
Brazil	241	0.93450028	11
Argentina	241	-0.39017504	11
China	192	0.39299831	09
Turkey	179	0.14285714	08
Australia	137	0.10784867	06
South Africa	137	-0.68944099	06
Canada	135	-0.1134952	06
Mexico	120	-0.12987013	05
Korea, Republic of	088	-0.05759458	04
Indonesia	060	0.09147374	03
Egypt	059	-0.10559006	03
Pakistan	053	0.22416714	02
Thailand	052	0.11405985	02
Peru	052	-0.13438735	02
Malaysia	048	0.10954263	02
Ukraine	041	0.13156409	02
Total	3405	-0.60474308	155

Table: 9

Reporting Member With -ve Coefficient	Coefficient of regression byt	Reporting Member With +ve Coefficient	Coefficient of regression byt
European Union	-0.9666855	Indonesia	0.0914737
South Africa	-0.689441	Australia	0.1078487
United States	-0.4274421	Malaysia	0.1095426
Argentina	-0.390175	Thailand	0.1140599
Peru	-0.1343874	Ukraine	0.1315641
Mexico	-0.1298701	Turkey	0.1428571
Canada	-0.1134952	Pakistan	0.2241671
Egypt	-0.1055901	India	0.3619424
Korea, Republic of	-0.0575946	China	0.3929983
		Brazil	0.9345003

Table: 10

Country	Total initiations made	Total initiation faced	Initiations Made, % of World Total	Initiations Faced, % of World Total
India	839	217	15.87%	4.11
United States	606	276	11.46%	5.22
European Union ⁶	493	118	9.33%	2.23
Brazil	403	142	7.62%	2.69
Argentina	348	46	6.58%	0.87
Australia	316	31	5.98%	0.59
China	234	1217	4.43%	23.02
South Africa	229	71	4.33%	1.34
Canada	213	45	4.03%	0.85
Turkey	213	85	4.03%	1.61
Mexico	144	75	2.72%	1.42
Indonesia	135	198	2.55%	3.75
Korea, Republic of	135	398	2.55%	7.53
Pakistan	118	23	2.23%	0.44
Total	5286	5286	100.00%	100.00

Table: 11

Reporting Member	Total Initiations	Total Measures	Success Ratio
India	839	609	0.73
United States	606	395	0.65
European Union	493	314	0.64
Brazil	403	241	0.60
Argentina	348	241	0.69
Australia	316	137	0.43
China	234	192	0.82
South Africa	229	137	0.60
Canada	213	135	0.63
Turkey	213	179	0.84
Mexico	144	120	0.83
Indonesia	135	60	0.44
Korea, Republic of	135	88	0.65
Pakistan	118	53	0.45
Total	5286	3405	0.64

Figure: 1

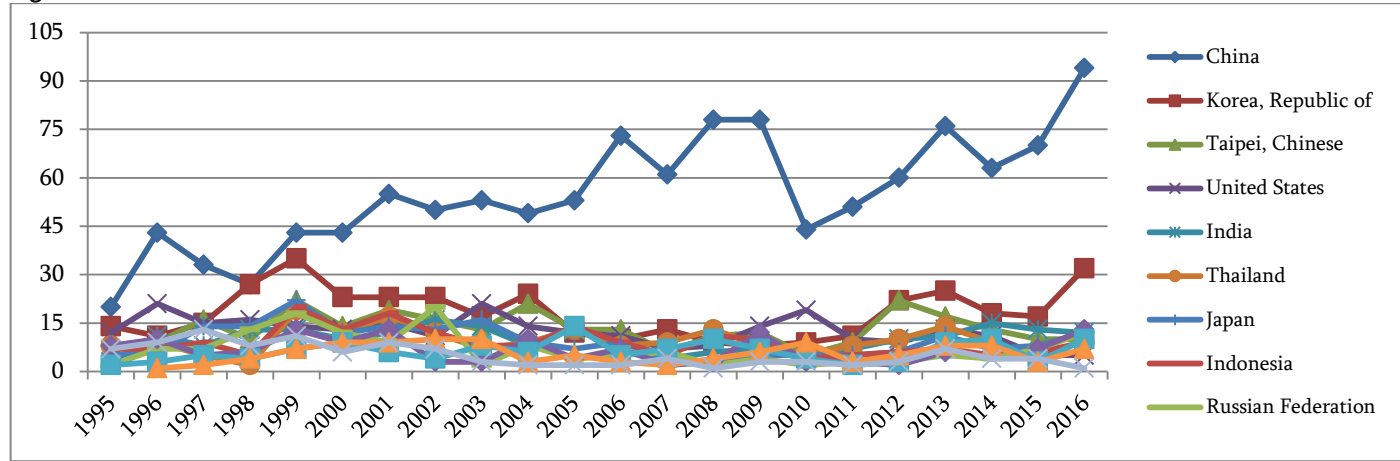


Figure: 2

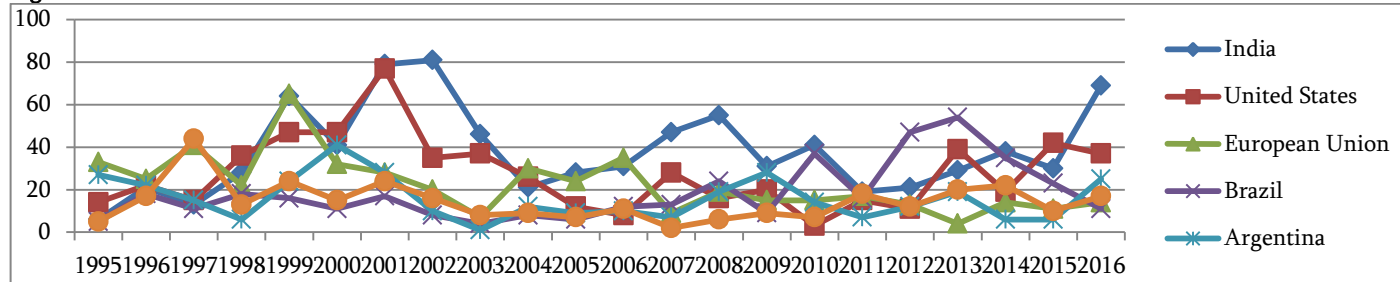


Figure: 3

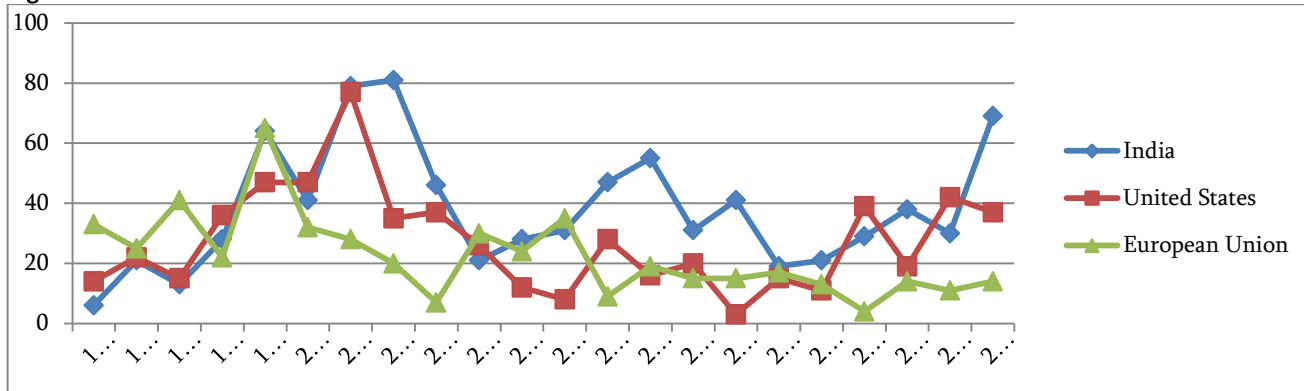
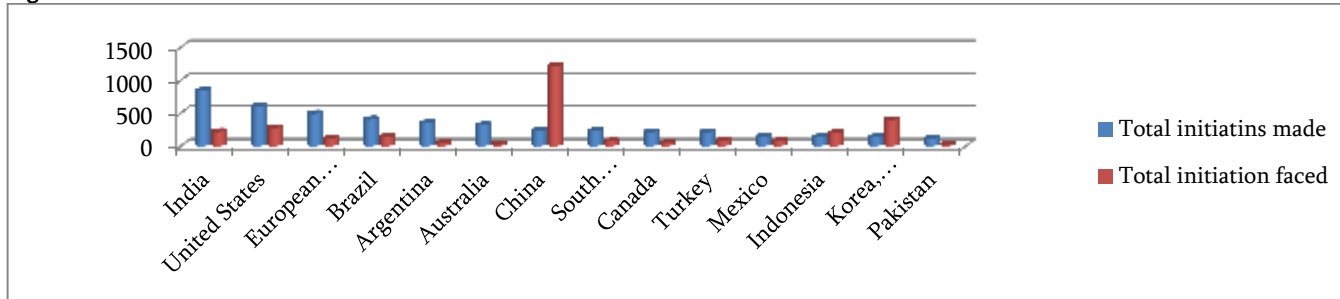


Figure: 4



ABOUT AUTHOR

Mr. Samir Parikh is an engineer with further study in Management, having field experience of 26 years out of which 11 years in engineering as well as management cadre and had been an entrepreneur having run own industry for 15 years.

Having cleared NET in July 2012 and PhD work on the verge of completion, he has worked in academic area at graduate as well as at post graduate level for more than 11 years. He has dealt with subjects Strategic Management, Production Management, Business Environment, Behavioral Science, and Principles of Management at graduate level and subjects Operation Research, Production Planning & Control, Total Quality Management, Service Operation Management, and Purchasing & Materials Management at post graduation level. He has been associated with Udhna Academy colleges of Commerce, Management and Information Technology, as well as with Department of Business and Industrial Management, VNSGU Surat.

The topic of research cropped up in researcher's mind during his entrepreneurial tenure as he faced the problem of dumping for his own industry.



Dr. M. V. Sidhpuria has a rich teaching and industry experience of more than 25 years. Prior to joining academics, he was associated for about 8 years with the healthcare sector. For the last more than 17 years, he has been involved in postgraduate management teaching, research and consultancy. He has published more than 30 research papers in the journals of repute. The management cases written by him have been acclaimed and awarded prizes at various Conventions organized by the Association of Indian Management Schools (First Prize in the year 2000 and Third Prize in the year 2005). Presently, he is the Coordinator of the "Start-up and Entrepreneurship Council" of the University. He is also a member of "University – Industry Interaction Cell". He has authored a book titled "Retail Franchising" published by Tata McGraw-Hill. Its international copy has been published in Philippines by McGraw-Hill International.

