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Editorial

Members of World Trade Organisation will be meeting on 3rd December 2013 at Bali, Indonesia. At a time when the world is witnessing significant rise in protectionism, this ninth WTO Conference at Bali assumes greater significance. The failure of concluding the Doha Development disillusioned the developing countries greatly. A successful Bali summit after the failure to conclude Doha Round even after twelve years will boost the sagging morale of members. The balkanization of trading world due to surge in regional trade agreements, the legalization of international trade and the subsequent call for reforms in dispute resolution mechanism of WTO, signing the trade facilitation agreement, the expansion of WTO International Technology Agreement (ITA), food security, services liberalisation and more preferential access to LDCs are all issues that may come up in the Bali Round. Keeping the relevance of Bali Summit, we are bringing a special volume on WTO. The present volume consists of five articles – ITA, Dispute Settlement mechanism, GATS and telecommunications, Textile disputes and Intellectual property Rights – all of them having significant relevance on the political economy of India.

The article by Joseph, et.al., examines the Information Technology Agreement (ITA) of WTO. It observes that though the countries world over today are wedded to ICT, majority of developing countries prefer to keep away from ITA. The study analysed the effect of liberalizing trade and compares the performance during the post ITA period with the pre ITA period. Empirical analysis undertaken in this paper suggests that ITA, being simply a tariff cutting mechanism neglects the creation of innovation and competence building systems. This has led to a deceleration of trade in IT goods, increased market concentration and increasing prices. The article attributes the 'ITA fiasco' to its scant attention to innovation and competence building systems, which is quintessential for promoting production and use of ICT.

One of the major strengths of WTO is its dispute settlement mechanism, which has legalized the international trade relations among nations. The Understanding on Rules and Procedures Governing the Settlement of Disputes that was reached for the settlement of disputes by establishing a judicial apparatus pushed the global trading world in a legalised direction. Supporters of WTO justifies this legalization saying that it creates order in a disordered world through a rule-based system, making the trading world safer for developing countries. Kumar examines the participation of developing nations in the dispute settlement apparatus and assesses whether the participation was effective.

From the initial stages of the democratic India, the Government considered telecommunication access as a luxury for the people. Further, India maintained a closed telecommunication network, insulated it from the rest of the world with specific and defined links under bilateral agreements with other nations. But the National Telecom Policy (NTP) 1994, which coincided with the Uruguay Round negotiations, facilitated the emergence of Internet services in India as the backbone of an already established basic telephone network in the country. The new policy paved way for the entry of the private sector in telephone services. The policy that announced a series of specific targets to be achieved by 1997 marked a shift from bilateralism to multilateralism. How the multilateral agreement, i.e., WTO General Agreement on Trade in Services (GATS) are changing Indian telecommunication industry constitutes the theme of article by Sebastian.

In the article on textile disputes, Kumar emphasizes the importance of textile sector in the developing countries' exports, which always experienced protectionist trade barriers in the developed world. The article looks into the Indian disputes filed at WTO dispute settlement mechanism (DSM) vis-à-vis textiles market and examines whether India was able to unlock the global textile market since becoming a member of WTO. It attempts to answer whether the WTO provided a suitable platform to enable the developing nations in unlocking the protected markets of the developed world.

Inclusion of Patent rights under WTO agreements was a strong bone of contention between the developed and the developing world, as the developing nations were net importers of intellectual property. Its inclusion could create serious implications for the public health in the third world. Article by Joseph examines the decision of the Supreme Court in Novartis Pharma case in the post TRIPS regime.

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Editor

Information Technology Agreement of WTO: Call for a Revisit

K J Joseph*, Liyan Zhang** and Rajesh Many***

Abstract

The Information Technology Agreement (ITA) of WTO hasbeen considered as a stepping stone to multilateralism through sectoral agreement route wherein developed and developing countries could work in a mutually beneficial manner. The basic premise of the Agreement is that by liberalizing the trade in IT goods the members could harness the manifold benefits of ICT. Earlier studies have shown that ITA has been instrumental in augmenting the trade in IT products, promoting innovation and strengthening global production network along with greater diffusion of ICT. However, while countries world over today are wedded to ICT, majority of developing countries prefer to keep away from ITA. In this context the present study analysed the effect of liberalizing trade by neglecting innovation. The major point of departure of the present study is that, while the previous studies were concerned only with the post ITA period, this study compared the performance during the post ITA period with the pre ITA period. Empirical analysis undertaken in this paper tends to suggest that ITA, being simply a tariff cutting mechanism with neglect of innovation and competence building systems, has led to a deceleration of trade IT goods, increased market concentration and increasing prices. While there is evidence to the effect that the share of Asia in global trade has increased significantly after ITA, once we keep away "the China factor", the emerging picture is not encouraging.

Key Words: Information Technology Agreement, MFN, ICT

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1. INTRODUCTION

Considering the key role of Information Communication Technology (ICT) as a General Purpose Technology (GPT) in bringing about socio-economic transformation there have been various initiatives by the Governments (both national and sub-national), Multilateral Organizations and NGOs towards harnessing this technology for development. At the multilateral level the Information Technology Agreement (ITA) of WTO, initiated by the private sector, aimed at liberalizing trade in IT products as a means of promoting the use and production of IT products[1] ITA required elimination of tariffs on goods coming under its ambit[2] in maximal four stages until 2000. However, developing countries could opt for extending their staging until 2005. Participating countries are required to abide by the Most Favoured Nation (MFN) principle. Hence, the benefits of zero tariffs are extended to those WTO members who did not sign the ITA without having to provide similar access to their own markets in return. By now ITA has been in existence for over 18 years. The moot question is on the extent to which the Agreement has been able to accomplish its objectives. This issue becomes important at least for two reasons. With 29 original signatories in 1997, the total number of ITA member countries increased to 81 in 2015. Yet even today nearly half of the 161 WTO members are out of ITA. Though the ITA is open to non-WTO members, so far hardly any of them have signed it. Hence it may not be without valid reason that the large majority of developing countries, despite being committed to harnessing ICT for development, are not with ITA. Secondly, today there is a call for expanding the product coverage of ITA (so called ITA II) and countries are dived on this issue. Therefore, to understand the hesitation of countries to join ITA and to reflect on the potential benefit of ITA II, there is an express need for a systematic analysis of the outcomes of ITA (often called as ITA I). While the issue is of immense relevance for theory and policy, it has not so far received the scholarly attention that it deserves. Nonetheless, there are a few studies that deserve attention.

The most notable study is WTO (2012) that examined the performance of ITA during the 15 years of its existence. Against the backdrop of a detailed discussion on the wide- ranging negotiations that culminated in ITA, and especially the role of private sector therein, the study observed that participants in ITA have significantly liberalized the trade by reducing both the bound and most favoured nation tariff. As a result, there has been a three-fold increase in the export of IT products since 1997 to reach a level of $1.4 trillion in 2010 accounting for 9.5% of global merchandise exports. Further, in 2010 ITA participants accounted for 96% of global exports and 90% of global imports of IT products. Along with high export growth the study also observed that developing countries, lead by China, have consistently increased their participation in global trade in IT goods. The share of developing countries in exports more than doubled from 31% in 1996 to 64% in 2010. When it comes to imports the corresponding increase was from 27% to 51%. Since the demand for IT products is highly responsive to changes in income and price, the study attributed the increased diffusion and use of these products with the growth -price effects associated with opening up trade and reducing tariff. Moreover, it has been argued that ITA helped the expansion of GPN in IT goods with respective increase of trade in intermediate goods and the de-location of production that considerably increased trade flows between developed and developing countries.

Similar were the conclusions by Ezell (2012) who argued that the ITA has been one of the most successful trade agreements ever undertaken as it played an important role in expanding global trade in ICT products leading to innovation, enhanced productivity, increased employment, and accelerated economic growth. Hence the study made a case for the expansion of the product coverage under ITA as it would bring immediate and significant benefits to both ICT producers and consumers in the developed and developing world.

Anderson and Mohs (2010), on the basis of their analysis of the performance of IT trade during 12 years after the inception of ITA, highlighted the changing composition of trade by leading exporting and importing nations and the profiles of ITA trade by different product segments. The study observed that ITA, primarily the domain of developed countries at its inception, greatly helped expanding the number of developing countries participating and in turn enhanced the trade by these countries.

Studies also noted that ITA is beset with problems like the product coverage and the absence of a mechanism to rationally and constructively deal with classification concerns. Dreyer and Hindley (2010) observed that the fundamental problem in the ITA is its product coverage, especially the exclusion of some of the important consumer electronic goods. In the current context of technological convergence among ICT product this exclusion has the potential to progressively erode ITA coverage. Yet another related problem is based on a rigid positive listing of products that created problems with multifunctional goods. Further, NTBs in the ITA sector were not included in the ITA negotiation but remained a central problem to trade in technology goods. Hence, the study calls for a different approach to product coverage and incorporating provisions on NTBs.

While the findings of these studies are highly encouraging, their empirical base and the method of analysis certainly leave much scope for improvement. To begin, while a three fold increase in the trade in IT goods has been associated with ITA, one needs to reckon with the fact that association could not necessarily be construed as causation. Further, all these studies have dealt with the period since ITA by keeping in dark the developments prior to ITA. Hence, for an informed policy making, any analysis of performance of ITA and its attendant changes need to be seen in comparison with the trends observed during the pre ITA period. If a turnaround has been observed since ITA, the precise role that ITA played therein also needs to be located.

Moreover, while most of these studies have indicated that there has been a decline in the price of IT goods after ITA, there is hardly any empirical evidence other than anecdotal illustration by taking select goods like computing equipment. WTO (2012) for example states “import price level of June 2011 for computers, peripherals and semiconductors to be around 65 per cent below the respective level of June 1996, while the average import prices for all commodities were 40 per cent above the level of 1996”. Though the reliable price data on different IT goods is difficult to obtain, the unit value index which could be derived from the trade data and often used in the trade literature, with all its limitations could be of some relevance to explore the issue empirically.

The remainder of this paper is organized as follows; the second section presents an analytical framework by critically examining the role of trade liberalization as a means of promoting production and diffusion of IT. The third section presents a brief discussion on the database made use of in the study. Empirical evidence on the core issues explored in the study are presented in section four followed by the last section that summarizes the major findings and presents a perspective for the future.

2. CAN TRADE WITHOUT INNOVATION BE THE ENGINE OF GROWTH? TOWARDS AN ANALYTICAL FRAMEWORK

Given the generality of purpose and innovational complementarities, ICT qualifies itself as yet another GPT[3]. Comparing ICT with earlier GPTs, David (1990, 1991) found remarkable parallels in terms of their contribution towards augmenting economic growth and human welfare. In general, it has been argued that ICTs are key inputs for competitiveness, economic growth and development. It offers opportunity for global integration, increasing economic and social well being of the poor and enhances the effectiveness, efficiency and transparency of the public sector, including the delivery of public services (World Bank 2002). Thus viewed, there is hardly any field of human activity wherein ICT could not have its profound influence *inter alia* by revolutionizing the process of information exchange and thereby reducing the transaction cost (Joseph 2007). Hence to appreciate the economic rationale for ITA there is the need for a precise understanding of the contribution of ICT towards development and welfare and the role of trade liberalization as manifested in ITA in accomplishing this.

The contribution of a general purpose technology like ICT, could be understood in terms of its *use* and *production*. While the former refers to ICT diffusion induced development through enhanced productivity, competitiveness, growth and human welfare the latter is on account of its contribution in output, employment, export earnings from the production of ICT related goods and services (Kraemer and Dedrick 2001).

Returns to Production of ICT Goods and services

Ezel (2012) has shown that ICT industry accounted for six per cent of global GDP in 2010 and the global value-added by ICT industries more than doubled from $1.2 trillion in 1995 to $2.8 trillion in 2010. ICT industries also account for a notable share in employment. For example, in 2010, ICT industries employed 5.8 per cent of workers in OECD economies, a 13 per cent increase since 1995.

Studies have also shown that in the US, wherein the macroeconomic benefits of ICT revolution are apparent, ICT industries accounted for about 8.3 per cent of the GDP and nearly a third of GDP growth between 1995 and 1999 (US Department of Commerce 2000). ICT production also contributed to lower inflation since a growing proportion of economic output has been in sectors marked by rapidly falling prices[4]The report argues that actual inflation fell by 0.5 per cent points a year from 1994 to 1998 due the effect of declining prices of IT goods. Also IT industry, including telecommunications, employed 7.4 million workers in 1998 and this accounted for 6.1 per cent of the total employment with an annual wage rate more than 1.5 times that for all private employees.Recent evidence suggests that ICT was responsible for 75 per cent of US productivity growth from 1995 to 2002, and 44 per cent from 2000 to 2006 (Brynjolfsson and Adam Saunders 2010). According to Japan's Ministry of Internal Affairs and Communications, Japan's ICT industry contributed 34 per cent of the country's economic growth from 2005 to 2010 (quoted in Ezel 2012).

However, it has been argued that production of IT goods need not necessarily be an easy proposition for the developing countries because industrial structure of IT goods is highly concentrated with high entry barriers. Industry segments like microprocessors are almost closed because standards are set by the leading US based IT players like Intel. Most of the segments of IT industry are highly capital intensive and scale intensive and require specialized skills that only a few countries can hope to achieve (Kraemer and

Dedrick 2001). Moreover, early entrants such as Singapore, Hong Kong, South Korea, Taiwan, Ireland and Israel have preempted many of these opportunities to a great extent.

While there is some merit in the above argument, a closer look at the characteristics of ICT industry would reveal that the doors are not that firmly closed for the new comers. ICT industry is a multi-product industry and the products may be broadly divided into two categories; ICT goods and ICT services. In each of these broad categories there are a large number of products that vary in terms of technological intensity, dynamism, investment and skill requirements (Joseph 1997). This has made possible the segmentation of the industry into separate, yet closely interacting horizontal layers with greater opportunities for outsourcing and thus transforming a vertically integrated industry into horizontally disintegrated but closely interacting market segments. Moreover, as argued by Ernst (2002) under global production network that characterize IT goods production toady, geographical dispersion becomes more concentrated in case of high precision design intensive goods where as in case of lower end products there is high regional dispersion. Therefore, it is possible that the new comers in developing world could enter profitably into some of these product lines depending on their technological capability, human capital availability and the ability to mobilize capital. What is more, in the near future, the demand for ICT goods and services is likely to increase as the rate of ICT diffusion increases both in the developing and developed countries.

Going by the past evidence, the developed countries are not the only beneficiaries from the production of ICT goods. Production of ICT goods has been a major source of economic output, exports and job creation even in developing countries like South Korea, Singapore, Thailand, Malaysia and others. This has been facilitated by their participation in global production network of IT goods which has a longer history than ITA.

When it comes to IT services, economists have long since noted that the services in general are cheaper in developing countries as compared to the developed countries[5]. Yet, these countries have been unable to take benefit of this advantage mainly because the export of most of the services called for the cross border movement of labour. But the movement of labour, unlike capital, was subjected to series of restrictions. Though the process of globalization, which *inter alia* implied the free movement of products and factors, achieved momentum during the last two decades, there have been hardly any relaxations in the restrictions on labour mobility. However, the advances in ICT has made possible, to a great extent, the “splintering off” of many of the services from its providers which in turn led to what is often called global division of labour and the outsourcing of services.

No wonder, as noted by a number studies (Schware 1987, 1992; Arora, et. Al 2001; D’Costa 2003; Joseph 2002; Kumar and Joseph 2007, 2005) India, with its large pool of skilled manpower along with supporting policy environment and proactive private sector, has emerged as a preferred location in the international division of labor in knowledge intensive industries as well as in Business Process Outsourcing (BPO) and a leading player in the export of software services. India is not the only country being benefited from opportunities offered by BPOs. Countries like China, Philippines and others are also emerging as providers of BPO services to the developed countries.

Returns to ICT Use

While there were apprehensions about the return to productivity enhancement on account of ICT use, the evidence from the recent cross-country studies shows that the returns to investments in ICT in terms of productivity and growth are substantial[6]. Pohjola (2001) found the output elasticity of ICT capital as high as 0.31 for the full sample of 39 countries and 0.23 in the OECD sub sample. Another cross-country study by IMF (2001) also has similar conclusions to offer. Country specific studies like the one for Singapore (Wong 2001) finds that the net return to ICT capital (37.9 per cent) is about two and a half times higher than that for non-ICT capital (14.6 per cent). These studies also show that that ICT induced productivity and growth still remains a phenomenon of developed OECD countries and that the developing countries are yet to catch up. Yet, there are also numerous cases to show that developing countries could benefit from increased access to ICT as much as their counterparts in the developed world to address various development issues like empowering people, improving social service provision and poverty alleviation.

In the literature on IT and development, however, the focus of attention has been essentially on IT use and only limited attempts have been made towards integrating the policy towards electronics production and diffusion of IT. As argued by Mytelka and Ohiorhenuan (2000) the often suggested strategies place the developing countries in a situation of perpetual *attente* – waiting for the transfers of technology from the North and focusing their attention on the need to attract transnational corporations to their shore. The studies on technology diffusion, however, have shown that along with demand side factors, supply side factors are also important determinants of diffusion. Hence, greater domestic availability of electronics goods acts as a catalyst in the process of diffusion. To the extent that the present levels of income are important determinants of IT use, there is no reason why the developing countries should forgo the income earning opportunities offered by the production of electronics goods which could also be instrumental in their industrial transformation. If the available empirical evidence on technological capability in the developing world is any indication, the lopsided approach in terms of promoting ICT use while neglecting ICT production capabilities, has the potential danger of perpetuating technological dependence on the one hand and foregoing opportunities for income and employment generation on the other (UNCTAD 2012; Joseph and Parayil 2008).

Facilitators of ICT production and use

The key issue of relevance here pertains to the factors that help developing countries to leapfrog in the field of information technology by promoting its production and use?

Trade and Investment

The virtues of trade liberalization, the underlying economic rationale for the ITA, resulting from the removal of tariff and non-tariff barriers have been well articulated in the literature (Dornbusch 1992, Kruger 1997, Srinivasan and Bhagwati 1999). In case of a developing country the following generalizations may be in order. The decline in domestic prices is likely to make the goods and services more affordable and therefore could act as a catalyst in the process of diffusion/use of ICT into other sectors of the economy. If the available empirical evidence is any indication, the increased use/diffusion of ICT could help in increasing the efficiency, productivity and competitiveness of the ICT using sectors. The resultant higher output growth could lead to higher income and employment generation in the domestic economy as a whole. Second effect refers to the impact on domestic ICT producing sector on account of increased competition and greater access to needed inputs for production that in turn underscore the link between trade and investment. Trade induced competition, apart from inducing firms to cut cost of production, leads to the exit of inefficient firms and the absorption of their market share by more efficient ones leading to economies of scale and industry level efficiency.

The link between trade and investment, however, is conditioned by the product characteristics and organization of production. This link is likely to be stronger in assembly-oriented industries as compared to process industries. In an assembly-oriented industry like ICT goods, production essentially involves assembling a number of components and sub assemblies based on a design. The production of needed components and subassemblies may be highly skill, capital and/or scale intensive that no country could afford to have the capacity to produce all the needed components and other accessories. Hence there is the need for rationalizing their production across different locations. This is what led to the global production networks (Ernst and Kim 2002) and the international division of labour in ICT production. Thus in the global production network, production of each of the component or sub assembly is made across different countries according to their comparative advantage such that the overall cost of production is minimized. This essentially means that the production in any country will call for significant imports and bulk of the output will have to be exported to other countries rather than sold in the domestic market. Hence if the production, and therefore investment, in ICT is to take place in any country the trade regime needs to be the one wherein the free flow of inputs into and outputs out of the economy is ensured. Thus viewed, there is an inexorable link between trade and investment, which is apparently much stronger in IT goods as compared to most other industries.

Limits to Trade liberalization

While the theoretical case for trade and investment liberalization is elegant, when it comes to the experience of developing countries that resorted to trade liberalization under globalization as a short cut to prosperity we have a mixed picture. Here it may be apt to quote Stiglitz

> "Globalization itself is neither good nor bad. It has the power to do enormous good, and for the countries of East Asia who have embraced globalization under their own terms, at their own pace, it has been an enormous benefit…..But in much of the world it has not brought comparable benefits. For many it seems closer to an unmitigated disaster" (Stiglitz 2002:20).

After analyzing the trade reform policies in developing countries Rodrik (1992) convincingly concludes that

> "trade policy plays a rather asymmetric role in development: an abysmal trade regime can perhaps drive a country into economic ruin; but good trade policy alone cannot make a poor country rich" (Rodrik 1992:103).

Trade policy, at best, provides an enabling environment for development. Perhaps most emphatic was Arthur Lewis who stated as early as in 1978. To quote

> "the engine of growth should be technological change with international trade serving as lubricating oil and not as fuel". He continued "….international trade cannot substitute for technological change, so those who depend on it as their major hope are doomed to frustration" (Lewis 1978:74).

In case of ICT production, the link between trade and investment notwithstanding, it has been shown that local capabilities are critical for attracting investment and promoting production and trade. In a context wherein low labour cost is taken for granted by the MNCs, the ability of the developing countries to participate in global production network is governed by their ability to provide certain specialized capabilities that the MNCs need in order to complement their own core competence (Lall 2001, Ernst and Lundvall 2000). Countries that cannot provide such capabilities are kept out of the circuit of international production network despite their liberal trade regime. Also as argued by Cantwell (1995), Dunning (1996), Makino et al (2002) and Pearce (1999) the MNCs have been following the knowledge-based asset-seeking strategies along with natural resource-seeking, market-seeking and efficiency-seeking strategies to reinforce their competitive strengths. More importantly to get rid of the risk of getting locked up at the low end of the value chain and to facilitate movement along the continuum of Original Equipment Manufacturer (OEM) to Original Brand Manufacturer (OBM) and finally to Original Design Manufacturer (ODM) (Hobday 1994) there is the need for building learning, innovation and competence building systems while resorting to a liberal trade and investment regime. In a similar vein, along with numerous studies, a survey by Saggi (2002) concludes that the absorptive capacity of the host country is crucial for obtaining significant benefits from FDI. Without adequate human capital or investment in R&D, spillovers from FDI are infeasible.

When it comes to ICT use, lower prices resulting from trade liberalization need not necessarily promote ICT demand and its diffusion unless the developing countries have the capability to use it. Hence trade liberalization has to be accompanied by capacity building such that needed local content is developed and capabilities are created to make its effective use. This calls for complementing the liberalized trade and FDI policies with appropriate policy measures and institutional interventions with respect to education, R&D and human capital such that learning capabilities are enhanced in all parts of the economy – the central concern of studies on innovation system.

In the similar vein, The World Bank (2000) underlined the role of following factors; an educated and skilled population that can create and use knowledge, a dynamic national Information Infrastructure (NII) that consists of telecommunication networks, strategic information systems and the policy and legal frameworks affecting their deployment, an interlinked system of research centers, universities, firms and other organizations that can tap into the growing stock of global knowledge, assimilate and adapt it to local needs and create new knowledge. All these can be grouped into what is now referred to in the literature as an innovation system.

Drawing from the above discussion it may be inferred the liberalized trade could at best be construed as a necessary condition for promoting ICT production and use and the necessary condition being a vibrant innovation system at the national, regional and the sectoral level.

3. ON THE DATA BASE

As acknowledged by the earlier studies, since ITA covers a large number products there are serious issues with the definition of IT goods as well as their classification into different subgroups. For example, on account of technological changes, the distinction between the traditionally considered categories like electronic consumer goods and the electronic capital goods like computers and communication equipment is increasingly getting blurred. To complicate the issue further, COMTRADE, the only data base at the country level trade in IT goods, has undergone nomenclature revisions in 2002 and more significantly in 2007, complicating the construction of a consistent times series for ITA product trade. Quantifying trade in Attachment B products is additionally challenging because most countries provided their own list of tariff codes, usually at the national line level (i.e. the 8- or 10-digit level), where these products may be classified, and some countries have not provided a list. Here it needs to be noted that most of the previous studies have made use of HS 1996 as they dealt only with the post ITA period. While HS 1992 provides data from 1988 to 2011 data from HS 1996 refers to 1997-2011 only. Thus For the period since 1997 we have two series of data one by HS 1992 and the other by HS 1996. To make our analysis comparable to that of previous studies, we make use of HS 1996 and HS 1992 for the post ITA period while the analysis of pre ITA period is based on HS 1992. However, it needs to be noted that on account of the differences in HS definition of IT goods, trade data with HS 1996 is not strictly comparable to HS 1992. As is evident from table 1, total exports and imports are lower as per HS1992 when compared to HS 1996.

Table 1: Trend in global trade in ITA goods as per HS 1992 and HS 1996 – All countries (in US$ in billion)

Year	HS 1992		HS 1996	
	Export	Import	Export	Import
1988	35.59	22.97		
1989	52.34	45.68		
1990	61.44	57.22		
1991	97.71	88.86		
1992	121.97	114.40		
1993	153.12	147.64		
1994	204.41	204.65		
1995	265.74	269.49		
1996	277.48	287.55	456.48	482.26
1997	308.43	320.92	594.53	606.96
1998	320.20	336.38	602.49	631.51
1999	362.73	382.35	693.86	727.76
2000	466.42	484.57	886.59	923.7
2001	413.21	436.90	769.92	813.32
2002	429.56	453.07	775.82	810.53
2003	485.47	515.13	881.51	929.14
2004	599.85	637.79	1075.69	1147.35
2005	695.00	721.44	1204.68	1290.18
2006	812.90	827.85	1380.31	1463.27
2007	816.83	891.74	1340.23	1463.79
2008	849.93	937.12	1374.33	1510.06
2009	714.33	796.60	1178.52	1295.7
2010	882.01	1014.19	1450.65	1645.82
2011	930.82	1062.53	1540.49	1750.26

Source: COMTRADE

4. EMPIRICAL RESULTS

Tariff reduction, exports and imports

As already noted, ITA quintessentially is a tariff cutting mechanism and the estimates showed that simple average tariffs over all ITA products before the Agreement was 3.6 per cent for ITA members, compared to 11.2 per cent for non-members. According to the WTO, average bound tariff rates for ITA products for developed countries were reduced from 4.9 per cent to zero per cent (WTO 2008). Their initial rates ranged from one per cent to 12.1 per cent, as compared to 1.2 per cent to 66.4 per cent for developing countries. Since the developing countries had considerably higher bound rates before the Agreement, several developing countries implemented significant tariff liberalization to achieve duty free trade under the ITA. The largest concessions, based on pre-ITA bound rates, had to be made by India (66.4 per cent), Thailand (30.9 per cent), and Turkey (24.9 per cent). Similarly, for applied tariff rates, developing countries' pre-ITA tariffs were generally higher than the average 2.7 per cent for developed countries. Notable average applied-tariff reductions for developing countries included those of India (from 36.3 per cent), China (from 12.7 per cent), and Egypt (from 12.1 per cent) (Mann and Liu 2007).

While analyzing the trend in export and imports during the post ITA period in comparison with the pre ITA period an issue of concern might be the low base during the pre ITA period. With a view to address this issue we have estimated the trend (log) growth rates along with the annual growth rates. We have also estimated the positional growth rates using the index of exports and imports and reported in the table.

Table 2 presents the annual growth rates as well as the trend (log) growth rates in the exports for the two sub periods - pre ITA (1988-1996) and post ITA (1997-2011). Let us begin by analyzing the trend growth rates. Going by HS 1992 the recorded trend growth rate in total export of IT goods during the pre-ITA period was 30 per cent. It is interesting to note that during pre ITA period all the product groups were growing in a balanced manner without much variation across different product groups in terms of the recorded trend growth rates. With plausible exception of ITA 6 (data storage media and software) with 20 per cent growth rate, all the other products have recorded trend growth rates above 25 per cent during the pre ITA period.

When it comes to post-ITA period, we get a different picture regardless of the data (HS 1992 or HS1996) set that we use. Let us begin with HS 1996 database. As per this data the recorded trend growth rate in total exports was even less than one-fourth (7.0%)

of what was recorded in the pre-ITA period (29.9%). Equally important to note is the wide variation in the recorded growth rate across different product groups during the post ITA period that ranged from 0.4 per cent in the case of ITA 4 (Semiconductor manufacturing equipment) to as high as 11.3 per cent in the case of ITA 2 (Telecommunication equipment).

The table also presents the trend growth in exports using HS 1992. The results are broadly in line with the pattern observed using HS 1996 with the growth rate in total exports during the post ITA period being marginally higher (8.4%) than what was obtained using HS 1996. The wide variation in the growth rates across different product groups has also been confirmed from the estimated growth rates using with HS1992 data.

Further interesting observations could be made from the annual growth rates presented in the table. During the pre ITA period there was hardly any year in which recorded growth rate in total export was negative indicating a more stable growth pattern. The stability in growth was confined not only with respect to total exports but also in different product categories. During the pre ITA period, out of the seven product groups, negative growth rate was observed only in the case of ITA-1 (Computers and calculating machines) and that too was confined to only two years (1990 and 1995).

The picture changes in its entirety as we move to the post ITA period as the recorded growth of total exports was negative in three years with the negative growth rates in 2001 and 2009 being as high as 13.6 and 14.4 respectively. Further, it is also evident that there has been only six years during the post ITA period wherein no product groups recorded negative growth rate. It appears that while pre ITA period was characterized by more stable export performance, it became more volatile during the post ITA period. A definite conclusion is not warranted without more systematic analysis.

Table 2: Trend growth rates and annual growth rates in the export of different IT goods

	Period	ITA1	ITA2	ITA3	ITA4	ITA5	ITA6	ITA7	Total
HS1992	1989	43.56	71.24	75.22	114.47	36.44	12.46	66.88	61.35
	1990	-9.31	11.56	14.55	71.48	7.73	15.53	18.37	16.16
	1991	111.30	79.45	60.26	50.34	170.18	88.10	106.96	96.26
	1992	23.25	30.47	10.53	10.20	13.58	19.94	26.52	22.33
	1993	38.00	42.85	31.15	8.07	17.03	11.94	25.79	26.28
	1994	10.56	51.63	38.90	33.96	27.77	10.71	32.93	33.47
	1995	-0.18	37.97	42.55	62.62	19.57	11.63	25.80	28.67
	1996	62.29	6.62	-3.25	9.56	6.21	8.83	5.99	4.58
	Trend GR Pre ITA	**26.1 (10.99)***	**34.4 (21.41)***	**27.4 (16.04)***	**31.0 (9.57)***	**28.8 (9.08)***	**20.3 (8.97)***	**31.3 (12.81)***	**29.9 (13.99)***
HS1996	1998	-0.88	18.17	-3.40	-9.52	-0.70	-0.70	2.23	0.91
	1999	7.47	23.21	20.08	31.01	5.93	5.32	18.93	16.13
	2000	10.56	34.04	39.64	79.13	9.11	-7.87	29.81	27.48
	2001	-6.88	-6.46	-22.30	-32.96	7.59	-11.41	-12.49	-13.59
	2002	-0.86	5.11	6.91	-6.41	-1.73	-4.12	-2.94	1.15
	2003	18.09	6.86	16.17	8.95	14.78	14.08	12.28	14.02
	2004	21.39	31.10	18.80	78.44	16.57	14.02	21.78	22.28
	2005	11.90	27.12	6.22	-3.05	10.38	17.44	12.47	12.20
	2006	10.48	23.26	14.13	26.75	13.42	5.03	13.92	14.55
	2007	1.85	-4.08	8.92	-56.00	11.96	1.61	-13.88	-2.67
	2008	1.23	6.53	-2.28	-16.38	10.35	-2.35	5.27	2.11
	2009	-15.06	-12.21	-10.21	-46.55	-12.94	-14.11	-19.04	-14.42
	2010	20.90	14.66	32.41	96.62	16.02	0.04	20.74	23.08
	2011	6.83	18.54	2.35	15.10	17.58	4.15	2.41	6.29
	Trend GR Post ITA	**6.2 (10.07)***	**11.3 (13.19)***	**7.8 (11.92)***	**0.4 (0.13)^{ns}**	**8.3 (18.65)***	**2.1 (2.86)****	**5.4 (6.37)***	**7.0 (10.52)***
Trend GR HS 92 Post ITA		**-18.0 (-6.56)***	**10.6 (6.60)***	**11.3 (15.35)***	**10.0 (6.92)***	**8.2 (17.65)***	**7.8 (6.30)***	**6.8 (10.69)***	**8.4 (12.22)***

Source: COMTRADE

Note: ITA-1: Computers and calculating machines; ITA-2: Telecommunication equipment; ITA-3: Semiconductors; ITA-4: Semiconductor manufacturing equipment; ITA-5: Instrument and apparatus
ITA-6: data storage media and software; ITA-7: Parts and accessories
*, ** - Growth rates are statistically significant at 1 per cent and 5 per cent levels respectively
ns: statistically not significant
Figures in parenthesis indicate corresponding t-values
Pre-ITA period: 1988 – 1996; Post-ITA period: 1997-2011

From the above discussion it could be inferred that regardless of the HS classification used, there has not been any marked increase in growth of ITA goods exports during the post ITA period as compared to the pre ITA period. Instead, there has been drastic decline in export growth during the post-ITA period. This has been unnoticed by the previous studies because of their exclusive concern with the post ITA period. This in turn has led these studies to infer that ITA has been associated with high export performance. Our analysis of growth during the post ITA period in comparison with the pre ITA period tend to suggest that ITA has been associated with a marked deceleration in the export of all categories of IT goods. Therefore there is hardly any empirical evidence for the growth augmenting effect of ITA highlighted by the earlier studies.

Trend in imports

In analyzing the growth in imports we have followed the same method as in case of exports. The results of the estimated trend (log) growth rates for the two sub-periods as well as the annual growth rates are reported in table 3.

The broad pattern that emerges from the table is in tune with what we have observed in case of exports. As per the trend growth rates in total imports based on HS1992, we find a drastic decline in growth rates from over 35 per cent during to pre ITA period to 8.8 per cent during the post ITA period. The extent of decline in growth rates higher as per HS 1996 as the estimated growth rate is only 7.4 per cent. Thus the deceleration in growth stands regardless of the database used.

As in case of exports, the estimated annual growth rates in different product groups tends to suggest that the growth pattern became more unstable during the post ITA period as compared to the pre ITA period. Yet it appears that import behavior in general has been more stable as compared to exports. We have seen that during the post ITA period exports recorded negative growth rates in three years where as in imports only two years recorded negative growth rates.

Given the decelerating trend in IT trade it may be of interest to situate the exports of IT goods in against the global merchandise export. Let us turn to this issue.

Table 3: Trend growth rates and annual growth rates in the import of different IT goods

HS classification	Year	ITA -1	ITA -2	ITA -3	ITA -4	ITA -5	ITA -6	ITA -7	All products
HS1992	1989	40.89	211.72	122.21	89.69	96.60	184.82	162.38	145.24
	1990	-3.82	34.05	27.35	35.21	12.33	16.50	21.31	22.14
	1991	115.88	159.75	58.45	145.49	95.07	143.00	107.87	97.84
	1992	19.27	31.91	21.33	19.16	18.73	24.60	29.02	26.48
	1993	18.04	61.67	31.49	1.72	15.77	25.12	27.51	29.09
	1994	19.23	46.47	41.85	56.72	36.72	17.00	38.77	38.53
	1995	14.62	37.56	42.49	49.33	18.98	12.00	29.26	31.16
	1996	41.08	1.53	2.32	21.45	4.89	6.82	6.67	5.40
	Trend GR	25.6 (12.18)*	47.6 (10.57)*	32.3 (13.56)*	37.3 (12.28)*	28.2 (10.29)*	33.6 (6.85)*	36.3 (10.24)*	35.1 (10.10)*
HS1996	1998	4.56	14.13	-3.59	-7.47	-2.06	0.89	7.63	3.55
	1999	11.46	30.22	21.24	32.98	8.00	5.27	16.93	17.24
	2000	10.47	39.32	42.88	66.50	13.98	-10.17	25.29	26.62
	2001	-8.96	-4.63	-20.18	-23.63	5.68	-9.70	-11.54	-12.62
	2002	0.27	-0.97	7.83	-20.11	-0.75	-2.66	-4.31	0.51
	2003	13.02	12.32	18.14	15.39	11.57	15.39	13.64	14.68
	2004	17.22	32.31	25.03	60.61	17.59	19.08	21.57	22.99
	2005	8.92	22.90	9.78	3.33	8.55	21.60	12.52	12.07
	2006	6.48	14.20	15.41	29.50	12.82	11.17	13.99	12.87
	2007	-5.20	10.27	10.98	-49.28	8.35	0.24	-9.34	0.58
	2008	2.02	6.81	-0.95	-13.55	9.67	-3.06	1.17	1.44
	2009	-15.27	-9.63	-11.42	-50.72	-14.11	-8.37	-18.18	-13.89
	2010	24.08	20.01	35.30	101.12	18.23	5.28	22.22	26.56
	2011	10.74	19.26	2.09	19.94	16.05	8.39	-0.65	6.20
	Trend GR Post ITA	4.6 (8.56)*	12.5 (16.63)*	9.7 (13.76)*	1.1 (0.47)ns	7.8 (19.20)*	4.3 (5.16)*	5.5 (6.68)*	7.4 (11.59)*
	Post ITA HS1992	-15.9 (-6.486)*	13.3 (10.295)*	11.2 (18.458)*	9.7 (7.056)*	7.6 (17.879)	9.5 (9.396)*	6.9 (11.092)*	8.8 (14.872)*

Source: COMTRADE

Note: ITA -1: Computers and calculating machines; ITA-2: Telecommunication equipment; ITA-3: Semiconductors; ITA-4: Semiconductor manufacturing equipment; ITA-5: Instrument and apparatus

ITA-6: data storage media and software; ITA-7: Parts and accessories

The first period (pre – ITA) data is based on UN-Comtrade classification (H0) HS1992, and the second period (post ITA) data is based on classification HS1996 (H1).

*, ** - Growth rates are statistically significant at 1 per cent and 5 per cent levels respectively

ns: statistically not significant

IT exports in global merchandise

Hailing the performance of IT trade under the Agreement, WTO (2012) has shown that world exports of IT products almost tripled in value between 1996 and 2010. Further with an annual average growth rate of 7 per cent over this period, global exports of IT products reached US$ 1.4 trillion in 2010, becoming one of the most important product categories in world trade. Exports of IT products accounted for 9.5 per cent of global merchandise exports in 2010, exceeding the share of both agricultural (9.2 per cent) and automotive products (7.4 per cent).

Table 4: Share of IT exports in global merchandise exports

Year	Global Merchandise Export (Billion US$)		IT exports (Billion US$)		Share of IT (%)	
	HS1992	HS1996	HS1992	HS1996	HS1992	HS1996
1988	785.24	-	26.35	-	3.36	-
1989	1200.87	-	42.51	-	3.54	-
1990	1378.18	-	49.38	-	3.58	-
1991	1917.71	-	96.91	-	5.05	-
1992	2457.66	-	118.56	-	4.82	-
1993	2832.13	-	149.72	-	5.29	-
1994	3758.70	-	199.83	-	5.32	-
1995	4683.01	-	257.12	-	5.49	-
1996	4997.00	4353.28	268.88	441.16	5.38	10.13
1997	5180.40	4921.23	297.76	574.83	5.75	11.68
1998	5156.75	4969.24	308.21	580.05	5.98	11.67
1999	5347.40	5261.46	352.06	673.59	6.58	12.80
2000	6113.09	6044.79	450.43	858.66	7.37	14.20
2001	5912.29	5867.94	398.61	742.00	6.74	12.64
2002	6217.16	6191.21	417.17	750.57	6.71	12.12
2003	7267.52	7239.33	472.57	855.81	6.50	11.82
2004	8818.74	8780.21	584.70	1046.45	6.63	11.92
2005	9951.21	9939.45	676.85	1174.16	6.80	11.81
2006	11621.74	11606.82	789.90	1345.05	6.80	11.59
2007	13261.27	13243.35	796.21	1309.14	6.00	9.89
2008	15341.98	15340.23	822.67	1336.74	5.36	8.71
2009	11943.43	11943.43	690.57	1143.98	5.78	9.58
2010	14495.03	14495.03	855.77	1408.04	5.90	9.71
2011	16963.48	16963.48	906.77	1496.65	5.35	8.82

Source: COMTRADE

Our analysis of the share of IT exports by the ITA countries while confirming the above findings observed the picture presented by WTO is at best partial. Table 3 indicates that as per HS1992 the share if IT products showed a steadily increasing trend up to 2000 and declined thereafter. The declining trend after 2000 is confirmed by the data based on HS 1996 as well. To be more specific the share of IT products in global merchandise increased from 10 per cent on 1996 to over 14 per cent in 2000 and thereafter declined to reach below the 1996 level (10.1%) in 2011. In general, despite ITA, export performance of IT goods could not keep pace with global merchandise trade.

Developing Asian countries and global production network

It has been argued that the liberalized trade regime under ITA has been instrumental in widening the scope of global production network that characterized electronics production which in turn has been beneficial to the developing countries in general and Asian countries in particular.

GPN is not a new phenomenon and many scholars have already studied the participation of South East Asian countries in electronics GPN which has a longer history. Based on a detailed analysis of the electronics industries in South East Asia, Ernst (2001) argued that export-oriented production can no longer guarantee sustained growth and welfare improvement on account of sticky specialization of exportable 'commodities'. Moreover, a narrow domestic knowledge base has been leading to limited industrial upgrading and limited backward and forward linkages. Evidence also suggests that IT induced prosperity in general and electronics production in particular has been confined to few locations leading to an enclave type development and contributing towards widening regional and personal inequalities (Joseph 2006).

It has also been argued that most of these countries have specialized in the mass production of a few products mainly for the export market. This has led to a kind of sticky specialization with limited backward and forward linkages especially for materials and production equipment that gave rise to very high level of import dependence and limited value addition. In the case of Thailand, Mephokee (2003) noted that Thai IT firms play a small subcontracting role by supplying minor components for foreign firms in the IT industry. There are four main reasons for the firms to import these components from foreign suppliers: First, the production technology belongs to foreign parent companies. Secondly, there are no domestic components because the production technology is not available in Thailand. Thirdly, the quality of domestic components cannot meet the foreign company's requirements.

Finally, it is easier to deal with foreign suppliers with whom long-term relationship has already been established. Thus the study concludes that Thai firms have small room to play in the Thai IT industry.

A striking feature, which can partly be attributed to the strategy being adopted, is the mismatch between local production and consumption both at the component and equipment level. To illustrate, in the case of telecommunication equipment, Thailand exports almost 70 per cent of its production and at the same time imports more than 70 per cent of its domestic demand (Joseph 2006). The case with semiconductor devices also appears not different. The narrow production base with export orientation also has the effect of making the industry highly susceptible to international market fluctuations. In such a context the need for upgrading of East Asia's electronic industry has been underlined. While the issue of industrial upgrading is most pertinent in case for some countries that remain at the low end of global production network, for a large number of countries, for whom development of an electronics production base and IT based development still remain a distant dream, the key is how to make an entry into the global production network. The moot question in the context of present study is to explore the extent to which ITA has been enabling new countries to participate in the production network and upgrading the position of those already been into the network.

With a view to explore this issue we have analysed the share of Asian countries in the global export and import of IT goods (see table 5). The table confirms the remarkable increase in the share of China in the global export of IT goods noted by the earlier studies. It is also evident that the total share of ITA members from Asia also increased from 41 per cent in 1997 to 67 per cent 2011. This increase as is evident from the table is mostly on account of the more than 10 fold increase in China's share from 2.5 per cent in 1997 to over 28 per cent in 2011. To the extent that China has done exceedingly well in the

Table 5: Share of Asian countries [in the world exports of ITA goods]

Country	**HS1992**					**HS1996**			
	1991	**1997**	**2001**	**2007**	**2011**	**1997**	**2001**	**2007**	**2011**
Bahrain			0.00	0.00	0.00			0	0.01
China		2.57	5.75	18.41	25.55	2.53	5.3	21.67	28.13
China, Hong Kong SAR		6.39	6.99	10.67	14.00	4.73	5.55	9.1	12.02
China, Macao SAR	0.04	0.01	0.00	0.01		0	0	0.01	
India	0.11	0.07	0.12	0.12	0.61	0.06	0.08	0.11	0.42
Indonesia	0.06	0.36	0.45	0.22	0.27	0.27	0.42	0.26	0.22
Japan	26.03	14.26	10.93	8.24	6.21	14.2	10.18	6.85	5.21
Kuwait			0.00	0.01				0.01	
Malaysia	4.48	4.62	5.30	3.87	3.39	4.9	5.1	4.93	3.93
Oman	0.00	0.00	0.01	0.01	0.01		0	0	0
Philippines		1.32	1.43	0.75	0.66		2.74	2.19	0.84
Rep. of Korea	6.95	2.27	4.57	6.52	5.95	4.81	4.94	6.79	6.39
Saudi Arabia	0.01		0.01	0.01	0.03		0	0.01	0.02
Singapore	7.34	8.77	7.46	11.34	8.12	10.11	8.16	7.82	7.86
Thailand	2.78	2.76	2.41	1.34	1.48		1.9	2.17	1.96
United Arab Emirates				0.38				0.27	
Viet Nam			0.13	0.10			0.07	0.14	
Total	**47.81**	**43.41**	**45.56**	**62.01**	**66.27**	**41.61**	**44.46**	**62.34**	**67.02**

Source: COMTRADE

As already noted the issue of importance is the influence of ITA on countries like Thailand, Malaysia, Indonesia and Philippines that entered the Global electronics production network even before ITA. The table tends to suggest that the share of these countries in the global export of IT goods while increased during the pre ITA period recorded a decline after ITA. Moreover, with plausible exception of Vietnam, there has been hardly any new country that managed to increase their share in Global trade in 2011 as compared to 1997.

Hence the argument that ITA has been instrumental in strengthening global production network does not have the required empirical basis. To reach a definite conclusion we need to analyse the trend in the share of top exporting countries from the developed world to which we shall turn now.

Trend in country concentration in exports

As noted by ITC (1999) Transnational Corporations (TNCs) hold a large share of the markets, production and investment in this knowledge-intensive sector. On the eve of ITA (1997), out of the leading 100 TNCs, 22 were in the electronics sector[7]. Among these, eight originated in the United States and EU respectively, and six in Japan. Companies based in the United States dominated the sectors for high-end computers, semiconductors, telecommunications, computer software, and semiconductor manufacturing equipment. As is evident from WTO (2012), the initiative for ITA was taken by these leading multinational companies and it is of interest to examine, to what extent ITA has been able to bring about a more competitive environment with a more globally distributed production of ITA goods.

To analyse the extent of competition ideally we need to examine the share of leading firms in the export of IT goods. Since such data is hard to obtain for the large number of products that we examine, as a next best alternative we have analyzed the share of leading countries in ITA goods exports. As in the previous section, analysis of the pre-ITA period is based on HS 1992 and that of post-ITA is based on HS 1996 of COMTRADE.

It is evident from Table 6 that in 1989 top four ITA member countries accounted for over 83 per cent of global trade in IT goods. The table further reveals that their share has been declining steadily since 1989. The trend seems to have reversed after ITA and upward trend in the share of four countries became more pronounced since 2001. To be more precise, the share of top 4 countries declined from 83 per cent in 1989 to 46 per cent in 2001. From 2001 there has been an upward trend to reach 61 per cent 2011 – an increase of 15 per cent! The trend in concentration that comes out at different product group level is also in tune with that of the total exports. Out of the seven four product groups, four of them (ITA 1, ITA2, ITA6 and ITA 7) showed a downward trend in the share of top four exporting countries up to around 2000 and showed an increase since then in their share by about 15 per cent. The increase in the share to top four countries is further evident from fig 1.

Table 6: Trend in the share top 4 countries in the export of IT goods (%)

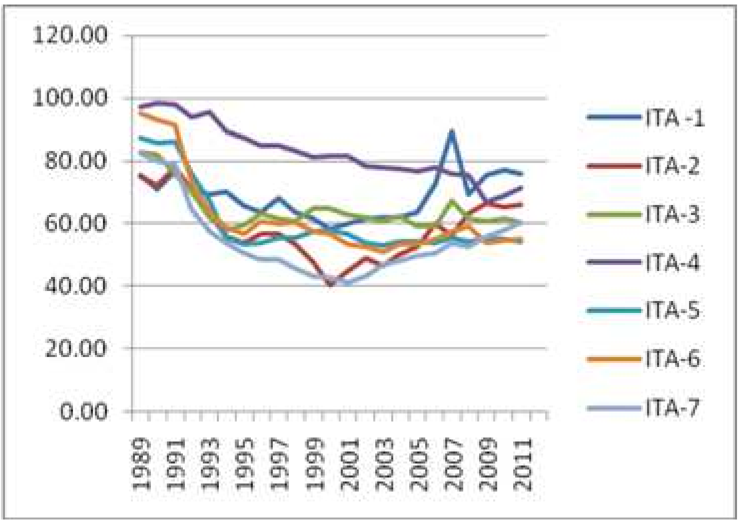
Period	**ITA -1**	**ITA-2**	**ITA-3**	**ITA-4**	**ITA-5**	**ITA-6**	**ITA-7**	**Total**
1989	75.29	75.11	82.65	97.10	87.39	95.20	82.61	83.47
1990	70.71	72.28	81.90	98.48	85.80	93.04	80.03	81.38
1991	76.60	78.10	75.73	97.94	86.08	91.59	78.74	79.55
1992	70.60	70.88	69.93	94.14	75.84	72.98	64.56	67.22
1993	69.01	63.37	62.12	95.77	67.53	63.51	57.47	59.78
1994	69.92	55.84	57.90	89.39	55.68	58.65	53.72	55.16
1995	65.37	53.90	59.68	87.42	53.46	56.60	50.81	53.38
1996	63.42	56.65	63.28	84.95	53.77	60.80	48.72	53.08
1997	67.80	56.81	61.48	84.90	55.36	59.92	48.52	52.71
1998	63.33	53.21	60.85	83.08	55.47	60.33	45.79	50.55
1999	61.47	47.43	64.76	81.33	57.39	57.39	43.16	48.85
2000	58.19	40.14	64.78	81.73	58.06	56.78	42.80	47.63
2001	59.72	44.78	62.80	81.81	56.53	53.36	41.21	46.56
2002	61.57	48.92	62.08	78.24	53.88	52.77	43.25	48.71
2003	61.99	46.36	60.90	77.97	53.04	50.98	47.07	50.24
2004	62.01	50.23	62.17	77.47	54.27	53.43	48.01	51.76
2005	63.35	52.57	58.98	76.57	54.09	53.64	49.71	52.49
2006	72.46	59.79	59.05	77.90	53.79	55.00	50.44	54.60
2007	89.20	56.16	67.38	76.01	55.57	57.66	53.74	57.88
2008	69.31	63.15	61.75	75.64	54.27	59.07	52.86	56.84
2009	75.36	66.75	60.63	66.86	55.16	54.01	55.77	58.63
2010	76.95	65.43	61.46	68.78	55.18	54.82	58.18	59.93
2011	75.61	66.28	60.30	71.53	54.13	55.09	60.39	60.93

Source: COMTRADE

Note: ITA -1: Computers and calculating machines; ITA-2: Telecommunication equipment; ITA-3: Semiconductors; ITA-4: Semiconductor manufacturing equipment; ITA-5: Instrument and apparatus

ITA-6: data storage media and software; ITA-7: Parts and accessories

Fig 1: Trend in the global share of top 4 IT exporting countries



Source: COMTRADE

While our analysis based on country level concentration ratios are only indicative, there is enough evidence to suggest that the market power of MNCs has been increasing over time. Let us take the case of personal computers. According Gartner, five large MNCs (Compaq 13.1%, IBM 8.6%, Dell 5.5% HP 5.3% and NEC 5.1%) together accounted for only 37.5 per cent of the global market in 1997. By 2012 the share of five top multinationals increased to 58.8% (HP 16% Lenovo 14.8%, Dell 10.7% Acer 10.4% and Asus 6.9%). If we take the case of semiconductors the situation is not different. Based on KPMG report top five MNCs accounted for 35 per cent of the global market in 2010.

Further during 2009-10 Intel improved its revenue by 24%, Samsung by 60%, Texas instruments by 34%. What is more, among the top 10 MNCs, five of them recorded more than 30 per cent increase in their revenue. In case of mobile phones, share of top five firms (Samsung 22.7%, Nokia 18%, Apple 9.2% ZTE 3.4% and LG 3.2%) accounted for 56.5 % of the global market in 2011 (Gartner). As is evident from table 7 one of the MNCs holds leading position in seven products with more than 18% market share in each of them. The table further indicates that out of the 11 products considered in the table the top two firms accounts more than 30 per cent of the global share and in the remaining products the share is over 29 per cent. Such examples could be multiplied.

Table 7: Global market share of Samsung and its nearest competitor in select products

Product	Samsung world market share	Leading competitor	Market share	Year
DRAM	40.4%	SK Hynix	19.8%	Q3 2010
NAND flash	40.4%	Toshiba	33.1%	Q3 2010
Large-size LCD panels (revenue)	26.0%	LG Display	25.9%	Q3 2010
Active-Matrix OLEDs	97%	LG Display	1.3%	2010
Lithium-ion batteries	18.7%	Sanyo	19.4%	Q1010
LCD monitors	18.0%	Dell	12.8%	2009
Hard-disk drives	9%	Western Digital	31.3%	Q12010
Televisions (LCD, PDP, CRT, LED)	17.2%	LG Electronics	14.8%	Q32009
Mobile Phones	25%	Nokia	23%	Q12012
Digital cameras	11.8%	Sony	17.4%	2010
Application processors	12%	Texas Instruments	17%	Q3, 4 2011

Source: Annual Reports of the firms concerned

The observed trend tends to suggest that being an Agreement initiated at the instance of leading MNCs from the developed world, their ultimate objective would have been to arrest the decline in their market power to retain their profitability. Moreover, in contrast to the often made claim that ITA has been instrumental in spreading IT production across developing countries, especially Asia has hardly any empirical base. We need for systematic analysis to explore whether ITA has been helpful in fostering a more competitive trading environment.

Trend in prices

Market power is bound to have its influence on price. Trends in the price of electronics products, especially semiconductors and computing equipment are known to be governed by the famous Moore’s law - an observation that the number of components in integrated circuits had doubled every year from the invention of the integrated circuit in 1958 until 1965 and predicted that the trend would continue. With geometric progression in the power of computing equipment their prices have been moving in the opposite direction.

Such trends have been attributed mainly to the technological dynamism resulting from the high technological opportunity resulting from the scientific base of this industry along with significant R&D investments by the large MNCs engaged in the sector. However, along with higher technological base of IT products, increased competition resulting from ITA is expected to have further accelerated the downward trend in prices on account of heightened competition resulting from trade liberalisation.

Earlier studies (WTO 2012, for example) have argued that such a trend has indeed been in operation since ITA. To quote from WTO (2012) "import price level of June 2011 for computers, peripherals and semiconductors to be around 65 per cent below the respective level of June 1996, while the average import prices for all commodities were 40 per cent above the level of 1996". The study further argued that "as a result of significant price reductions and increased performance, consumers have benefited from an unprecedented reduction in the price paid for computational power. The cost of a gigaFLOPS a unit of computational power, fell to $ 1.80 in March 2011 from $ 30,000 in 1997 – 0.006 per cent of the initial cost".

In case of IT industry with numerous products having varying characteristics, such anecdotal evidence could conceal more than what is revealed. Hence, for informed policy making there is hardly any option other than to analyze the issue at hand empirically at as disaggregated a level as possible. However, such an analysis is made difficult because of the non availability of credible product wise data on prices.

Perhaps, the only option left with is to make use of the unit value derived from trade data, keeping indeed in mind all its limitations. In what follows we shall try to analyse this issue by using the unit value indices, of all the seven ITA products derived from the trade data obtained from COMTRADE. Here again, our analysis shall compare the trends observed in the post-ITA period with that of the pre-ITA period.

We have estimated the trend growth rate in the unit value of all the ITA products for the two time periods and tested the statistical significance of the observed growth rate in two time periods (table 8). It is evident from table 8 that during the pre ITA period growth in price, in accordance with the Moore's law, was negligible or negative. Out of the seven product groups, four of them (ITA-1, ITA-2, ITA-6 and ITA 7) recorded negative or negligible growth in prices. Especially notable is the negative growth rates in computers and negligible growth in communication equipment as they are having direct bearing on ICT diffusion and account for major share IT trade. Highest growth rate was recorded in case of semiconductor manufacturing equipment and its bearing on ICT diffusion is indirect. In contrast to the negligible or negative growth in prices observed in the pre-ITA period, the post-ITA period recorded an unexpected upward trend prices in the price of different IT product categories. Here the only exception is computer equipment which was noted by the earlier studies as well. However, if we consider HS1996, the price of computers recorded marginally high growth of 1.7% and the semiconductors recorded a negative growth rate.

Table 8: Estimated trend growth rates in the export price of ITA goods

HS	Period	ITA-1	ITA-2	ITA-3	ITA-4	ITA-5	ITA-6	ITA-7
HS1992	Pre-ITA	-0.80 (-0.525)	0.80 (0.521)	3.5 (2.441)**	6.90 (2.640)**	2.40 (2.993)**	-0.40 (-0.476)	0.10 (0.102)
	Post ITA	-2.80 (-1.546)	6.20 (11.210)*	2.40 (6.581)*	4.50 (2.727)**	5.50 (9.268)*	2.36 (4.399)*	1.70 (5.180)*
HS1996	Post ITA	1.70 (2.579)**	4.10 (1.851)	-3.0 (-5.265)*	3.70 (5.707)*	5.40 (9.122)*	8.40 (3.024)**	1.0 (3.113)*

Source: COMTRADE

Note: ITA -1: Computers and calculating machines; ITA-2: Telecommunication equipment; ITA-3: Semiconductors; ITA-4: Semiconductor manufacturing equipment; ITA-5: Instrument and apparatus

ITA-6: data storage media and software; ITA-7: Parts and accessories

*, ** - Growth rates are statistically significant at 1 percent and 5 percent levels respectively

Figures in parenthesis indicate corresponding t-values

Pre-ITA period: 1988 – 1996; Post-ITA period: 1997-2011

If we piece together the findings on price trend with market concentration, the following hypothesis could be advanced. As the ITA enabled the leading producers to consolidate and significantly increase their market power they could behave like “price makers” instead of being “price takers”. The power to set the price backed by market power and control over core technologies and the power to set the global standards during the post ITA period to enhance profitability seems to have contributed towards an upward trend in prices in place of the downward or constant trend observed during the pre ITA period.

This, needless to say, would have adversely affected the access to IT goods and the diffusion of ICT in developing countries. Based on the literature on pricing behavior with market power, one could also expect ‘Pricing to Market behavior” wherein price for developing countries being significantly higher than in the developed market. This is an issue that needs further exploration and reserved for future work.

5. CONCLUDING OBSERVATIONS

The present study analysed the outcomes of ITA in terms of its declared objectives.The points of departure of the present study from the previous ones are the following. While the previous studies were concerned only with the post ITA period, keeping us in dark with respect to the pre ITA period, this study compared the performance during the post ITA period with the pre ITA period. It is found that in contrast to the observation made by WTO (2012) and other studies, post ITA period was marked by a sharp deceleration in the growth of trade (both exports and imports) in IT products. The deceleration was confined not only to total export and imports of IT products but also to almost all the seven product groups therein. As a result, the share of IT products in global merchandise exports did not record an increase after ITA. Instead, there has been a marked decline. Therefore the growth augmenting effect of ITA as highlighted by WTO (2012) doesn't withstand to empirical verification.

While the present study confirms the finding that the share of Asia in global trade has increased significantly after ITA, once we keep away "the China effect", the emerging picture is not very encouraging. There is hardly any empirical evidence of either old entrants to global production network (eg. Malaysia, Thailand, Indonesia) improving their position or the entry of new countries from Asia into the electronics production network. Here the only exception is Vietnam.

More importantly the study finds that the 4-country concentration ratio in the export of IT goods, while declined (about 10%) during the pre ITA period, post ITA period was marked by a significant increase in their share (about 15%). There is also evidence to indicate increased market power of MNCs in important IT products like personal computers, semiconductor devices and mobile phones that account for bulk of IT trade. The preliminary results underline the need for more detailed and systematic analysis to discern whether ITA has been helpful in fostering a more competitive trading environment.

The evidence also suggests that the increased market power appears to have enabled the MNCs to behave like price makers. During the pre ITA period, rate of growth in the price of IT goods was either negligible or negative indicative of the operation of the Moore's law. Surprisingly, when it comes to the post ITA period, almost all the product groups recorded positive and statistically significant growth in prices as compared to the pre ITA period. Here again the study underscores the need for further enquiries to explore whether ITA helped improving the affordability or it made the IT products more costly with its obvious implications on ICT diffusion in the developing countries. Only further studies will tell us whether the digital world of today would have been more equitable if ITA involved a twin strategy of trade liberalization and competence building! On the whole, ITA seem to have not lived up the expectations. Therefore, the reasons for the hesitation of large number of developing countries to join it are not far to seek. To the extent that the ITA could not keep up its promises there is the need for revisiting ITA before considering the issue of expanding its product coverage. Theoretically, the ITA fiasco has to be seen against its abiding faith in the virtues of trade liberalization and scant attention to innovation and capacity building. In a sense what we have observed is what Arthur Lewis predicted in 1978.

(While preparing this paper, I have benefitted immensely from discussion with Prof Abhijit Das, Dr Nagesh Kumar and Dr Ajaya Kumar. Detailed comments on an earlier draft by Torbjorn Frederickson were especially helpful in improving the paper. My colleagues at CDS, Dr U S Mishra and Vinod kumar patiently listened to my ideas and provided helpful comments on an earlier draft. Mr Rajesh Many provided excellent research

End Notes

1 The exact text of the ITA, including the product coverage, can be found at http://www.wto.org/english/tratop_e/inftec_e/inftec_e.htm

2 Products covered under the ITA are listed in two annexes to the Declaration, commonly referred to as attachments A and B. Attachment A is a positive list of items at the 6-digit Harmonized Schedule (HS) level, separated into two sections (A1 and A2). Attachment B includes product descriptions but not corresponding to HS code, whether or not they are included in Attachment A. The descriptive approach in the Attachment B list is designed to cover products regardless of specific HS codes and to address divergent national positions in coverage of complex, multifunction products.

3 For a detailed discussion on General Purpose Technology, see Bresnahan and Trajtenberg (1995) who coined this term.

4 The report argues that actual inflation fell by 0.5 per cent points a year from 1994 to 1998 due the effect of declining prices of IT goods. Also IT industry, including telecommunications, employed 7.4 million workers in 1998 and this accounted for 6.1 per cent of the total employment with an annual wage rate more than 1.5 times that for all private employees.

5 This has been attributed mainly to the fact that labour is the major input in the production of services and the abundant supply of labour in less developed countries translate into low wages. Since the technology of producing services does not differ significantly across counties, lower wages results in low cost of production of services in less developed countries (Bhagwati 1984).

6 For a review of studies the readers are referred to Indjikian and Siegel (2005)

7 In 2011, only 7 of the top 100 TNCs were in the electronics sector. Of these, 3 were US, 3 European and 1 Japanese. Among the top 100 TNCs among developing and transition economies, 12 were in this sector — all from East Asia. I Thankful to Torbjorn Frederickson for this information.

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Developing Countries and the WTO Dispute Settlement Mechanism: Do we need Reforms?

Girish Kumar R*

Abstract

The Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) that was reached regarding the settlement of disputes by establishing a judicial apparatus, created a 'rule-oriented' mechanism with a formal, adjudicatory decision - making process and strong enforcement measures. This has pushed the global trading world in a legalised direction. We will be assessing the participation of developing nations in this apparatus and assess whether the participation was effective. In 1994 Marrakesh Ministerial Conference WTO member governments also decided to conduct a review of the Dispute Settlement Understanding (DSU, the WTO agreement on dispute settlement) within four years of the entry into force of the WTO Agreement (i.e. by 1 January 1999). However, Members did not complete the review on time, and the talks failed to advance after the 1999 Ministerial Conference in Seattle. The article will also examine whether we need reforms to ensure effective participation of developing countries.

Key Words: WTO, GATT, Dispute Settlement Mechanism, Developing Countries

1. INTRODUCTION

The Law of WTO is no more a secluded island, but part of the territorial domain of international law. WTO Agreements "are not to be read in clinical isolation from public international law" (Pauwelyn 2003). The insistence of Article 3.2 of The 'Understanding on Rules and Procedures Governing the Settlement of Disputes' (hereinafter DSU) for the clarification of WTO provisions in accordance with the customary rules of interpretation of

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public international law is a testimony This has been interpreted by the Appellate Body to refer to the interpretation rules of the Vienna Convention (WTO 1995). During the GATT regime, UNCTAD significantly influenced and ensured the inclusion of provisions that guaranteed differential treatment to developing countries into the GATT framework. The UN Resolution of 1974 called for a new international economic order, and bringing to focus the problems of the developing countries in juridical literature began, albeit UNCTAD being established ten years before (van Themaat 1981:4). The UN General Assembly gave the developing countries a platform to showcase their claims and receive 'collective legitimation' and multilateral support. But the enthusiasm of WTO to forge stronger institutional ties with IMF and World Bank could not be found in the case of UN, where the developing countries do have a critical mass to deflect the affluence and power of developed nations through the UN General Assembly. The WTO's decision to remain outside the UN system and its refusal of invitation by the UN Secretary General (Bendek 1998) to conclude an agreement under Article 63[1] of the UN Charter turned out to be costly for the developing countries. But as some writers from middle or small powers claim that the WTO has succeeded in asserting their sovereignty through a rule-based system with a binding dispute settlement mechanism. Lack of firm rules for settling disputes has placed Canada, the smaller trade partner, vis-à-vis the US at a precarious position. Canada had the most to lose by being at the mercy of power politics. Viewed in traditional public international law terms, adherence to this international tradition, by its very nature, is an affirmation of sovereignty and not a denial or limitation on it. (Herman 1999:121). They claim that the concern for a rule-based relationship is one of the motivating factors that induced the developing nations to enter into a legally binding contract. Still developing countries have expressed dissatisfaction over WTO's failure to ensure the compliance with DSB's ruling by the developed countries. They feel that they have 'little economic leverage' over the developed nations to ensure compliance (Gallagher 2005:114). The crux of WTO's rule based system is its dispute settlement apparatus. We will be assessing the participation of developing nations in this apparatus and assess whether the participation was effective.

2. THE DISPUTE SETTLEMENT MECHANISM

The Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) that was reached regarding the settlement of disputes by establishing a judicial apparatus, created a 'rule-oriented' mechanism with a formal, adjudicatory decision - making process and strong enforcement measures. This has pushed the global trading world in a legalised direction (WTO Understanding on Rules and Procedures Governing the Settlement of Disputes). It clearly reflects the shift from GATT's power-oriented conflict resolution to WTO's law-oriented dispute settlement vis-à-vis its agreements embodying the principle of *pacta sunt servanda*[2]. The DSU states that if a panel or Appellate Body concludes that a measure is inconsistent with obligations covered in WTO Agreement, it shall recommend the party to the dispute to bring its measure into conformity with that agreement (DSU Article 19.1). One of the major features that make WTO DSM, a supranational organ is the automatic adoption of a Panel/ AB report. The WTO Agreement stipulates that an Appellate Body report shall be adopted by the DSB and unconditionally accepted by the parties to the dispute. As a consequence to the existence of such provisions, the determinations made by the Panel/AB assume the nature of public international law. The DSU provides that a panel/AB report will be adopted unless the DSB decides by consensus not to adopt it. But the panel or AB cannot add to or diminish the rights and obligations of the members. This new provision incorporated in the WTO charter is intended to ensure maximum conformity with WTO rulings by the Members as well as to minimise the apprehension of a WTO Member. The ultimate result of the procedure is that the appellate report will in virtually every case come into force as a matter of international law. The drafters never had any design to establish a 'strong authoritative appellate court but the AB has become the epicentre of WTO dispute settlement system and the 'World Trade Court' by virtue of the composition, working procedures, application of Vienna Convention on the Law of Treaties and frequent use by the parties and the use of AB's own authority. This eventually paved the way for 'juridification' of the multilateral trading system (den Bossche 2005). The rulings of the dispute settlement mechanism are considered as "binding legal obligations"[3] DSU's main emphasis was the juridification of the WTO. It imports 'the norms practices, habits-some noble, some self-serving, some helpful, some disastrous, some with a concern for justice others with a concern for arcane of process and procedure-of legal culture' (Weilier 2001)and have to be accepted by all. But the participation of developing countries is comparatively small mirroring the asymmetrical power relationship between the developing countries and the powerful developed nations.

The Dispute Settlement Process

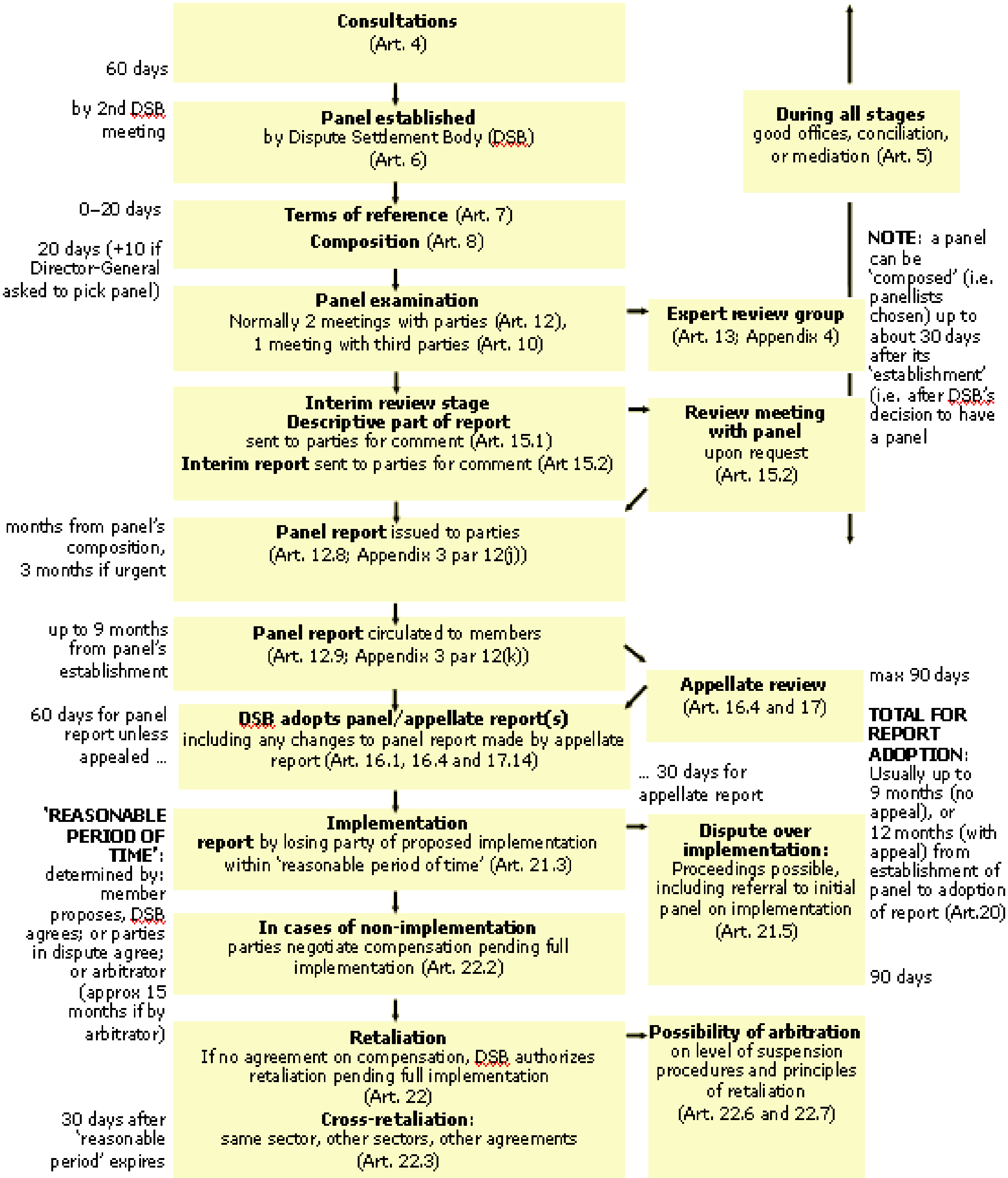
WTO's dispute settlement process begins with consultations. By inserting a provision for consultations WTO has acknowledged its reliance on diplomacy and negotiation before establishing a Panel, whose functions are primarily judicial in nature. There are also procedures that are undertaken to settle a dispute voluntarily. They may be requested at any time by the party to a dispute and may be terminated at any time. Once these procedures are terminated, a complaining party can request the establishment of the panel. The proceedings are confidential. The Director-General acting in an 'ex officio capacity can offer good offices, conciliation, or mediation to enable the Members to reach a settlement (Article 5).During consultations special attention to the particular problems and interests of the developing countries should be addressed too (Article 4). If consultations fail, the complainant is entitled to have the panel established. It is at this juncture that the 'juridification' of the dispute settlement process begins at the expense of diplomacy. Panels shall be composed of three panelists.

The panel shall be composed of well-qualified individuals who may be panelists in GATT mechanism, a representative to the Council or Committee of any covered agreement, a scholar in international trade, or a senior trade policy official of a Member. To ensure independence in judgements, citizens of Members whose governments are parties to the disputes or third parties are restrained from serving as panelists. Besides, panelists shall serve in their individual capacities and not as government representatives. A developing country Member could demand the inclusion of a panelist from a developing country Member, if its dispute is with that of a developed country Member (Article 8). In the context of consultations involving a measure taken by a developing country Member, the parties may agree to extend the periods. Besides, the Panel should give sufficient time in examining a complaint against a developing country to prepare and present its argumentation (Article 12).The function of the panel is to assist the DSB, which will make recommendations or give rulings based on a panel's objective assessment of the matter. For this, the panel shall be in touch with the disputants regularly and give them sufficient opportunity to develop a mutually satisfactory solution (Article 11).

Within a week of its composition the panel fixes its timetable. The disputants then make written submissions on the facts and arguments in the case. At the first substantive meeting, the complainant presents its case and the respondent submits its defense. The third party[4] members who have substantial interest in the case would also make submissions. The panel members may ask questions and seek clarifications. At the second substantive meeting, the disputants make formal rebuttals. Panel deliberations shall be confidential. The panel could seek information from any individual or an expert review group to report on scientific or technical matters. The panel then issues the descriptive (factual and argument) sections of its draft report to the parties to the dispute, giving them an opportunity to make comments. Following the expiration of the set period of time, the panel shall release an interim report, including findings and conclusions.

However, a party may request the panel for an opportunity to review the interim report prior to circulation (Article 15).The review may include further meetings with the party; but the review may not take more than two weeks. The panel then submits its final report, which includes a discussion made at the interim review stage. This report issued prior to the panel report makes it possible to avoid errors and provides the parties to the dispute adequate opportunity to avoid Appellate Body Review. This stage is supposed to maintain the diplomatic spirit of the agreement. The DSB adopts the panel report within 60 days of its circulation. The DSU provides that a panel report will be adopted unless the DSB decides by consensus not to adopt it (Article 16).

Figure 1 Dispute Settlement Process



Source: https://www.wto.org/english/thewto_e/whatis_e/tif_e/disp2_e.htm

Assuming that a losing party could not block a DSB decision in its favour, this "reverse consensus" provision assures automatic adoption of the panel report. This automatic nature of the panel report approval process manifests the qualitative superiority of WTO dispute settlement system compared to that of GATT dispute settlement system. This is meant to prevent the recurrence of blocking of the implementation of the panel report. However, the losing party could appeal before a seven-member Appellate Body, to review the panel decision. But here too like a panel report, an AB report is adopted unless the DSB decides by consensus not to adopt it. Article 17 says that an Appellate Body (AB) comprising persons of recognised authority, with demonstrated expertise in law, international trade and WTO agreements shall be established by the DSB. It shall be composed of seven persons, three of whom shall serve in any one case the members shall serve a four year term, and each member may be re-appointed once. Only parties to the dispute, not third parties, may appeal a panel report and an appeal shall be limited to the issues of law covered in the panel report.[5]The AB may uphold, modify or reverse the legal findings and conclusions of the panel. The proceedings shall not exceed 60 days. However, it could be elongated; but in no case shall the proceedings exceed 90 days. And an AB report shall be adopted by the DSB and unconditionally accepted by the disputants. But the panel or AB cannot add to or diminish the rights and obligations of the members (Article 19).This new provision incorporated in the WTO charter is intended to ensure maximum conformity with WTO rulings by the Members as well as to minimise the apprehension of WTO Member. The ultimate result of the procedure is that the appellate report will in virtually every case come into force as a matter of international law.

The period from the date of establishment of the panel by the DSB, until the DSB considers the panel or appellate report for adoption shall not exceed nine months where the panel report is not appealed or 12 months where the report is appealed. However, this could be changed if the parties to the dispute agree.[6]To ensure effective resolution of disputes, prompt compliance with recommendation is called for. The Member concerned must state its intentions on implementation of recommendations of a panel or the AB at a DSB meeting held within 30 days of adoption of the report concerned. If it is impracticable to comply immediately with the rulings, a "reasonable period of time"[7] shall be granted to the Member.

If the member fails to comply with the recommendations within the reasonable period of time, the complainant may enter into negotiations in order to determine a "mutually acceptable compensation". If no satisfactory compensation is agreed within 20 days, the complainant may request authorization from the DSB to suspend concessions or obligations against the other party. If there is no consensus against the request, the DSB shall authorise the suspension within 30 days of the expiry of the 'reasonable period of time'. If the member concerned objects to the level of suspension requested, the matter, will be referred to arbitration. The arbitration shall be completed within 60 days after the expiry of the reasonable period of time. The arbitrator shall determine whether the level of such suspension is equivalent to the nullification or impairment. The arbitrator may also determine if the proposed suspension of concessions is permissible under the covered agreement. The DSB shall be informed of the decision of the arbitrator. The decision of the arbitrator is final. The suspension of the concession shall be brought to an end when the Member concerned confirms with WTO provision (Article 22).The DSB shall continue to keep under surveillance the implementation of adopted recommendations and the case remains on its agenda until it has been resolved.

The complaining party could request authorisation for retaliation from the DSB if the following conditions are met. If the losing party has not brought the inconsistent measures into compliance with the covered agreements or if it has not complied with the rulings or recommendations within a reasonable period of time authorisation for retaliation could be sought. If no satisfactory compensation has been agreed within 20 days after the expiry of a reasonable period of time, the aggrieved party could seek authorization to retaliate.For retaliation, the DSU identifies twenty sectors spread over four agreements, i.e., Annex IA and Plurilateral Trade Agreements with respect to goods, the GATS regarding services, and TRIPS with respect to intellectual property rights. However cross-retaliation with the consent of DSB is also permitted.

Table 1: WTO Dispute Settlement Procedures and Deadline

Dispute Settlement Stage	**Deadline**	**(Total Elapsed Time in Months)**
Consultations	60 days	2
Request for a panel	25-60 days	3-4
Establishment of a panel	30 days	4-5
Issuance of panel report	6-9 months	14
Adoption of panel reports (if appealed)	60 days	12-16
Decision of Appellate Body	60-90 days	14-19
Adoption of Appellate Report (Whether appealed or not)	30 days	15-20
Comply with rulings or Negotiate	Reasonable Time	
Mutually Satisfactory Compensation (If failure to comply or compensate)		
Request for Retaliation	20 days	
Retaliation Authorization	30 days	
Final Arbitration	60 days	

Through specific deadlines at every stage of the dispute settlement process, and making the Member nations bound by the decisions of DSB, the WTO dispute settlement mechanism legalized trade relations. How far it has succeeded in protecting the interests of the developing nations? Who are the major players in the dispute settlement mechanism. This is provided in the next section.

3. DEVELOPING COUNTRIES AND DISPUTE SETTLEMENT MECHANISM

'Developing country' status in the WTO brings certain rights. There are, for example, special differential treatment provisions in some WTO Agreements, which provide developing countries with longer transition periods. The special needs of developing countries are recognized in the preamble itself. Thus the Preamble to the "Agreement Establishing the World Trade Organiation" states that "there is need for positive efforts designed to ensure that developing countries, and especially the least developed among them, secure a share in the growth in international trade commensurate with the needs of their economic development". The DSU too contains innumerable provisions that are supposed to meet the needs of LDCs. This provides the developing nations with extended time deadlines for fully implementing WTO agreements, and makes the developing countries eligible to receive technical assistance. However, most of the special provisions granted to the developing countries were available only for a shorter period of time, i.e., the transitional period, after which they were required to perform all obligations just as developed countries. Moreover, the developing countries effectively received less favourable treatment than they did get under the prior GATT regime. In effect, this means that GATT recognized the special needs of developing countries better. The relative participation of Developing countries' against developed countries in terms of the number of complaints declined since the advent of the WTO than the 'less-legalized GATT'. The cost on attorneys also increases due to their scarcity in developing countries; whereas in the US 100 law professors teach more than 3000 students WTO law each year (Kwa 1998:37). The Bali Ministerial Conference in December 2013 is expected to establish a mechanism to review and analyse the implementation of special and differential treatment provisions. The Ministers in Doha, at the 4th WTO Ministerial Conference mandated the Committee on Trade and Development to scrutinize these special and differential treatment provisions. The Doha Declaration acknowledged the concerns expressed by the 'least-developed countries' (LDCs) in the Zanzibar Declaration in July 2001, where the LDCs agreed to reverse the process of their exclusion and marginalisation in international trade.[8] It further recognized that the integration of the LDCs into the multilateral trading system requires meaningful market access, support for the diversification of their production and export base, and trade-related technical assistance and capacity building.[9]

The WTO dispute settlement mechanism (DSM) by raising the legitimate expectations of the member nations with regard to the multilateral dispute resolution in trade legalised the international trade relations between the nation states.[10] Four hundred and sixty six disputes were filed in a span of eighteen years! Membership in the WTO is of great importance to developing countries. The first ruling of WTO's Dispute Settlement Mechanism delivered on January 17, 1996 was often regarded as a triumph for the developing south against the developed North (Marquez 1996). In the complaint, which was brought by Venezuela and Brazil against United States' environmental restrictions on gasoline imports, the WTO DSB held that the Environmental Protection Agency's (EPA) regulation regarding imported gasoline was inconsistent with WTO obligation. WTO does have specific provisions to address the concerns of the developing countries.

WTO's dispute adjudication process is very much "member driven" and requires greater resources. The DSU has become more 'judicial' than its drafters intended and hence the investment of lawyers with greater technical expertise has become a necessity. The AB's decision in *Bananas III* allowing Saint Lucia to include private lawyers in the team to participate in WTO judicial proceedings is a testimony to this (Weiss 2000). For effective participation, a member needed a well-informed delegation in Geneva and good support from the capital. In 1996 the average number of meetings in the WTO had risen to 46 a week. Even for large delegations such hectic schedules were observed to be a strain (Shaffer 2003:209). Countries with larger trade delegations are more likely to be active than the developing countries. For small delegations of only two or three persons, who had to cover WTO, UNCTAD, ILO and other Geneva-based organizations, it was an impossible burden. In 1997, of the 28 developing country members of the WTO, only 10 had permanent missions in Geneva – that too of one or two persons. The rest of the 18 survived out of London, Brussels or national capitals (UNCTAD 1997). These figures clearly demonstrated that effective participation by the developing world was not taking place in WTO. The issues that create resentment between the North and the South in WTO include the failure of WTO to properly address the 1966 addition of SDT to the GATT agreement; scant respect for development issues by bringing new issues like intellectual property, services, investment and e-commerce; opposition to choose a Director-general from the South and the widening disadvantage in technical and legal expertise (Wilkinson 2000). During the first ten years no lawyer from the developing countries worked in the Appellate Body

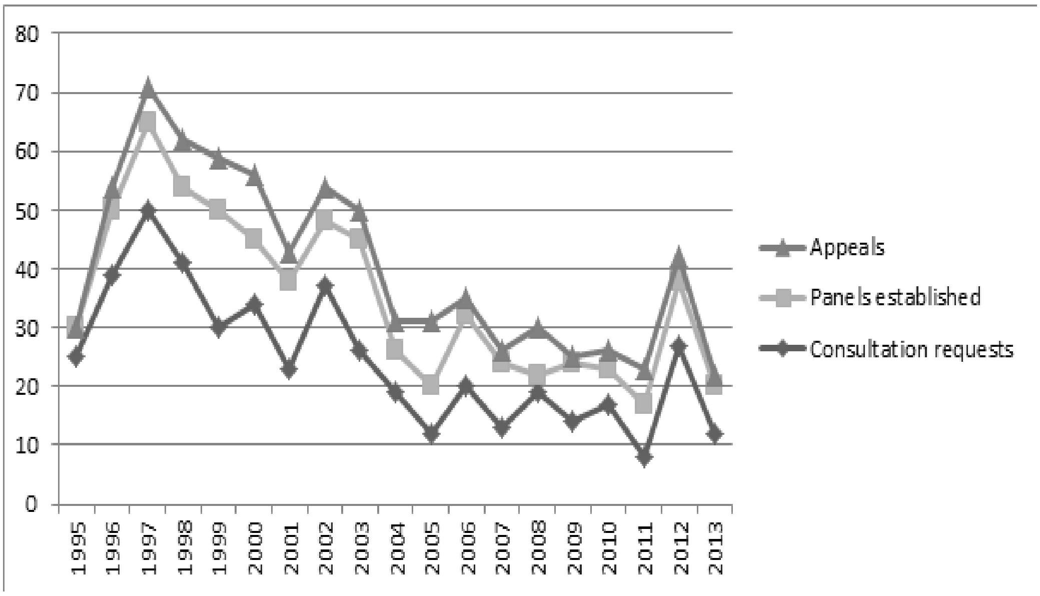
Secretariat or in the legal department and all the directors of the legal department belonged to the EU, US or Canada (Quereshi 2004). The plight of developing nations which would accede only in future presents a more poignant picture because the SDT granted to the developing countries joined in the 60s and 70s as well as the assurance of greater market access in industrialised countries would not be available for them; instead they could be asked to shoulder more commitments. New applicants are generally developing countries (Van Grasstek 2001). There should also be better coordination between the government and the industry because different private interest groups, predominantly industry, are at play in WTO and constitute the driving forces behind a WTO litigation, which many a time are missing in the efforts of developing nations. The developed nations place significant importance to 'private-public partnerships' through which US and EC private commercial interest groups manipulate WTO litigation. The developing nations because of their political, historical, economic, and cultural background, which is mostly sceptical to private participation has so far refrained from such an approach. Consequently, the US and the European Union benefited more than the disadvantaged developing countries by using the WTO dispute settlement system (Shaffer 2003).

A statistical representation of major actors in the WTO dispute settlement process is presented below

Member	*As a complainant*	*Member*	*As a respondent*
US	106	US	120
EU	89	EU	74
Canada	33	China	31
Brazil	26	Argentina	22
Mexico	23	India	22
India	21	Canada	17
Argentina	19	Japan	15
Japan	18	Brazil	14
Korea	16	Korea	14
Thailand	13	Mexico	14

Source: International Centre for Trade and Sustainable Development, http://www.ictsd.org

Figure 2: Number of disputes filed at WTO Dispute Settlement mechanism



Source: International Centre for Trade and Sustainable Development, http://www.ictsd.org

Among the nations that used the top five nations include the US, EC, Canada, India and Brazil. Out of 466 disputes filed till August 2013, the US[11] ranks first with 226 cases (106 times as complainant, 120 times as respondent) followed by EEC with 163 cases (89 as complainant and 74 as respondents), Canada with 50 cases (33 as complainant and 17 as respondent), India with 43 cases (21 as complainant and 22 as respondent) and Brazil with 40 cases (26 as complainant and 14 as respondent).[12]The inferences based on this statistical analysis reveal that two developing countries- India and Brazil and the most industrialized countries, namely, USA, EEC, and Canada share the top five places. The developed nations used the WTO dispute settlement mechanism the most number of times both as complainants and as defendants. It would be interesting to note that only one hundred and one nations participated, and one third did not participate at all.. This means that the participation of rest of the one-third are minimal or absolutely nil. However, China's entry may make significant changes in future, for it has added a 'new layer of complexity to polarised relationships' between the developed and the developing nations.

But developing-country Members brought more disputes to the WTO for resolution than developed-country Members in 2000, 2001, 2003, 2005, 2008, 2010 and 2012.[13] While the WTO DSS has been widely used by developing-country Members and in particular upper-middle and lower-middle income countries, in the past nineteen years it has been used much less by LICs. The predominant user of the WTO DSS among the LICs has been India (when it was still a LIC). Other LICs that have used the system include Bangladesh, Nicaragua, Pakistan and Vietnam, all of which, except Bangladesh, have now graduated to the category of lower middle income countries. Bangladesh has been the only of the WTO's 34 LDC Members that ever brought a dispute to the WTO. In 2004, Bangladesh filed a complaint against India on the latter's imposition of anti-dumping duties on lead acid batteries.6 Note that no sub-Saharan African country, whether LIC, LDC or other, has ever used the WTO DSS as a complainant. Only Egypt and South Africa have been respondents in the WTO DSS.7While LIC Members have made very little use of the WTO DSS to date, it should be noted that, with the exception of India, the system has also very seldom been used against them. India has been the respondent in 22 disputes to date. However, apart from India, only two LIC Members have ever been respondents in WTO disputes: Pakistan (2 complaints; by the European Union and the United States) and Nicaragua (2 complaints; by Colombia and Honduras). Note that the WTO DSS was never used against any sub-Saharan LIC.8 Likewise, the WTO DSS was never used against any LDC Member of the WTO. The involvement of LIC Members and LDC Members in disputes has been limited to involvement as third party in panel proceedings and third participants in Appellate Body proceedings. However, even that involvement was not extensive. Since 1995, Benin, Cameroon, Chad, Cote d'Ivoire, Ghana, Kenya, Madagascar, Malawi, Mauritius, Nigeria, Senegal, Tanzania, and Swaziland have been at least once a third party, but none of them is by any measure a regular third party in WTO dispute settlement proceedings. Barring the single case of Bangladesh that has filed a case against India the participation of least developed countries was almost nil, either as complainant or as defendant.WTO provides a 'two-tiered' division of developing countries- a developing country member and a least developing country member. The former is defined with reference to the definition of the UN; but the definition of the second one is provided only in one agreement- Subsidies and Countervailing Measures (Qureshi 1996). This means that there exists no difference between these two categories at WTO DSM. The aim of the dispute settlement mechanism is to secure a positive solution to a dispute. The Article 3.12 gives a special and optional route for the developing countries to rely on the 1966 GATT Decision on Procedures for Article XXIII for a speedy disposal of the dispute. But the developing countries so far did not use these procedures, which may either because of the paucity of resources or because their participation in the GATT/WTO dispute settlement mechanism itself was low.

4.DISPUTE SETTLEMENT: DO WE NEED REFORMS

In 1994 Marrakesh Ministerial Conference WTO member governments also decided to conduct a review of the Dispute Settlement Understanding (DSU, the WTO agreement on dispute settlement) within four years of the entry into force of the WTO Agreement (i.e. by 1 January 1999).The Dispute Settlement Body (DSB) initiated the review in late 1997 through informal discussions on the basis of proposals and issues that members identified. However, Members did not complete the review on time, and the talks failed to advance after the 1999 Ministerial Conference in Seattle. At their 2001 Ministerial Conference in Doha, Members agreed to continue the DSU. However, the deadline they set to conclude the review in May 2003 could not be met. The WTO's General Council extended the deadline to May 2004. A further extension was agreed by the General Council on 1 August 2004 without setting a new deadline. Although Members have expressed general satisfaction with the WTO's dispute settlement system, the review has revealed some desire to improve or clarify aspects of the DSU or to address issues that are not currently covered by the agreement. The DSU review is currently being carried out within a framework of 12 "thematic" issues covering a broad range of proposals: third party rights, Panel composition, Remand, Mutually agreed solutions, Strictly confidential information, Sequencing, Post-retaliation, Transparency and amicus curiae briefs, Timeframes, Developing country interests, including special and differential treatment, Flexibility and Member control, and Effective compliance.[14]

In 2010, at the request of the former Director-General Pascal Lamy, former Deputy Director-General Alejandro Jara initiated informal consultations to find efficiency gains in the panel process so as to reduce the burden on Members and the Secretariat without amending the Dispute Settlement Understanding (DSU) or without undermining the 'excellent reputation and high quality output of the system[15]. WTO Deputy Director-General Alejandro Jara, in a speech at the Graduate Institute of International and Development Studies in Geneva on 13 March 2012, reported on progress in informal consultations to enhance efficiency of the panel process. a speech delivered at the graduate institute of international and development studies in Geneva, 13 March 2012, Jara observed that the annual cost of Dispute settlement was $30 million. He further cited few examples stating that the cost of engaging experts in a single dispute has ranged from CHF 3,000 to CHF 88,800; the average annual cost of shipping printed documents to panelists, parties and experts is CHF 60,000; the cost of translation is estimated at CHF 300 per page; and five Appellate Body proceedings conducted in 2011 (excluding the two large civil aircraft disputes), resulted in the production of 8,244 pages! Still the pace of WTO dispute settlement is generally very fast compared to other international systems. Firstly, Jara suggested to improve the effectiveness of the first substantive meeting of the through double-briefing whereby parties' written submissions (first written submission and rebuttals and submissions of third parties) are submitted to a panel before the first hearing the panel holds with the parties. Though this may delay the first hearing with the parties, it could speed up the panel process by moving forward the maturity of the parties' discussions on the relevant issues; and *Early (indicative) questions for the panel meeting, whereby the* panels could provide parties in advance with a list of questions that might be posed to avoid delay. Secondly, to improve the efficiency, in terms of length and cost, of the process, the panels should set time limits on oral statements and agenda for the panel meeting. Thirdly, to improve the presentation of panel reports and the reduction of the costs in their production, Panel establish, in their Working Procedures, page limits for executive summaries; and reduce the number of annexes appended to panel reports.[16]

5. CONCLUSION

There are roughly 155 SDT provisions throughout various WTO agreements. Despite the existence of these special provisions, concerns were frequently expressed regarding their effectiveness in addressing specific constraints faced by developing countries, particularly least-developed countries. The Doha Round reaffirmed that the provisions for special and differential treatment constituted an integral part of the WTO Agreements (WTO 2001). The developing countries regard SDT provisions not as a concession but as a right in a diverse and multilayered development agenda within international trade relations. But still they remain as just declaratory and not mandatory, which make the provisions absolutely redundant. "Strength, precision, effectiveness and operationability" should be added to them. India singled out Article 4.10 saying that the meaning of the words "give special attention"was not made clear. Besides, the word "should" should be replaced by "shall". Similar is the fate of Article 21.2, which should be amended in such a way so as to give more time to the developing countries. Despite the existence of untrammelled power of WTO DSM, it has on many occasions failed to ensure the compliance by the developed nations especially in cases involving developing nations, obviously mirroring the asymmetrical power relationship between the developing countries and the powerful developed nations.[17] However, the WTO ruling allowing cross-sector retaliation by Ecuador against EU was a sigh of relief for the developing countries. Thus retaliation in TRIPS was authorized against inconsistent measures in goods sector.

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End Notes

1. Article 63 of the UN Charter authorises the Economic and Social Council to enter into agreements with any of the agencies established by intergovernmental agreement and having wide international responsibilities in economic, social, cultural, educational, health, and related fields and bring them into relationship with the United Nations so that the ECOSOC could coordinate the activities of the specialized agencies through recommendations to the General Assembly and to the Members of the United Nations.

2. It refers to the presumption that once signed, nations will have to obey treaty obligations

3. DSU's main emphasis was the juridification of the WTO. It imports 'the norms practices, habits-some noble, some self-serving, some helpful, some disastrous, some with a concern for justice others with a concern for arcane of process and procedure-of legal culture'.

4. Article 10 speaks of third parties, which means that if any Member having a "substantial interest" in a matter before a panel and having notified its interest to the DSB shall have an opportunity to be heard by the panel. But if the third party feels that the subject of a panel nullifies or impairs its benefits as well, it could have recourse to normal dispute settlement procedures. But their participation is voluntary and the outcome does not bind them.

5. However, third parties could make written submissions to AB (See id., Article 17.4.)

6. Article 20.

7. Article 21.3 speaks about 'reasonable period of time' which shall be:

(a) the period of time proposed by the Member concerned, provided that such period is approved by the DSB; or, in the absence of such approval,

(b) a period of time mutually agreed by the parties to the dispute within 45 days after the date of the recommendations and rulings; or, in the absence of such agreement,

(c) a period of time determined through binding arbitration within 90 days after the date of adoption of the recommendations and rulings. In such arbitration, a guideline for the arbitrator should be that the reasonable period of time to implement panel or Appellate Body recommendations should not exceed 15 months from the date of adoption of a panel or Appellate Body report. However, that time may be shorter or longer, depending upon the particular circumstances.

8. Zanzibar Declaration, Meeting of the ministers Responsible for Trade of the Least Developed Countries, WT/L/409 (2001)

9. Doha Ministerial Declaration WT/MIN(01)/DEC/1 20 November 2001, Para 42.

10. Legalisation is a form of institutionalisation that represents the imposition of international legal constraints on governments. Legalisation encompasses three elements: obligation, precision and delegation. Often public international law is devoid of the existence of all these elements. Even though public international law is defined as '… the body of rules and principles of action

which are binding upon civilised states in their relations with one another' the basis of obligation is a disputed issue among international lawyers. This is because the basic rule that requires universal submission to an impartial determination by an international adjudicatory mechanism is always absent in international relations among sovereign states.

[11] This includes all the joint complaints filed by the disputants.

[12] William J. Davey divides this ten-year period into two - the first half from 1995 through 1999- witnessed filing of 185 requests for consultations involving 125 disputes. The US filed 60 followed by the EC with 47. During the second period there was a decline in consultation requests - a total of 139 requests were filed between 2000 through 2004. The first period also witnessed WTO DSM being used as an arena to settle the transatlantic trade wars. Davey quotes J.D. Foster the real reason seems to be all about bananas, with a touch of beef hormone. The US won the last two trade disputes with the Europeans brought before the WTO . The problem was not that the US won these cases, but that after winning the banana case the US Administration pounded its chest in loud self-congratulation like the louts that infest British soccer stadiums. Bad form. No one likes to be shown up, least of all Sir Leon Brittan, the European Union Trade Commissioner. Sir Leon lost the beef and banana cases and wanted revenge after the Americans behaved so badly.'

[13] Trade Policy Training Centre in Africa, Use of WTO Dispute Settlement Syatem by LDCs and LICs, 2013.

[14] See 'Negotiations to improve dispute settlement procedures' available athttps://www.wto.org/english/tratop_e/dispu_e/dispu_negs_e.htm

[15] 'Secretariat's informal consultations concerning the panel process' available at https://www.wto.org/english/tratop_e/dispu_e/informal_consultations_e.htm

[16] 'DDG Jara reports on consultations to enhance efficiency of panels' available at https://www.wto.org/english/news_e/news12_e/ddg_13mar12_e.htm

[17] However, the WTO ruling allowing cross-sector retaliation by Ecuador against EU was a sigh of relief for the developing countries. Thus retaliation in TRIPS was authorized against inconsistent measures in goods sector.

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WTO, Negotiations to improve dispute settlement procedures' available athttps://www.wto.org/english/tratop_e/dispu_e/dispu_negs_e.htm

Progressive Liberalization of Indian Telecommunication Services Market: The Effect of GATS of WTO

Sebastian A. Mathew*

Abstract

Our country was left with a fragmented telecommunication network on independence. Federal Integration Act, 1950 consolidated them and brought out a unified network. Even though, Govt. of India, tried to develop the telecommunication network in the country, it could not match with the rapid technology changes that took place around the world and the soaring aspirations of the people of the country. The Industrial Policy Resolution (IPR), 1956 catered to the needs of the industry in general. Realising the need for a special policy resolution for the telecom industry, the Govt. came out with National Telecom Policy (NTP) 1994 subsequent to New Economic Policy (NEP) 1991 and the policy was revised several times to fix better targets aiming greater heights. India was part of General Agreement on Trade and Tariff (GATT) negotiations leading to the formation of World Trade Organisation (WTO) in 1994 where services sector and telecommunications in particular, was a serious point of discussion. India had to give in and fall in line with other countries. It helped the country to radically improve teledensity from 0.88 percent to above 73 percent within a decade of reforms. India's telecom journey with GATS push is brought out vividly.

Key Words: Teledensity, National Telecom Policy, New Telecom Policy, 'Telecom for development' Maitland report.

1. INTRODUCTION

In her tryst with telecom destiny, India was tied to 'wired telephone' alone until 1995(till the introduction of mobile telephony) and concurrently ticked with telegraph until 2013. Telegraph and telephone had their beginnings in 1850 and in 1882 respectively. They

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were brought to Indian by the administrative regimes of the East India Company which lasted until 1857 and later through the British Crown. The British Crown had foreseen the immense powers of communication and had enacted legislations which reiterated the absolute governmental control over telecom assets and telecom operations even as far back as 1885, through the Indian Telegraph Act. During the pre – independence days, telecom operations in several local kingdoms operated as island networks without integration with regions under the reign of other kings. Even though private telecom operator was there in India at time of independence, Govt. of India took over all telecom assets and telecom operations of the local kingdoms in Indian Union with the enactment of Federal Integration Act, 1950 and made Indian telecommunication services sector a legal monopoly. But, the Governmental authority to grant license to private operators continued to exist in the Telegraph Act, 1885. Telecom reforms started in the mid - eighties (formation of C-DoT for manufacturing, MTNL as geographical monopoly in Mumbai & Delhi and VSNL as country wide service monopoly for international calls) were halted due to lack of political will and inability to overcome the resistance from a bureaucratic DoT which served the rest of entire India. During this era, the societal and industrial impact of telecommunication facility in the country was negligible. The teledensity figures bring out the pathetic and appalling state of affairs of Indian telecommunication scenario of those days[1].

Table 1- Teledensity in India: Pre – NEP Era

	Tele density (%)	Telephone Connections (in Millon)
1948 March	0.02	0.08
1951 March	0.03	0.10
1961 March	0.08	0.33
1971 March	0.18	0.98
1981 March	0.31	2.15
1991 March	0.60	28.53

Source: TRAI reports of various years

2. WTO – GATS AND NATIONAL TELECOM POLICY 1994

Based on the prevailing telecom legislations and the Constitution of the country, Government of India opted for a monopoly telecommunication services sector. From the initial stages of the democratic India, the Government considered telecommunication access as a luxury for the people. Further, India maintained a closed network, insulated from the rest of the world, with specific and defined links under bilateral agreements with other nations. The bilateral agreements often claimed huge accounting rates for settlement, which was not easily acceptable to most of the other countries. Neither such bilaterally fixed accounting rates for the settlement of international calls nor the tariffs within the country (for local/STD/ISD calls) were reflecting the cost. In spite of the issues related to such an administratively imposed tariff structure, India stood by its force and continued to claim a higher share from the terminating calls, which originated from other countries. In the nineties, India was compelled to progressively liberalize its ideological mixed economy and the telecommunication services sector. It amounted to a sea change in the realm of the policy – be it regarding the economy or the telecommunication sector- whereby the closed network philosophy and bilateral agreements radically shifted to integrated world network and multilateral agreements. This shift necessitated a clear policy enunciation. But a half – baked National Telecom Policy (NTP) was declared with lofty goals and high vision in 1994. It recognized the need for private enterprise to bridge the resource gap for ensuring universal telecommunication access, accepting inability of the government to finance the entire investment needs. It aimed at improving India's competitiveness in the global market and provides a base for a rapid growth in exports (two objectives for the economy in general). NTP 1994 facilitated the emergence of Internet services in India on the backbone support of an already established basic telephone network in the country. The new policy paved way for the entry of the private sector in telephone services. The policy also announced a series of specific targets to be achieved by 1997 (that was the appointed time for the crystallization of GATS commitments submitted to the WTO).

The main objectives of the policy were:

- To ensure that telecommunication was within the reach of all, and to ensure the availability of telephone on demand as early as possible ;
- To achieve universal service covering all villages, and to enable all people to access certain basic telecom services at affordable and reasonable prices;
- To ensure world-class telecom services that included removing consumer complaints, resolving disputes, encouraging public interface and providing a wide permissible range of services to meet the demand at reasonable prices;
- To ensure that India emerged as a major manufacturing base and major exporter of telecom equipment;

- To protect the defence and security interests of the nation.

Subsequent to the declaration of New Economic Policy (NEP), duopoly private investment was allowed in four metros- Delhi, Kolkata, Mumbai and Chennai, for mobile services. Initially, the private sector was granted licence only in the value added services (VAS), and thereafter, it was allowed in the fixed telephone services. Meanwhile, a phased private entry both regions by region and also on the number of private companies in a region (duopoly to oligopoly and to competition) were allowed. The Uruguay Round negotiations and the compulsions of the international agencies were factors that compelled India to go ahead with telecom liberalization. The declaration of NTP 1994 was [2] to address the policy gap and the non-materialization of the 1992 liberalization efforts. With the signing of GATS and agreeing to discuss further liberalization of telecommunication services, the participating countries agreed to make telecommunication services a multilateral subject from bilateralism. The NTP 1994 clearly laid down the foundations for this transformation. Change from bilateral agreement regime to the multilateral regime was an area of concern for most countries including India as telecommunication services were monopolies under state control and now they were going to be monitored internationally. Before the appointed time for the implementation (1997) of the GATS agreement after its signing (in 1994), the member countries desired to prepare a safe ground for transition to multilateralism in telecom services. NTP 1994 was a policy declaration in that direction as well as an attempt to bring out a separate and distinct policy for the telecom sector in India apart from the general Industrial Policy Resolution (IPR), 1956.

India and GATS Commitments on Basic Telecommunications Services

India was part of the negotiations of WTO formation, from its inception. During Uruguay Rounds discussions on services and telecommunication services sector, India submitted its commitments in the services sector[3]. This showed the first set of commitments India made to the 1994 GATS in the Uruguay Rounds, with respect to the telecommunication services sector. India was among the first few countries that signed the WTO GATS in1994. India, just like several other developing countries was sceptical about the negotiations on service sector and saw it as an evasive tactic by the developed countries to escape from making commitments on areas (eg: textiles and agriculture) they desired to avoid (Low and Mattoo 1997: 18). In fact, even at the end of the Uruguay Round, when ministers decided to further negotiations on trade in basic telecommunications, India was not ready to be part of the Negotiating Group on Basic Telecommunications (NGBT)[4]. This led to India adopting a gradual approach to telecom sector reforms through selective privatization and prudently regulated- competition in different segments of the telecom market[5]. The cautious approach India adopted can be understood from the fact that out of the fourteen sub sectors within the telecommunication services sector, India made its commitments only in five Value Added Services sectors namely, E-mail, Voicemail, online data base retrieval, Enhanced facsimile services and On-line information and data processing. Thus, the sector specific schedule of commitments India submitted was part of a goodwill gesture without any radical offer as such. India did not make any commitment on basic or mobile telecommunication services including leased line. Further the schedule clearly showed that India abstained from making any additional commitments. The five sub sectors in India continued to remain unbound. But India had decided to allow mobile telecommunication services in 1992 itself to a limited extent geographically and only duopoly was experimented. Thus, it became clear that policies vis-a-vis the Indian telecom services sector in 1994 were more or less a wish-list than a commitment. This was severely criticized by the developed countries and advocates of free trade. Gradually, India on its own, liberalized the telecommunication subsectors on various counts and levels permitting FDI, but had not given them as commitment to the international forum (GATS of WTO) as signed documents. This was because of the fact that GATS commitments were reversible and could be modified, suspended or even withdrawn, only after it would be in force for three years. Further, 'compensation' would have to be negotiated with members whose trade was affected. Compensation might not be monetary compensation; instead it might be a replacement of the commitment withdrawn by another of equivalent value. It seemed that the country was ready to open up cautiously but was desirous of avoiding the fall out of a withdrawal from commitments given to the world community.

India joined and participated in the negotiations because it desired liberalization by the developed countries in Mode 4 (presence of natural persons across service sectors) for its professionals (Chadha R 2000:123) under the request offer (RO) approach. India's interest was also heightened by the importance of the telecommunications sector to its then nascent software services sector and its decision to join the Information Technology Agreement at the Singapore Ministerial Conference in 1996. As India was also unilaterally proceeding with liberalization of its own telecommunications sectors, India obviously had everything to gain by joining the negotiations and getting some credit for commitments on liberalization measures, the benefit of which would anyway extend to other members under its GATS MFN obligations. Accordingly, India became a signatory to the Fourth Protocol[6] Fourth Protocol refers to Basic Telecommunication Agreement (BTA) which provided the entry into and made its commitments effective in February 1998 like most of the other original signatories of the Agreement on Basic Telecommunications[7]. Most independent assessments of India's commitments in telecommunications services agree that India's approach was primarily defensive and that it did not even commit to the status (Mushtaq 2000:21). For voice telephone services, India had not taken any commitments in Modes 1 and 2, i.e., cross border supply and consumption abroad categories, which remain "unbound". In Mode 3, India had taken some commitments in various sub-sectors including value added services (VAS).

The definition of telecommunication services[8] that the Government of India had adopted showed that the mobile communication services fell under the concept of value added services. It was required to keep so, for pacifying the union activities in the telecom department. Thus, the Government of India positioned itself in the domestic front that it opened up only the value added services and not the Basic Telecommunication services. But it could take a varying position during negotiations at GATS because of the difference in definition. The WTO GATS definition and the approach of the developed countries showed that access provision (i.e. Communication), whether through wired mode or wireless mode, was basic telecommunication service. At the time of introduction of the mobile services in India, none could envision that mobile communication would change the history of telecommunication access, teledensity and tele-penetration levels in the nation.

3. POST GATS SUBSCRIPTION DEVELOPMENTS

In a series of measures, declaring that there would be no turning back from the reforms initiated and that progressive liberalization would continue, the government took several steps (See box). It would be pertinent to analyse them, to understand the step by step, but radical change the Indian telecom services market has undergone. Some of the important developments that have affected the market structure of the Indian Telecommunication Services sector are detailed below:

Table 2: Major milestones of telecom services liberalisation

Year	Major Events
1999	Formation of TRAI as regulator for the sector & Declaration of NTP 1999
2000	Establishment of Bharat Sanchar Nigam Ltd (BSNL) – Govt. gives up service provisioning as per ‘service’ definition of GATS.
2000	Opening up of National Long Distance (NLD)
2001	Wireless Local Loop (WLL (M)) using CDMA technology, under basic service license
2002	Privatization of VSNL – ahead of the scheduled time of 2004
2002	Termination of monopoly of VSNL in International Long Distance
2002	Initiation into a Spectrum policy
2003	Universal Service Obligation Fund (USOF)
2003	Introduction of Unified Access Service Licensing (UASL) regime – technology neutralization of telecom access
2003	Implementation of calling party pays (CPP) – fear of incoming call vanished
2003	Interconnection Usage Charges Regime
2004	Broadband Policy
2004	Guidelines for Intra Circle Mergers and Acquisitions
2005	Increase in FDI limits from 49% to 74%
2006	Mobile Number Portability – Customer initiated swapping of operator
2013	Increase in FDI limits to 100 %

Formation of TRAI and Indian Telecommunication Services Market

Formation of TRAI is linked to the demands of WTO - GATS commitment. Installation of a precompetitive regulatory regime by every participating country made India think of establishing TRAI. Signatories to the ABT, as well as countries wishing to join the WTO, had to bring their regulatory and licensing practices into compliance with WTO trade rules (Markova 2009). It was already seen that in India, DoT wielded all powers and absolute power over all telecom infrastructure and telecom activities including provisioning of telecommunication services. An all India service called Indian Telecommunication Service (ITS) was also established for the purpose, and a well established bureaucracy assisted the Government of India. Formulation of policy and its implementation, setting up infrastructure and maintenance, providing licences to service providers, service provisioning and tariff fixation were all under the control and supervision of DoT.

A precompetitive regime had to be in place before India moved into the GATS framework in full swing. Every country with monopoly telecommunication entity, wanted to balance the sudden changes under the multilateral GATS by forming a feasible independent domestic regulatory authority. India, in order to have such a regulatory authority in place, formed Telecommunications Regulatory Authority of India (TRAI) through an ordinance in 1997. TRAI as a regulatory body functioned judiciously and conflict arose between the DoT and TRAI over various issues, basically the issues of mandate and scope of authority/power. As per the WTO GATS, the regulatory body must be separate from and not accountable to any supplier of telecommunications services. India did not bow to the rule for some time[9] as Department of Telecommunications (DOT) continued to be the licensor, wanted to enjoy super regulatory functions and aspired to have the power to give directions to TRAI. Thus, DoT played the role of a super regulator and TRAI could not be as independent as GATS wanted it to be. Thus, there arose disputes between the DoT and the TRAI over the attempt of the latter to establish its turf and independence[10]. It led to the formation of TDSAT as an appellate body. These developments could be viewed as the conflict between the implementation of a global network governance system under the GATS while protecting existing domestic governance of its national telecommunication network governance system. In this tussle for the protection of the turf and terrain of the national powers against the encroachment of GATS, the wings of TRAI were clipped, and Telecom Disputes Settlement and Appellate Tribunal (TDSAT) was formed as a quasi-judicial body, with powers to adjudicate upon disputes. Rather than asserting the independence of TRAI as a regulator, after the courts had interpreted the TRAI Act as limiting the powers of the regulator (DoT), the Government through an amendment to the TRAI Act established TDSAT, which was vested with the TRAI's powers to adjudicate disputes between the licensor, licensees, telecom service operators and consumers. TDSAT was mandated to adjudicate any dispute between a licensor and a licensee; between two or more service providers; between a service provider and a group of consumers. TDSAT was also empowered to hear and dispose of appeals against any direction, decision or order of the Telecom Regulatory Authority of India (TRAI). The Tribunal, therefore, exercised both original and appellate jurisdiction. The aggrieved party could go in appeal against the final order of the Appellate Tribunal to the Supreme Court under Section 18 of the Act. But, there was no appeal against the interlocutory orders of the Appellate Tribunal to the Supreme Court. Section 14-B (1) of the TRAI Act, 1997, lay down that the Appellate Tribunal should consist of a Chairperson and not more than two members to be appointed by Central Government by Notification. But, competition issues were not subject to adjudication by the TDSAT but rather by the Monopolies and Restrictive Trade Commission. As Competition Act replaced the MRTP Act, the functions of the MRTP Commission were taken over by Competition Commission of India (CCI). After the amendment in 2000, functions of TRAI had been better defined and in certain instances like powers relating to interconnection conditions, increased. In fact, establishment of TRAI as an independent regulator was in keeping with the pro-competitive principles envisaged in the reference paper to telecommunication protocol of GATS. Therefore, it could be considered that the amendment to the TRAI Act and creation of TDSAT as an appellate body diluting the role of the pro-competitive TRAI was an attempt of nationalist minds, effectively diluting the direct and sunrise impact of GATS.

TRAI conducted expert studies of sector and recommendations were made to the Government. In 1998 itself, the powers of TRAI had faced another deadly blow when the Court ordered that the recommendations made by TRAI were not binding on the Government[11].TRAI always stood for increasing competition in the industry but again conflict arose with Competition Commission of India (CCI) on the matter of mandate. TRAI had recommended removal of cap on the maximum number of operators in a Circle and from January 2008 the Government of India issued several licenses and there were almost 10-14 operators in most Circles, which led to intense competition. Such fierce competition made the people aware of communication technologies, tariff etc. and teledensity improved greatly in the country. Implementation of MNP was another successful milestone for TRAI. Reference tariff orders issued by TRAI were binding on all operators. The regulatory body stood always for enhancement of competition and level playing field for all operators (National treatment). TRAI as a regulatory agency stood strong and realistic, seeing its role as facilitating the growth of the telecom business it was regulating, rather than stifling it with rules and restrictions (Taroor 1997:129). TRAI tremendously influenced the shift in the market structure of telecommunication services sector from Duopoly to Oligopoly and Oligopoly to Competition. TRAI with its reports backed by expert studies kept the industry, the government and the public aware of all changes and helped in policy making and in maintaining adequate level of competition. 'The greatest impact of the WTO was on regulatory agencies, across the world. Whereas in the early 1990s there were ten regulators, by the late 1990s, there were more than eighty….Despite U.S bilateral pressure on some such as Japan and Taiwan; most Asian Countries retained the traditional locus of regulatory power within their ministries (Jill Hills 2009:65). The entry of private players necessitated independent regulation in the sector, because DoT, the administrator, itself was a pan India service operator. TRAI was established to regulate telecom services, tariffs, and to fulfil the commitments made by India on joining the World Trade Organization in 1995. The establishment of TRAI was a positive step as it separated the telecom regulatory functions from policy-formulation and operation, which continued to be under the purview of the DoT.

New Telecom Policy (NTP) 1999

Even though private entry was envisaged in NTP 1994, it did not produce expected result in the field of investment. Added to this, the existing private players in the market alleged that the government was extorting money from them in various ways as license fee etc., which was heavily burdensome for them due to non realization of targeted revenues. Hence, the government came up with New Telecom Policy in 1999 (NTP 1999). Further, convergence of the changing market equations and new technologies required realignment of the industry. NTP 1999 was framed with the following objectives and targets:

(i) Availability of affordable and effective communication for citizens was at the core of the vision and goal of the new telecom policy

(ii) Provide a balance between provision of universal service to all uncovered areas, including rural areas, and the provision of high-level services capable of meeting the needs of the economy

(iii) Encourage development of telecommunication facilities in remote, hilly and tribal areas of the nation

(iv) To facilitate India's journey to becoming an IT superpower by creating a modern and efficient telecommunication infrastructure taking into account the convergence of IT, media, telecom and consumer electronics

(v) Convert PCOs, wherever justified, into public telephone information centres having multimedia capability such as ISDN services, remote database access, government and community information systems etc

(vi) To bring about a competitive environment in both urban and rural areas by providing equal opportunities and level playing field for all players

(vii) Providing a thrust to build world-class manufacturing capabilities and also strengthen research and development efforts in the country

(viii) Achieve efficiency and transparency in spectrum management

(ix) Protect the defence and security interests of the country

(x) Enable Indian telecom companies to become global players.

Indian telecommunication services industry had already come to a selective duopoly before the declaration of NTP 1999. During the GATS negotiations, the Government of India had offered this market status as commitment to the world community as a token its readiness to progressive liberalization of telecom services. NTP 1999 paved way for the third operator-the PSUs (BSNL & MTNL) - and thereafter for the fourth operator. Thus, the telecommunication market in India reached Oligopoly market structure aided by administrative decision.

The year 2000 was epoch making in the telecom history of India, as DoT divested itself from service provisioning and reduced itself to the status of policy maker and that of being custodian of spectrum. Services provided under governmental authority were outside the definition of 'services' under GATS agreement. Only those services, which were provided under commercial competition, came under GATS purview. In many countries including India, telecommunications were under governmental authority and had a monopoly situation. With the acceptance of GATS and Telecommunication Protocol in 1998, it became imperative that they be brought under commercial competition, so as to provide a level playing field to the private and foreign entities vis-a –vis Indian telecommunication entity. 'The decision to convert the governmental department into a corporate entity was prompted by the government's commitment to the international forum to liberalize its economy. The process of liberalization had begun in 1991 and by 2000; it had become an unshakeable article of faith' (Saxena 2009:12). These words of an insider[12] to the telecom story are sufficient to understand the events leading, to corporatisation of DoT-DTS. Corporatisation of DoT to BSNL was the result of such international commitments for providing a level playing field[13] to new operators including the foreign operators. Formation of BSNL as a corporate entity provided the much needed boost to the level of competition in India and the benefit of it was for the industry and the society. With NTP 1999 the duopoly market became an Oligopoly market as the PSUs (BSNL/MTNL) became the third operator in the telecom circles.

Universal Service Obligation Fund (USOF)

Coverage in rural areas and rural population was a challenge to the telecom operators. Apart from the higher capital cost of providing access to telecom services in such areas, these areas generate lower revenues to a telecom operator due to lower population density, lower concentration of institutional offices, poorer education access, low income and lack of commercial activities. Thus normal market forces would keep an operator away from investing in a rural market. But, the social responsibility would compel a government to enthuse the telecom operators to adequately serve backward and rural areas along with metro, urban and semi-urban areas. Several countries in the world initiated, policies to provide Universal Access and Universal Service because of the inadequacy of the market mechanism to serve rural and inaccessible areas, taking into account, the importance of providing vital telecom connectivity to such places for attaining inclusive and balanced growth. The New Telecom Policy - 1999 (NTP 1999) provided that the resources for meeting the Universal Service Obligation (USO) would be raised through a 'Universal Access Levy (UAL)', which would be a percentage of the revenue earned by the operators under various licenses. Universal Service Support Policy came into effect from I[st] April 2002. In India, USOF was given statutory status by the Indian Telegraph (Amendment) Act, 2003. The Fund was to be utilized exclusively for meeting the Universal Service Obligation. The fund was used to subsidize the developments in the telecom sector in the rural areas. It was used to provide support for increasing wireless network in rural and remote areas. Required infrastructure for mobile and broadband services in rural and remote areas could be created utilizing this fund so as to improve rural teledensity. The Indian Telegraph Act (1885) had been amended and mobile services were brought under basic telephony in rural areas to further help the cellular operators to access the USOF, which would help them to finance telecom infrastructure in rural areas. Even though, the Government of India had initially included mobile services under the category of Value Added Services (VAS) for reasons which were already discussed, the anomaly with GATS definition was removed and USO fund was made available to mobile communication by bringing mobile access under basic telecom access. Maintaining USO was in keeping with GATS spirit of competition and market forces, just because it was allowed within the reference paper. The third commitment in the Reference Paper provided that any member had the right to define the kind of Universal Service Obligation (USO) it wished to maintain, and such obligations would not be regarded as anticompetitive *per se*. Further, GATS provisions did not define Universal Service Obligation, allowing each country to decide its own definition subject only to transparency rule. The GATS allowed it so as to increase the acceptance of GATS in more countries. USOF was an impetus to the operators to auction spectrum even in circles where telecom operations were not developed.

Unified Access Service Licensing (UASL) Regime

In 2001, Government of India permitted basic service operators in the country to provide limited mobility services over wireless local loop (WLL (M)) using CDMA technology in their respective licensed areas. They were able to provide all-India mobility with the CDMA WLL (M) technology through looping. Further, as the popularity of these services increased, prices came down compared to GSM cellular mobile services. This created a potential disadvantage for the GSM cellular operators as they had paid substantial amounts to obtain their licenses and WLL (M) services were increasingly seen as substitutable for GSM services. Therefore, the government moved towards a Unified Access Services Licensing (UASL) regime for basic and cellular services, which was introduced in October 2003. It was inevitable for the penetration of technology development and utilization for improvement in the life style of the masses. Under the new UAS licensing regime, both basic service operators and cellular carriers became free to offer basic and/or cellular mobile services using any technology, ensuring a fair competitive market for all the service providers. Thus, the telecommunication market in India became technology neutral.

Interconnection Usage Charges Regime (2003)

Interconnection is an important concern for both the service providers and the subscribers. Access networks, whether, fixed and mobile, national long distance (NLD) network and international long distance (ILD) networks should interconnect with each other to make local, national and international connectivity a reality. For obtaining seamless end-to-end service, it would be imperative to place an effective interconnection usage charges (IUC) regime in operation. In India, TRAI implemented the Interconnection Usage Charges (IUC) Regulation during 2003 to fix the terms and conditions of interconnectivity between service providers aiming to ensure interconnection between various service providers and to regulate arrangements among them for sharing their revenue derived from providing telecommunication services. Later, in 2009, TRAI brought out revised regulations for telecommunication interconnection usage charges, which came into effect from April 1, 2009. TRAI gave up landline IUC and reduced substantially, the wireless IUC, by 2015. Reference Paper of GATS Telecommunication agreement had provided compulsory provisions for ensuring interconnection. Without interconnection, each operator network would be like an island network, communication would be possible only within the network and among those people subscribed to that network operator. The compulsory and open interconnection rules in India helped the orderly development of the telecommunication market in India, because even those operators with less than thousand subscribers became an integral part of the international telecommunication market through interconnection as it provided a critical mass to any operator.

Foreign Direct Investment (FDI)

Sector/Activity	FDI Cap	Entry route	Other Conditions
Telecom Services (including Telecom Infrastructure Providers Category–I). All telecom services including Telecom Infrastructure Providers Category-I, viz. Basic, Cellular, Unified Access Services, Unified license(Access services),Unified License, National/ International Long Distance, Commercial V-Sat, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS), All types of ISP licences, Voice Mail/ Audiotex/UMS, Resale of IPLC, Mobile Number Portability services, Infrastructure Provider Category – I (providing dark fibre, right of way, duct space, tower) except Other Service Providers.	100 %	Automatic up to 49%. FIPB beyond 49%.	Subject to observance of licensing and security conditions by licensee as well as investors as notified by the Department of Telecommunications (DoT) from time to time: Press Note No. 6 (2013 Series) dated 22.08.2013

Source: http://www.dot.gov.in/investment-promotion/fdi-policy-telecom

Recent changes in the FDI regime permitting hundred percent FDI in the telecommunication sector, increased the confidence of the private joint ventures in the sector. It would help mitigate their funds insufficiency as telecommunications is capital intensive and technology changes, license requirements and spectrum fees are at the higher end.

Spectrum Policy

Spectrum is a natural resource and a national asset. The principle of public trust applies to the use of spectrum especially when it comes to authorizing private parties to use it. With growing demand for wireless telecommunication services and the spread of new access technologies, demand for additional spectrum increased substantially. Growth of wireless services depends on the availability of adequate spectrum. If adequate spectrum is not available it would adversely affect the growth and quality of services. Recognising the importance of spectrum in the growth of wireless services, the Indian government set up two committees - Spectrum Management Committee 1999 and a Steering Group on Spectrum Pricing 1999. The TRAI also issued recommendations on spectrum-related issues in May 2005. Even the Twenty-eighth Report of the Standing Committee of the Parliament on Spectrum Management 2005 highlighted issues regarding spectrum management. Assignment of Spectrum in India was governed by the National Frequency Allocation Plan (NFAP) 2002 and the international radio regulations of the International Telecommunications Union (ITU).The National Frequency Allocation Plan (NFAP) was developed in 1981 on the basis of the international frequency allocations and after taking into account the national spectrum requirements as well as technologies available during that time. Pursuant to the New Telecom Policy 1999 (NTP 1999), the NFAP was reviewed in a transparent manner with participation of all stakeholders and a revised NFAP was formulated known as NFAP 2000. Further, the NFAP 2000 was reviewed in view of changes in the International Radio Regulations and after taking into account the fast-growing national spectrum requirements in a transparent manner and the NFAP 2002 was also published. The NFAP would be reviewed periodically, considering changes in international allocations, national spectrum requirements and emerging technologies. As the trend in the telecommunication sector was moving towards mobility, the government recognised and implemented automated spectrum management system in January 2005. This system would address bottlenecks in spectrum availability as radio frequency spectrum was one of the necessary ingredients of mobility. Electromagnetic spectrum was considered as a scarce natural resource and needed to be properly utilised to introduce new radio communication technologies. Further, during November 2007, the government constituted a committee to recommend revised subscriber-based spectrum allocation criteria. The criteria for spectrum allotment would be based on the active subscribers, peak traffic of the operator's network and demographic features of the service area.

WTO advocates open market and freedom of market access to operators. But WTO GATS telecommunication annexes adequately recognized licensing as a permissible restrictive condition on service providers. A license was cancellable and there would be a duration after which it would expire. As MNP was already implemented change of operator would not affect the consumer from the point of continuity of service. The Government developed a view of managing its budget deficit requirements utilizing various possibilities available from the telecommunication industry. Auction of spectrum, its refarming etc are such possibilities. Further, recently Government decided to initiate talks on sale of free spectrum by one company to another. Thus, efficient utilization of the available spectrum would be possible. TRAI advocated transfer of spectrum between the operators during their license period, but the telecom commission did not clear the proposal. The supporters of the view say that it would enhance the quality of service and optimum utilization of spectrum. It would bring down the possibility of spectrum- a natural resource - remaining idle in the hands of an operator who acquired it.

Internet Service Provider (ISP) Policy

Telecommunication today does not end with voice transfer. It has moved to data transfer in a great way. Internet services through the telecom infrastructure may be wireless or wired. TRAI being the regulator of telecommunication services was mandated to view and direct the growth of internet services in the country. Penetration of broadband and internet services in India was at a very poor level. In December 2003, it was marked as 0.02% and 0.4%, respectively. Improving teledensity as such was a priority but in the modern world importance of internet services could not be undermined. Therefore, the government issued a Broadband Policy in 2004 on the basis of TRAI recommendations to facilitate improved levels of high speed internet penetration. According to the policy estimates the internet subscribers were expected to grow to 40 mn and broadband subscribers to grow to 20 mn by 2010, taking into account all access technologies –wireless and wired. Improvement in the number of broadband and internet connections, the government expected a transition of the society as a whole. It would promote the creation of a knowledge-based society with e-governance, e-banking, e-marketing, online education, telemedicine networks and connectivity for rural knowledge centres, greater integration into the world economy through international voice and video-conferencing, lower prices for NLD and ILD etc. The business field is utilizing internet technology greatly for the promotion of their business.

However, the industry still faces several bottlenecks in terms of regulatory treatment of ISPs, high bandwidth prices, high cost of telephone access, low PC penetration etc(Sawhney and Chanda 2003:14).

International Long Distance Services (ILD)

The sector was opened to competition from April 2002 breaking the 10 year guaranteed monopoly[14]

Table 4- Teledensity in India: Post GATS Phase

Year ending	Tele density (%)	Telephone Connections (Million)
1994 March	0.88	30.41
2001 March	3.53	36.29
2002 March	4.29	44.96
2003 March	5.10	54.48
2004 March	7.08	76.53
2005 March	8.95	98.41
2006 March	12.74	142.09
2007 March	18.22	205.87
2008 March	26.22	300.49
2009 March	36.98	429.72
2010 March	52.74	621.28
2011 March	70.43	846.32
2012 March	78.66	951.35
2013 March	73.32	898.02

Source: TRAI reports of various years

Bound by international agreements consequent to the foreign exchange crisis of the 1990's, 'under development criticism' of the west and 'telecom for development' discourse fuelled by Maitland report which directly correlated a country's development to its telecom development, India conceded to the developed countries to bring Indian telecommunication services sector under the GATS agreement of WTO and it necessitated withdrawal of government from the provisioning of telecom services. The rapid changes in teledensity and tele access are directly correlated to introduction of competition induced by GATS of WTO. Subscription to telecommunication protocol of GATS has ensured that India follows the GATS principle of national treatment. Further, FDI is allowed in the sector to hundred percent. The incoming of new operators – Indian and foreign to the services sector in Joint Venture or otherwise – has brought in competition of an elevated level to the market. It necessitated an independent regulator and TRAI was formed for the regulation of market. Enactment of TRAI Act and Competition Act are in keeping with the spirit of WTO and GATS. Lack of political will led to halting the initiated process of reforms in the mid eighties. But, GATS, an international frame work had its force to keep the country on reform track. Series of successful measures taken by the government helped improve tele infrastructure, quality and availability of communication service in the country. During all these years, the government projected the telecom services sector as its poster boy of successful liberalisation, privatisation and globalisation initiatives. The WTO- GATS dictats of 'progressive liberalisation' is an unending process where India has committed itself to further liberalise, as the country has agreed to liberalise the sector progressively.

End Notes

1 The development reports published periodically by ITU were considered to be authentic sources of information by the entire world. ITU, *World Telecommunication Development Report 2002*, Geneva.

2 *Report, Joint Parliamentary Committee* (JPC) to examine matters relating to allocation and pricing of telecom licences and spectrum (15th Loksabha), Loksabha Secretariate, New Delhi.

3 See GATS/SC/42 dated 15 April 1994, available at www.wto.org.

4 NGBT was later substituted by GBT. India did not become member of NGBT due to several apprehensions. India: Schedule of Specific Commitments, derestricted by the WTO April 11, 1997 WTO Document.

5 Segments of market in telecom services sector include Basic telecommunication services and various Value Added services. Detailed discussion is available in the Background Paper submitted to the Committee on India: Vision 2020 Telecom Sector in India: Vision 2020, Manas Bhattacharya*, IES, (Deputy Director General (Finance), Department of Telecommunications, Ministry of Communications & IT, Government of India).

6 Fourth Protocol refers to Basic Telecommunication Agreement (BTA) which provided the entry into force of Agreement on Basic Telecommunication 5th February 1998.

[7] Details of GATS accession can be accessed at 'Information Highways and Telecommunications in Asia'(2003):*Asia Telecommunications Market Overview,* Volume 1, BuddeComm available at http://www.mindbranch.com/catalog/product.jsp?code=R170-0165

[8] India included the mobile segment under Value Added Services, even though as per WTO definition Basic Telecommunication Services included all access provisioning including mobile communication.

[9] Until the formation of BSNL on 1st October 2000, DoT was service provider also. During the time DoT was the licensor, policy maker, regulator, overseeing policy implementation/execution and a service provider with PAN India operations (except for Mumbai and Delhi).

[10] Union of India vs. Telecom Regulatory on 16 July, 1998; 1998 VAD Delhi 209, 74 (1998) DLT 282, 1998 (46) DRJ 557, Justice Usha Mehra held that ''the authority (TRAI) fell in error in concluding that the power of the government to grant or amend the licence is subject to the recommendations of the TRAI or that these recommendations are mandatory in nature.'' Justice Mehra ruled that "Having held that the question of grant or amendment of licence by the licensor does not come within the jurisdiction of TRAI, I have no hesitation to hold that the impugned order *(of TRAI)* suffers from legal infirmities.''

[11] *Union of India vs. Telecom Regulatory Authority of India,* 1998 VAD Delhi 209, 74 (1998) DLT 282, 1998 (46) DRJ 557

[12] S. D. Saxena was CMD of BSNL

[13] Level playing field with respect to telecom liberalization refers to the demand of the private operators that they were ready to commercially compete with a company and not with a Government arm (DoT) providing telecommunication services in the same territory.

[14] Guaranteed monopoly: Vide a letter dated 23rd February, 1994 issued by the Chairman, Telecom Commission, GOI in respect of *"VSNL's euro issue – policy regarding paging services and monopoly of VSNL"* it was decided that VSNL would have a monopoly for 10 years in basic services (voice telephony) starting from 1st April, 1994. It (The assurance of guaranteed monopoly status for a period till 31st March, 2004 for VSNL in International Long Distance (ILD) Services) was also confirmed that the Union Cabinet had decided upon maintaining status quo as regards VSNL's monopoly status. On 26th March, 1999 the Government of India approved and announced the New Telecom Policy 1999 (NTP). The NTP explicitly stated that "The subject of opening of International Telephony Service to competition will be reviewed by the year 2004".

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Textile Disputes at WTO: Did India succeed in opening Global Market?

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Abstract

The persistence of the developed nations, especially the US and EU, to perpetuate protectionist measures blocked Indian exports to these nations. As trade was more or less a bilateral affair prior to the establishment of WTO, the attempts of developing nations to unlock the markets of developed nations many a time proved unfruitful. But the advent of WTO provided the developing nations with a multilateral forum to address their trade woes. This article looks into the Indian disputes filed at WTO dispute settlement mechanism (DSM) vis-à-vis textiles markets and examines whether India was able to unlock the global textile market in the last eighteen years. How far has WTO succeeded in realising the expectations of developing nations in unlocking the protected markets of the developed world? Has it met the legitimate expectations of the developing nations? Answers to these questions constitute the theme of this paper.

Key Words: WTO Dispute Settlement Mechanism, ATC, Textiles

Textiles sector supports over 80 million Indian people through direct and indirect employment. Since 1992, exports of textiles and clothing from India have grown by 7.7 per cent annually, reaching US$ 13.4 billion in 2002 and accounting for 4 per cent of global trade in this sector. India was the fifth-largest global exporter and the second largest net exporter of textiles and clothing in 2002. The global trade of textile and garments was approximately $781 billion in 2013. This is almost 4.6 per cent of the trade of all commodities, which is estimated at approximately $17 trillion. From 2008 to 2013, the global textile and garment trade has grown at a compound annual growth rate of 4 per cent. Cheap labour cost and the availability of raw materials enabled developing nations like India a comparative cost advantage over the developed nations. The Indian textile industry is also facing rising costs and declining sales, prompting many, especially the garment industry, to shift their productions units to Bangladesh, for instance. The persistence of the developed nations,

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especially the US and EU, to perpetuate protectionist measures blocked Indian exports to these nations. As trade was more or less a bilateral affair prior to the establishment of WTO, the attempts of developing nations to unlock the markets of developed nations many a time fell into deaf ears. But the advent of WTO provided the developing nations with a multilateral fora to address their trade woes. This article looks into the Indian disputes filed at WTO dispute settlement mechanism (DSM) vis-à-vis textiles markets and examines whether India was able to unlock the global textile market in the last eighteen years. How far has WTO succeeded in ensuring the expectations of developing nations in unlocking the protected markets of the developed world? Has it met the legitimate expectations of the developing nations? Answers to these questions constitute the theme of this paper. The article has three parts. The first part discusses Indian engagement with WTO judicial apparatus. The second part discusses the cases that dealt with the textile disputes, where India figured as a complainant. The third part summarises the article with conclusion and reflections.

1. INDIA AND WTO DISPUTE SETTLEMENT MECHANISM

India has used WTO's DSB extensively- (she ranks fifth among the Member nations and second among the developing nations). This extensive use indicates the importance of WTO rulings made by WTO judiciary on Indian economy. The first case that induced India to have recourse to the dispute settlement procedures of WTO was on automobiles with Poland as a complainant. In fact, it could be regarded as the continuation of a GATT case with Poland. As a *complainant*, India approached the WTO DSM twenty times (See Annexure 1). India sought the establishment of the panel nine times. All the cases, except two were appealed (See Annexure 2). On two disputes, mutually agreed solutions were reached. The rest of the cases were inactive.

These disputes reveal the very nature and composition of India's trading partners. As a complainant, India initiated cases against seven Members – US (7 times), EC (7 times), Turkey (2), and Poland, South Africa, Brazil, Argentina (1 each). The United States is India's largest trading partner. Bilateral trade in 2005 was $26.8 billion. India mainly imported aircraft and parts, computer hardware ferrous waste/scrap metal, machinery, cotton, fertilizers, and diagnostic equipments from the US. Major U.S. imports from India include textiles and ready-made garments, internet-enabled services, agricultural and related products, gems and jewellery, leather products, and chemicals. Naturally, in its trade relations with the US, textiles sector is extremely sensitive to India. Out of the six complaints filed against the US, three complaints pertained to textiles. The dominant markets for India's textile and apparel exports are the US and EU, which together accounted for nearly 83 per cent of exports in 2003. Two of the complaints in textiles were addressed to EC. In fact, one-third of the total complaints India filed related to the textiles sector. Out of the nine disputes that reached the Panel stage where India filed as complainant, four were on the textiles sector. It displays the lobbying power that the Indian textile industry wields over the Government of India in using WTO DSM as a forum to address trade issues. Exports to US have increased further after the Multi-Fiber Agreement (MFA) ceased. The US statistical analysis reveal that in the post MFA scenario exports from India into US have increased by 27 per cent than the corresponding period last year. In the post MFA regime, presumably, the WTO complainants in these areas against the US and the EC are likely to increase.

The textile disputes

The first textile dispute was against the United States and India triumphed. In this case a panel convened at the request of India determined that the United States violated its obligation under articles 2 and 6 of the ATC by imposing a transitional safeguard restraint on imports of woven wool shirts and blouses from India. The panel further concluded that the U.S. action constituted a *prima facie* case of nullification or impairment of the benefits accruing to India under the ATC. Still India appealed certain issues of law in the panel report. On April 25, 1997, the Appellate Body affirmed the legal findings and conclusion of the panel. The DSB formally adopted the decision on May 23, 1997. The other important agreement India invoked, but pertaining to textile markets includes the Anti Dumping Agreement. Complaints on anti-dumping measures from developing countries including India are unlikely to decrease because their export prices are always lesser than the home prices owing to the economies of scale and absence of procedural bottlenecks enjoyed by the export-oriented firms in developing countries. This was one of the reasons that prompted India to proceed with the *Bed linen* case till the Appellate stage against the EC. Neither in the *Wool Shirts* nor in *Bed linen* *did* India succeed fully but in both cases India scored some important points, which had far reaching effects that 'benefited directly in future situation.' In *bed linen*, India successfully argued a point that the EC did not take the special situation of India into account, before imposing anti-dumping duties against India. The SDT provisions necessitate a nation to explore the possibilities of a constructive remedy prior to the imposition of anti-dumping duties" and the "European Communities acted inconsistently with Article 15 of the Anti Dumping Agreement by not exploring possibilities of a constructive remedy prior to the imposition of anti-dumping duties (provisional or final)

Table 1: The Textile disputes filed by India at WTO (1995-2013)

No.	*Dispute (Details, dispute no./ year and defendant*	*Stage*
1	Measures affecting imports of women's and girls' wool coats (DS 32/1996 - US)	Inactive
2	Measures affecting imports of woven wool shirts and blouses (DS 33/ 1996 - US).	Panel/AB
3	Restrictions on imports of textile and clothing products (DS 34/1996 - Turkey)	Panel/AB
4	Anti-dumping measures on imports of unbleached cotton fabrics from India (DS 140/1998 - EU)	Inactive
5	Anti-dumping measures on imports of cotton-type bed linen from India (DS 141/1998 - EU)	Panel/AB
6	Rules of Origin for Textiles and Apparel Products (DS 243/ 2002 - US)	Panel
7	Turkey — Safeguard measures on imports of cotton yarn (other than sewing thread) (DS 428/2012 - EU)	Inactive

Four disputes reached the Panel stage and three were appealed. These cases need a detailed explanation. This is done in the next session.

2. PANEL/ APPELLATE BODY ESTABLISHED FOR TEXTILE DISPUTES

United States-Measures Affecting Imports of Woven Wool Shirts and Blouses from India

The complaint arose from a restraint introduced by the United States in respect of India's exports of woven wool shirts and blouses. The bilateral textile agreement regulated between India and US under the Multi fiber agreement came to an end on 31 December 1994 and henceforth it was regulated by WTO ATC. Developing countries have a strong comparative cost advantage in textile production due to their labor intensive methods and lower labor costs. Introduced in 1974, the MFA was a short-term measure intended to allow developed countries to adjust to imports from the developing world. This enabled developed nations to erect protectionist trade barriers. The WTO's ATC provided for the gradual dismantling of the quotas that existed under the MFA. This process was completed on 1 January 2005. The expiry of the ten-year transition period of ATC implementation means that trade in textile and clothing products is no longer subject to quotas under a special regime outside normal WTO/GATT rules but is now governed by the general rules and disciplines embodied in the multilateral trading system The US observed a sharp and substantial increase in imports of woven wool shirts and blouses from India causing serious damage to the US industry producing woven wool shirts and blouses. Hence the US suggested a quota limit, which was rejected by India. The US took the matter to WTO Textile Monitoring Body, which justified US position. India brought the matter before the DSB stating that the restraints introduced by the United States on 14 July 1995 on imports of Category 440[2] (woven wool shirts and blouses) from India with effect from 18 April 1995 were inconsistent with Articles 6, 8 and 2 of the ATC. The action of the United States in imposing the restraint on imports of category 440 from India nullified or impaired the benefits accruing to India under the WTO Agreement and under GATT 1994 and the ATC in particular. India also contended that according to the ATC, notably Article 6, the onus of demonstrating serious damage or its actual threat was on the United States, as the importing Member. For India, since safeguard actions are exceptional, they are to be interpreted narrowly and it was for the United States to prove that it had respected all the conditions of application mentioned in Article 6 of the ATC.

India claimed that the United States did not comply with the procedural and substantive requirements of Article 6 of the ATC when it imposed the safeguard measure. India argued that the conditions for application of Article 6.2, 6.3, 6.7 and 6.10 are three-fold: first, there was a substantive requirement that the importing Member demonstrate that an increase of imports of a particular product is causing serious damage or actual threat thereof to the domestic industry producing like or directly competitive products. The United States failed in this respect, since the data contained in the US Market Statement was flawed. Secondly, the US measures were inconsistent with the procedural requirements regarding the 'nature, quality and extent' of the consultations. The US failed to consult on the specific proposed safeguard action for which the request for consultations was made. Besides, the US failed to demonstrate that imports of woven wool shirts and blouses were causing serious damage to its domestic industry producing like or directly competitive products. If US intended to impose and maintain a safeguard action, then it had to obtain the endorsement of the TMB.

To the US, Indian imports caused serious damage or actual threat thereof to the domestic US industry producing like and/or directly competitive products. The US argued that the TMB's conclusions confirmed that its domestic industry was faced with a fatal threat of serious damage. The United States also argued that the date of application of the restraint is consistent with the ATC and that India's claim under Article XIII of GATT 1994 does not fall within the terms of reference of this Panel. The United States, in any case, claims that

Article XIII is only relevant for non-discriminatory measures whereas Article 6 restraints must be applied on a Member-by-Member basis.

The Panel regarding burden of proof held that India as a complainant has a responsibility to put forward factual and legal arguments to establish that the US restriction was inconsistent with Article 2 of the ATC and that the US determination for a safeguard action was inconsistent with the provisions of Article 6 of the ATC. But the importing Member must demonstrate that under the substantive obligations under Article 6 ATC, the United States had the obligation to demonstrate that it had complied with the relevant conditions of application of Article 6.2 and 6.3 of the ATC.

India recalled that in the Transformers and Canadian Corn cases, an anti-dumping case and a countervailing duty case, the duty to establish all facts on which they had based their actions was vested with the importing countries. But the Panel citing the Appellate Body in the Japan Taxes report stated that past GATT panel reports do not constitute binding "subsequent practice" referred to in Article 31 of the Vienna Convention on the Law of Treaties (Vienna Convention). The Appellate Body also concluded that " ... adopted panel reports in themselves [do not] constitute 'other decisions of the CONTRACTING PARTIES to GATT 1947' for the purpose of paragraph 1(b) (iv) of the language of Annex 1A incorporating the GATT 1994 into the WTO Agreement". Besides, the ATC did not establish a standard of review for panels. Nor does the ATC agreement restrain the Panel from making judgements contrary to the decisions of TMB.

The Panel further noted that the purpose of the ATC may be understood better if the application of the ATC is described as providing two tracks: a TMB track and a DSU track. The role of the TMB, in the light of the object and the function of the TMB is to supervise the implementation of the ATC generally and to examine the measures taken, agreements reached and any other matters referred to it. The nature of these broad functions confirms the special and multifaceted role of the TMB. This is also reflected in the TMB's rules of procedure, its decision-making rule and its composition. The TMB members are appointed by WTO Members designated by the Council for Trade in Goods but discharge their function on an ad personam basis. Pursuant to a General Council Decision, the TMB's membership is composed of constituencies, in most cases of several Members, where most members also appoint alternates. Furthermore, a TMB member appointed by a WTO Member involved in a dispute before the TMB, participates in the TMB's deliberations, although such TMB member cannot block a consensus (Article 8.2 of the ATC). On the contrary, panelists under the DSU are not selected on the basis of constituencies and the citizens of any party to a dispute under the DSU cannot participate as panelists, absent agreement of the parties (Article 8.3 of the DSU). In addition, a panelist may issue a dissenting opinion under the DSU, while the TMB can only act by consensus. Moreover, Article 8.3 of the ATC is clear as to the wide investigative authority of the TMB: “The TMB shall be considered as a standing body and shall meet as necessary to carry out the functions required of it under this Agreement. It shall rely on notifications and information supplied by the Members under the relevant Articles of this Agreement, supplemented by any additional information or necessary details they may submit or it may decide to seek from them. It may also rely on notifications to and reports from other WTO bodies and from such other sources as it may deem appropriate”.

The second track is the DSU. If, after recourse to Articles 6.10 and 8.10 of the ATC, the exporting Member is not satisfied with the recommendation of the TMB, such exporting Member can challenge the safeguard action and bring it to the formal dispute settlement process under the DSU. Unlike the TMB, a DSU panel is not called upon, under its terms of reference, to reinvestigate the market situation. When assessing the WTO compatibility of the decision to impose national trade remedies, DSU panels do not reinvestigate the market situation but rather limit themselves to the evidence used by the importing Member in making its determination to impose the measure. The Panel is requested to make an objective assessment as to whether the United States respected the requirements of Article 6.2 and 6.3 of the ATC at the time of the determination.

The wording of Article 6.2 of the ATC confirmed two propositions. First, WTO Members have a right to take safeguard actions; second, the decision to impose a safeguard action must be based on a demonstration by the importing Member, before the safeguard action is taken, that the increased quantities of imports are causing serious damage or actual threat thereof. The Panel made a close perusal of the specific elements of the US Market Statement that contained six headings under Section III:A “Serious Damage to the Domestic Industry”, i.e., (1) US Production, (2) Market Share Loss, (3) Import Penetration, (4) Employment, (5) Man-Hours, (6) Total Annual Wages and another six headings under Section III:B, “Industry Statements” like (1) Employment, (2) Sales, (3) Profits, (4) Investment, (5) Capacity and (6) Prices . Panel noted that of the eleven economic variables mentioned in Article 6.3 of the ATC, US provided no information or comment in respect of productivity, inventories and exports and failed to justify its ‘safeguard’ action. Hence, concluded that the US restraint applied on imports of woven wool shirts and blouses, category 440, from India and its extensions violated the provisions of Articles 2 and 6 of the ATC.

Even though the matter was appealed by the US the AB concluded that the Panel did not err as a matter of law. In this regard, the Appellate Body stated that it is up to the complainant to present evidence and argument "sufficient to establish a presumption" that a measure is inconsistent with WTO obligations. It is then up to the respondent Member to "bring evidence and argument to rebut the presumption." The AB stated:

Since India is the party that initiated the dispute settlement proceedings, we consider that it is for India to put forward factual and legal arguments in order to establish that the US restriction was inconsistent with Article 2 of the ATC and that the US determination for a safeguard action was inconsistent with the provisions of Article 6 of the ATC. Second, we consider the question of what the importing Member must demonstrate at the time of its determination. Concerning the substantive obligations under Article 6 of the ATC, it is clear from the wording of Article 6.2 and 6.3 of the ATC that, in its determination of the need for the proposed restraint, the United States had the obligation to demonstrate that it had complied with the relevant conditions of application of Article 6.2 and 6.3 of the ATC. The AB's ruling made the principle behind the issue of the burden of proof in WTO dispute settlement clearer.

The AB agreed with the Panel that India did put forward evidence and legal argument sufficient to demonstrate that the transitional safeguard action by the United States was inconsistent with the obligations assumed by the United States under Articles 2 and 6 of the ATC. And, with India having done so, the onus then shifted to the United States to bring forward evidence and argument to disprove the claim. This, the United States was not able to do and, therefore, the Panel found that the transitional safeguard action by the United States "violated the provisions of Articles 2 and 6 of the ATC. The Appellate Body adopted the rule used by most international tribunals, including the International Court of Justice. Thus a party who asserts a fact is responsible for providing proof thereof. In this respect, a complainant must raise a prima facie case of a violation, while a respondent bears the burden of rebutting that prima facie case, in addition to proving any affirmative defenses it chooses to assert.'

Turkey—Restrictions on Imports of Textile and Clothing Products (Regional Trade Agreements in the GATT/WTO Framework)

Even though the relationship between the most-favoured-nation (MFN) principle and Article XXIV of the GATT, which deals with free-trade areas and customs unions, has not always been harmonious, the WTO viewed that genuine RTAs facilitate mutually supportive processes of progressive global and regional trade liberalization. In fact, while the Uruguay Round negotiations were going on the number of new RTAs notified to the GATT increased. The establishment of the WTO did not arrest this process of regional agreement. Instead another 60 new RTAs were notified under Article XXIV of GATT, most of which were presently in force.[3] The WTO in 1996, established the Committee on Regional Trade Agreements (CRTA), with the mandate of, inter alia, examining all RTAs.[4]

This dispute concerned the quantitative restrictions imposed by Turkey pursuant to the Turkey-EC customs union. Turkey and the Council and member States of the then European Economic Community (EEC) signed the Ankara Agreement on September 12, 1963. The Agreement formed the basis of the relations between Turkey and the European Communities. It envisaged the formation of a customs union in three progressive stages: preparatory, transitional and final. The Ankara Agreement also left open "the possibility of the accession' of Turkey to the EEC. As scheduled, Turkey started the gradual alignment of its customs duties to the EC Common Customs Tariff ("CCT") starting in 1973. Later, negotiations were initiated between the two parties for the completion of the customs union. These negotiations were conducted from 1993 to 1995. It was decided to set out the modalities for the final phase of the Association between Turkey and the European Communities. The modalities outlined the elimination of customs duties and alignment with the CCT, provisions for the harmonization of Turkey's policies and practices functioning of the Customs Union."

The WTO was notified that "the final phase of the Customs Union" between Turkey and the European Communities would enter into force on December 22, 1995, pursuant to GATT Article XXIV. WTO's Committee on Regional Trade Agreements (CRTA) met twice to examine the Turkey-EC customs union. During the course of Panel Report preparation, the CRTA had not finalized its examination. Mean while to comply with Article 13 of Decision 1/95 as of January 1, 1996 the customs duties applied by Turkey to the industrial goods imported from third countries were harmonized with the EC CCT. Decision 1/95 also included specific provisions with respect to trade in textiles and clothing. These provisions called for

Turkey's adoption of the relevant EC regulations concerning imports of textiles and clothing, in particular Council Regulation 3030/93, which provides for a set of quantitative limits on certain imports to the European Communities and for a system of import surveillance. In other words, Turkey was supposed to adopt, for its imports of textiles and clothing, quantitative restrictions similar to those applied by the European Communities.

Turkey forwarded proposals to the relevant countries (i.e., those whose imports of textiles and clothing were under restraint in the EC market), including India, with the objective of reaching an agreement on the management and distribution of quotas. A standard formula was proposed for calculating the levels of quantitative restrictions on textile and clothing products with regard to all the third countries concerned. Turkey negotiated agreements providing for restraints similar to those of the European Communities with 24 countries (WTO Members and non-Members). The EC Commission also cooperated with the Turkish authorities in the preparation of negotiating positions. But on January 1, 1996, Turkey applied unilateral restrictions or surveillance regimes on imports originating in an additional 28 countries including India. Turkey applied quantitative restrictions on imports of 19 categories of textile and clothing products from India. India felt these restrictions inconsistent with GATT Articles XI and XIII and Article 2.4 of the Agreement on Textiles and Clothing ("ATC"), and are contended. Hence, they could not be justified by GATT Article XXIV. The European Communities was not a party or a third party to this dispute. Nonetheless, the Panel, in order to ensure that it had "the fullest possible understanding of this case, and pursuant to Article 13.2 of the DSU", asked the European Communities for factual and legal information relevant to this case. The European Communities provided answers to the Panel's questions. (Paras. 4.1-3)

Turkey claimed that the Panel should dismiss India's claims because they were directed only against Turkey, whereas the measures at issue were taken pursuant to a regional trade agreement between Turkey and the European Communities. Turkey argued that the European Communities should therefore also have been a party to the dispute. But the Panel rejected this claim. Panel observed that the European Communities had decided not to participate as a third party in this dispute nor did the DSU allow for any other form of participation for a Member not party to the dispute other than the third-party rights under DSU Article 10. Since the European Communities did not intend to participate, the Panel considered that it did not have the authority to direct that a WTO Member be made a third party or that it otherwise participate during the panel process. The Panel observed that there is no special provision in the DSU for dispute settlement proceedings involving customs unions or any other type of regional trade agreements, and that the Turkey-EC customs union itself is not a Member of the WTO and therefore cannot be the subject of any DSU procedure, as it lacks WTO legal personality. It also noted that in the EC - Bananas dispute, the panel and Appellate Body addressed measures adopted pursuant to an international agreement, even though parties to that agreement were not parties to the dispute. Furthermore, it noted rulings of the International Court of Justice in *Military and Paramilitary Activities in and Against Nicaragua, and Phosphate Lands in Nauru* in which a complaint was allowed to proceed. The practice of the ICJ indicates that if a decision between the parties to the case can be reached without an examination of the position of the third state (i.e. in the WTO context, a Member) the ICJ will exercise its jurisdiction as between the parties. In the present dispute, there are no claims against the European Communities that would need to be determined in order for the Panel to assess the compatibility of the Turkish measures with the WTO Agreement.

The Panel noted three possible entities to which the measures could be attributed: Turkey, the European Communities, or the Turkey-EC customs union. Since the measures were implemented through formal action by Turkey and the measures were published by Turkey in its Official Gazette, the measures could be attributed to Turkey. The Panel considered that the measures under examination were enacted, implemented and are now applied by the Turkish government. By contrast, while the European Communities also maintain restrictions against imports from India on the same 19 categories at issue, it does so pursuant to Council Regulation 3030/93. This regulation applies only to the EC customs territory, and is not enforceable in Turkey. The European Communities itself stated that "the measures at issue had been adopted by Turkey, that Turkey itself was ensuring the surveillance of such quotas at its borders, and that the European Communities and Turkey have their respective systems of border control." But the Turkey-EC customs union agreement does not have any legislative body which would have the constitutional authority to enact laws and regulations that would be applicable to the territory of the customs union and the Turkey-EC customs union is not a WTO Member, and it does not have any autonomous legal standing for the purpose of WTO law and dispute settlement procedures. Finally, the Panel noted that in public international law in the absence of any contrary treaty provision, Turkey could reasonably be held responsible for the measures taken by the Turkey-EC customs union. Hence the measures at issue are 'implemented, applied and monitored' by Turkey, for application in the Turkish territory only, and are therefore 'Turkish measures'.

Turkey contended that as the measures were taken pursuant to a customs union, its consistency must be determined exclusively under GATT Article XXIV. Accordingly, the Panel discussed three general considerations relating to the scope of the dispute vis-à-vis Article XXIV. First, the Panel addressed the question of whether WTO dispute settlement proceedings can be used to challenge measures adopted by one or more Members pursuant to the formation of a customs union. The Panel found that provisions of Articles XXII and XXIII of GATT 1994 as elaborated and applied by the Dispute Settlement Understanding may be invoked with respect to any matters arising from the application of those provisions of Article XXIV relating to customs unions, free-trade areas or interim agreement leading to the formation of a customs union or free trade area. (Emphasis added by Panel). Secondly, the Panel considered the extent to which a panel is authorized to, or needs to, examine the overall consistency of the customs union at issue with WTO rules. In this regard, the Panel held that in the light of the principle of judicial economy, it is not necessary to assess the compatibility of the Turkey-EC customs union agreement itself with Article XXIV, but would confine its jurisdiction to "measures" in dispute. (On appeal, the Appellate Body stated that it is within the jurisdiction of panels to rule on the compatibility of such an agreement with the provisions of Article XXIV, and that, furthermore, panels are expected to conduct this analysis prior to examining a defense of a specific measure under Article XXIV. See DSC for Turkey - Textiles (AB).) The Panel's analysis of Article XXIV is limited to defining, in particular, its relationship with Articles XI and XIII of GATT (and Article 2.4 of the ATC) and to ensuring that its interpretation of the WTO provisions applicable to the present dispute does not prevent Turkey from exercising its right to form a customs union.

The Panel stated that the measures at issue impose quantitative restrictions on imports and are applicable only to India. Therefore, the Panel found that the measures are inconsistent with Articles XI and XIII. Since the measures introduced by Turkey were "new", i.e., Turkey did not have any restriction in place at the time of the entry into force of the ATC, the Panel held Turkey violative of Article 2.4

Turkey justified its measure using Article XXIV as a lex specialis for the rights and obligations of WTO Members at the time of the formation of a regional trade agreement i.e., the WTO-consistency of the measures depends on the WTO-consistency of the Turkey-EC customs union. In turn, according to Turkey, the WTO-consistency of both the customs union and the measures at issue is to be determined with reference to Article XXIV only and no other GATT provisions. The Panel stated that Article XXIV permits Members forming a customs union to depart, as to the trade between themselves, from the most-favored nation principle, inconformity with the conditions set out in Article XXIV. But Article XXIV:4 also recognizes that some of these agreements may have detrimental effects, and therefore provides that "the purpose of a customs union and a free-trade area should be to facilitate trade between constituent territories and not to raise barriers to the trade of other Members with such territories." It shall not on the whole be higher or more restrictive than the general incidence of the duties and regulations of commerce applicable in the constituent territories prior to the formation of such union or the adoption of such interim agreement, as the case may be. The Panel found that the terms of this provision provide for an "economic" test for assessing whether a customs union is "compatible" with Article XXIV. In essence, this provision requires that the effects of the resulting trade measures and policies of the new regional agreement shall not be more trade restrictive, overall, than were the constituent countries' previous trade policies (Paras. 9.120-121).[5] The Panel concluded that there is no legal basis in Article XXIV:5(a) for the introduction of quantitative restrictions that are otherwise incompatible with the GATT/WTO, and that this provision does not authorize Members forming a customs union to deviate from the prohibitions in GATT Articles XI and XIII or ATC Article 2.4.

Having found that Article XXIV: 5 (a) did not govern the compatibility of specific measures, the Panel turned to Article XXIV:8(a). Turkey had argued that Article XXIV:8(a)(ii) requires Turkey to apply the same regulations of commerce, including import restrictions, as those applied by the European Communities to third countries. But the Panel held that a customs union shall be understood to mean the substitution of a single customs territory for two or more customs territories, so that (i) duties and other restrictive regulations of commerce[6] are eliminated with respect to substantially all the trade between the constituent territories of the union or at least with respect to substantially all the trade in products originating in such territories, and, (ii) … substantially the same duties and other regulations of commerce are applied by each of the members of the union to the trade of territories not included in the union. Thus, sub-paragraph (i) requires that restrictions on trade as between the parties to the customs union be eliminated with respect to 'substantially all' trade, and sub-paragraph (ii) requires that 'substantially the same' trade policy be applied by each party in relation to other countries. As with its findings under Article XXIV:5(a), the Panel considered that the terms of subparagraph 8(a)(ii) "do not address the issue of whether an otherwise WTO incompatible import restriction could be introduced among the identical or different trade policies" pursuant to the formation of a customs union. Therefore, it found, this provision does not authorize Members forming a customs union to violate the prescriptions of GATT Articles XI and XIII or ATC Article 2.4. This conclusion, the Panel said, is confirmed by the "immediate context" of Article XXIV:8(a)(ii), in particular by Article XXIV:4 and Article XXIV:Accordingly, Articles XXIV:5(a) and Article XXIV:8 do not authorize the quantitative restrictions at issue. The Panel made a reference to Article 41 of the VCLT, which provides that:

> "Two or more parties to a multilateral treaty may conclude an agreement to modify the treaty as between themselves alone if … (b) the modification in question is not prohibited by the treaty and (i) does not affect the enjoyment by the other parties of their rights under the treaty or the performance of their obligations".

The Panel held that even if the Turkey-EC customs union agreement did require Turkey to adopt all EC trade policies, such requirement would not be sufficient to exempt Turkey from its obligations under the WTO Agreement (Paras. 9.178-182); and that a Member may, upon the formation of a customs union, 'extend' its own WTO rights to the other constituent Members of the customs union. For all of these reasons, the Panel concluded that Turkey's violations of GATT Articles XI and XIII and ATC Article 2.4 are not justified by GATT Article XXIV. (Para. 9.192) (On appeal, the Appellate Body upheld the Panel's ultimate conclusion that the measures are not justified under Article XXIV, but significantly modified the rationale.

European Communities-Anti-Dumping Duties on Imports of Cotton-type Bed Linen from India

This case represents one of the systematic and sustained Indian efforts to use the WTO dispute settlement mechanism as a platform to dismantle the EU protectionist trade barrier in textiles. The measure in question related to the zeroing in method widely prevalent in the developed nations like USA and EU. Since the Anti-dumping law is complex and complicated, India availed the legal services of a Brussels-based international law firm *Vermulst Waer & Verhaeghe*[7] in its litigation against EU. The protectionist measure is strongly supported by Eurocoton, the Committee of Cotton and Allied Textile Industries of Europe, a Brussels-based professional federation, established in 1954. Its major role is to influence policy of EU amidst growing international competition and to defend the industrial cotton system textile chain's trade interests of its members before European and international private and public institutions.

The measures disputed include rules governing trade in ‘low-cost’ textiles and clothing, and the rules regarding procedures and penalties to counterbalance injurious ‘dumping’.[8] Following competition from low-cost textile products especially from India, Egypt and Pakistan as well as mounting political pressure from its domestic textile industry and its trade unions, the EU used its anti-dumping law to erect trade barriers. The defenders of protectionism, the Eurocoton claimed that these nations dumped textile products into the EU markets causing material injury to domestic industries. Previously, Eurocoton lodged and contested many dumping complaints before the European Court of Justice. This dispute concerns the imposition of definitive anti-dumping duties by the European Communities on cotton-type bed linen from India. On 30 July 1996, Eurocoton filed an application with the European Communities for the imposition of anti-dumping duties on cotton-type bed linen from, inter alia, India. About a month later, the European Communities published notice of the initiation of an anti-dumping investigation regarding imports of cotton-type bed linen originating in, inter alia, India. The European Communities established 1 July 1995 to 30 June 1996 as the investigation period, and the investigation of dumping covered this period. The examination of injury covered the period from 1992 up to the end of the investigation period.

In view of the large number of Indian producers and exporters, the European Communities conducted its analysis of dumping based on a sample of Indian exporters. The European Communities also established a reserve sample, to be used in the event companies in the main sample subsequently refused to cooperate. The European Communities established normal value based on constructed value for all investigated Indian producers. One company, Bombay Dyeing, was found to have representative domestic sales of cotton-type bed linen taken as a whole. Five types comparable to those exported to the European Communities were sold in representative quantities on the domestic market. Those five types were found not to be sold in the ordinary course of trade. Therefore, constructed values were calculated for all the types sold by Bombay Dyeing. For the other investigated Indian producers, the information for SG&A and profit used in the constructed normal value was that of Bombay Dyeing. Export price was established by reference to the prices actually paid or payable in the EC market. The weighted average constructed normal value by type was compared with weighted average export price by type for the investigated Indian producers, and a dumping margin was calculated for each such producer.

Table: Zeroing

Product	Net U.S.	Net H.M.*	Unit	U.S.	Total	Total	Total
Code	Price	Price	Margin	Quantity	Margin	PUDD	Value
1	$1.00	$0.50	-$0.50	100	-$50	$0	$100
2	$1.00	$1.00	$0.00	100	$0	$0	$100
3	$1.00	$1.00	$0.00	100	$0	$0	$100
4	$1.00	$1.00	$0.00	100	$0	$0	$100
5	$1.00	$1.50	$0.50	100	$50	$50	$100
Total Margin					$0		
Total PUDD						$50	
Total Value							$500
Percent Margin							10%

* Home Market
Source: Dan Ikenson, 2014.

The unit margin is equal to the amount of dumping calculated for each unique comparison. The arithmetic sum of the individual dumping margins (total margin) is zero because the price differences for products 1 and 5 cancel each other out. Surprisingly, this is not how dumping is calculated. Rather, the negative dumping margin on Product 1 is set equal to zero and is thus denied any impact on the overall margin. Thus, by engaging in zeroing in this example, the authorities would find a dumping margin of 10 percent (the sum of the total Potentially Uncollected Dumping Duties divided by the sum of the total value) despite the lack of any difference in overall price levels between the two markets.

In fact, in this dispute India challenged this methodology of calculating AD. Dumping refers to the practice of selling a product at a lower price abroad than it normally charges in domestic markets. The WTO does not pass any judgement but only disciplines anti-dumping action. The ADA narrows down the range of possible options to three methods to calculate a product’s “normal value” - 1) the price in the exporter’s domestic market; 2) the price charged by the exporter in another country, or 3)a calculation based on the combination of the exporter’s production costs, other expenses and normal profit margins. And the agreement also specifies how a fair comparison can be made between the export price and what would be a normal price. On the methodology for determining that a product is exported at a dumped price, the new Agreement adds relatively specific provisions on such issues as criteria for allocating costs when the export price is compared with a "constructed" normal value and rules to ensure that a fair comparison is made between the export price and the normal value of a product so as not to arbitrarily create or inflate margins of dumping (ADA Article 2).

The agreement strengthens the requirement for the importing country to establish a clear causal relationship between dumped imports and injury to the domestic industry. The examination of the dumped imports on the industry concerned must include an evaluation of all relevant economic factors bearing on the state of the industry concerned. The agreement confirms the existing interpretation of the term "domestic industry". Subject to a few exceptions, "domestic industry" refers to the domestic producers as a whole of the like products or to those of them whose collective output of the products constitutes a major proportion of the total domestic production of those products (ADA Article 3). A new provision requires the immediate termination of an anti-dumping investigation in cases where the authorities determine that the margin of dumping is de minimis (which is defined as less than 2 per cent, expressed as a percentage of the export price of the product) or that the volume of dumped imports is negligible (generally when the volume of dumped imports from an individual country accounts for less than 3 per cent of the imports of the product in question into the importing country). Anti-dumping measures can only be applied if the dumping is hurting the industry in the importing country. Therefore, a detailed investigation has to be conducted according to specified rules first. The investigation must evaluate all relevant economic factors that have a bearing on the state of the industry in question like levels of employment, shipments, prices, profits, and similar facts. If the investigation shows dumping is taking place and domestic industry is being hurt, the exporting company can undertake to raise its price to an agreed level in order to avoid anti-dumping import duty. However, the anti dumping investigating process clearly favours the domestic complaining industry. Due to the volume of cases and the increasingly detailed requirements of the ADA, procedures became more complex and legalistic, needing the involvement of lawyers, accountants, and economists.

India urged the Panel find that European Communities violated GATT provisions. India made 31 separate claims with respect to these asserted violations. The DSB established the panel. The panel rejected 12 of India's claims, upheld 4, and did not rule on the remaining 15, either because India had withdrawn the claim or the panel did not consider it necessary, pursuant to the principle of judicial economy, to make a finding. The Panel held that the investigation conducted by EU officials were prejudicial to the interests of Indian suppliers and violative of ADA. The Panel concluded that the European Communities acted inconsistently with its obligations under Articles 2.4.2, 3.4, and 15 of the AD Agreement in determining the existence of margins of dumping on the basis of a methodology incorporating the practice of zeroing; failed to evaluate all relevant factors having a bearing on the state of the domestic industry, and specifically all the factors set forth in Article 3.4; considered information for producers not part of the domestic industry as defined by the investigating authority in analyzing the state of the industry and failed to explore possibilities of constructive remedies before applying anti-dumping duties. The decision, in fact, made the practice of zeroing WTO-inconsistent- a major victory for developing countries.

The implications of the decision made EU officials to appeal. The AB upheld findings of the panel. It further ruled that the EU's practice in constructing normal values on the basis of information limited to one supplier was inconsistent with the ADA. India continued the dispute to the subsequent stage that is, recourse to Article 21.5 of DSU, for India held that the EU's amended measures were not in line with the WTO's rulings. As a result, India concluded that the illegal measure would finally expire by 14 February 2002. Unfortunately, on 13 February 2002, the EU initiated a so-called 'partial interim review,' thereby perpetuating the problem by basing a partial review on, in India's view, a flawed re-determination. Duties, however, remained suspended. On 29 November 2002, the panel issued its report, dismissing all of the complaints raised by India and ruling that the EU was now in full compliance with its earlier rulings and those of the Appellate Body.

United States-Rules of Origin for Textiles and Apparel Products

Rules of origin refer to the criteria needed to determine the national source of a product. In trade, duties and restrictions in several cases depend upon the source of imports. The ROO Agreement is administered by the Committee on Rules of Origin (the ROO Committee). It meets formally at least twice a year and meets for informal consultations throughout the year. The ROO Agreement also established a Technical Committee on Rules of Origin under the auspices of the World Customs Organization to assist in the HWP.

The proliferation of preferential trading arrangements, including regional arrangements, with their various rules of origin, increased number of origin disputes growing out of quota arrangements such as the Multifibre Arrangement and the "voluntary" steel export restraints and the increased use of anti-dumping laws, and subsequent claims of circumvention of anti-dumping duties through the use of third country facilities has increased the relevance of rules of origin in international trade law. WTO's attempts to ensure that rules of origin themselves do not create unnecessary obstacles to trade. But it is yet to finish the harmonization of rules of origin law.[9] Its rule of Origin Agreement (ROO) originally provided for the harmonization to be completed within three years after its commencement in July 1995. It is still going on. Until the completion of the harmonization process, Members are expected to ensure that their rules of origin are transparent, administered in a consistent, uniform, impartial and reasonable manner, based on a positive standard.

But it is the delay in this harmonization process, which has taken India to the WTO dispute settlement mechanism. The unilateral determination of the rules of origin by the developed nations has created apprehensions. Rules of origin have a particularly significant impact in the textiles area because the manufacture of such products involves many production processes often performed in more than one country. Using rules of origin as a means of protectionism is therefore particularly great in this area. This complaint related to the US rules of origin. India challenged US law inconsistent with the Article 2 (b), (c), (d) and (e) of the Agreement on Rules of Origin. Article 2, which will administer the rules of origin during the transition period says that:

Until the work programme for the harmonization of rules of origin set out in Part IV is completed, Members shall ensure that:

(b) notwithstanding the measure or instrument of commercial policy to which they are linked, their rules of origin are not used as instruments to pursue trade objectives directly or indirectly;

(c) rules of origin shall not themselves create restrictive, distorting, or disruptive effects on international trade. They shall not pose unduly strict requirements or require the fulfilment of a certain condition not related to manufacturing or processing, as a prerequisite for the determination of the country of origin. However, costs not directly related to manufacturing or processing may be included for the purposes of the application of an ad valorem percentage criterion consistent with subparagraph (a);

(d) the rules of origin that they apply to imports and exports are not more stringent than the rules of origin they apply to determine whether or not a good is domestic and shall not discriminate between other Members, irrespective of the affiliation of the manufacturers of the good concerned[10];

(e) their rules of origin are administered in a consistent, uniform, impartial and reasonable manner;

The measures in dispute

The United States Congress enacted legislation relating to textiles in December 1994 creating specific non-preferential rules of origin related to textiles and apparel. For textiles and apparel products, section 334 establishes three basic sets of origin rules: general rules, special rules and multi-country rule. Section 334(b)(1)(A) establishes a ‘single country’ rule of origin, which provides, quite logically, that if a product is wholly obtained or produced in a single country - that is, manufactured in a country entirely from materials or components originating in that country - it will be deemed to originate in that country. Section 334(b)(1)(B) establishes the ‘yarn’ or ‘yarn forward’ rule of origin, under which yarns, threads, cordage, twine and similar products are deemed to originate in the country where they are spun from their constituent fibres, or (in the case of synthetic filaments produced by extrusion), in the country where they are extruded. Section 334(b)(1)(C) establishes a new rule, which fixes the origin of a fabric in the country where it is woven, knitted or otherwise formed in the ‘greige’ state. No recognition of origin is given for any operations, which follow the forming of the fabric, such as dyeing, printing or other finishing steps. This is a major departure from the previous rule, under which dyeing and printing, as well as at least two additional finishing operations, were deemed sufficient to transform ‘greige’ fabric[11] formed in one country into a new product of the country where the finishing operations were performed. Finally, section 334(b)(1)(D) contains the single country assembly rule, which provides that, where a textile product (except for those product headings specified in the section 334(b)(2) Special Rule) is wholly assembled in a single country, that is its country of origin. The mere cutting of fabric to form garment parts is no longer sufficient to confer origin on an assembled textile good.

The initial section 334(b)(2) provides ‘Special Rules’ of origin for goods, which are not covered by the single country assembly rule of section 334(b)(1)(D). Under section 334 (b)(2)(A), except for the Harmonized Tariff Schedule (HTS) heading 5609 which deals with yarn, those products under the other listed HTS headings would be conferred origin based on where their greige fabric was formed, not where they were assembled. The second exception under section 334 (b)(2)(B) was for products that were knit to shape. Section 334(b)(2)(B) provides that where textile goods are knit to shape in a particular country, that country will be the country of origin.

Based on the complaint of Federtessile the EC approached WTO against US. [12] But US struck a bilateral deal with EU through a 'process verbal' to take on board the EU's concerns. It introduced Amendments to section 334 in section 405 of the Trade and Development Act of 2000. Accordingly, Section 405 established two exceptions to the special rules contained in section 334(b)(2), which included: First, although the origin of fabric was to be determined where the greige fabric was formed, fabric classified under the HTS as of silk, cotton, man-made fibre, or vegetable fibre shall be considered to originate in, and be the growth, product, or manufacture of, the country, territory, or possession in which the fabric is dyed and printed when accompanied by two or more of the following finishing operations: bleaching, shrinking, fulling, napping, decating, permanent stiffening, weighting, permanent embossing, or moreing. Second, goods that would normally be subject to the wholly assembled rule in section 334(b)(2)(D) but that were classified under specifically listed HTS headings shall be considered to originate in, and be the growth, product, or manufacture of, the country, territory, or possession in which the fabric is both dyed and printed when accompanied by two or more of the following finishing operations: bleaching, shrinking, fulling, napping, decating, permanent stiffening, weighting, permanent embossing, or moreing. This exception does not apply to those products classified under these headings when they are made of cotton or of wool or consisting of fibre blends containing 16% or more by weight of cotton.

India challeneged the US rules of origin set out in section 334 of the URAA and modified in section 405 of the Trade and Development Act of 2000 and the customs regulations implementing these statutory provisions, and their application. Majority of India's exports are in greige fabric, which she exports to other countries. They are further processed and then exported to the United States. Under the old rules these finished products were not deemed to originate in India and hence they were not included in India's textile quota. But under section 334, they would be counted as India's exports to the United States and subject to quantitative restrictions established for textiles. The representatives of Canada, the European Communities and Switzerland were also apprehensive of these unilateral changes of origin rules for certain textiles and apparel by the United States. The European Communities has in fact, challenged the United States rules of origin in the WTO.[13]

Section 334 did not advance the goal of harmonizing the international rules of origin set out in the RO Agreement. Article 3 aims to achieve the establishment of harmonized rules of origin, and states in subparagraph (b) that "Members shall ensure, upon the implementation of the results of the harmonization work programme, that: … (b) under their rules of origin, the country to be determined as the origin of a particular good is either the country where the good has been wholly obtained or, when more than one country is concerned in the production of the good, the country where the last substantial transformation has been carried out." Section 334 is a departure from the basis of substantial transformation. The design, architecture, and structure of section 405 show that it favours imports from the European Communities over imports from developing countries such as India. Any rule of origin that is used as an instrument to protect a domestic industry or to favour imports from one country over imports from another country is, by definition, an instrument to pursue trade objectives.

India argued that Section 405 amended section 334 to create exceptions to the general rules on determining origin for fabrics and made-up articles. These exceptions created absurd situations. "If cotton fabric is woven in India and exported to Portugal where it is dyed, printed and subject to two or more finishing operations, that fabric is now considered a product of Portugal. If, however, the same cotton fabric is now used in Portugal to produce a finished sheet, the origin reverts back to India. Therefore, even though operations were performed in Portugal on a Portuguese product, the origin of that product would be determined as Indian. The absurdity of this case is that the determination of origin differs depending on the type of product. For cotton fabric, the country in which it is dyed and printed and subjected to two further finishing operations is determined to be the country of origin. Paradoxically, for cotton fabric which is dyed and printed and subjected to two further finishing operations and which is subsequently made into a bed sheet (which has more value-added operations) in Portugal, that bed sheet will be determined as a product of India."

India contended that the US addressed the concerns of European Communities alone by providing in the 2000 amendment that the rule of origin for goods which are of EC's interests would revert to the pre-1996 rules for seven out of the 16 HTS four-digit headings. India submitted the listed seven HTS four-digit headings. For products under these seven four-digit headings, the origin will be determined where the product is dyed and printed and subject to two further finishing operations. The US rules of origin create trade restrictive effects because they entail new quantitative restrictions on Indian products exported to third countries, which had previously never been subject to any restrictions. They create distorting effects because they shifted origin from a third country where the fabric was dyed and printed and subjected to two further finishing operations to the country where the greige fabric was formed and because they favoured products of export interest to the European Communities over products of export interest to developing countries. They create trade disruptive effects because of their sheer complexity and the arbitrary nature of the criteria used. When the United States provided special treatment for such products, so that they would be conferred origin where such products were dyed and printed and subjected to two finishing operations, it was providing a de facto advantage to the European Communities products. The advantage to the European Communities is that these products are not conferred the origin of where the fabric is formed - usually a developing country under restraints - but are instead allowed unrestricted access to the United States market. This provision obliges Members not only to administer their rules of origin in a consistent, uniform, impartial and reasonable manner, but also to adopt rules that lend themselves to being administered in this manner.

But the panel was unconvinced by India's reasoning. It said New Delhi could not show hard evidence as to how its exports were restricted over the past seven years due to the US measure. Therefore, the panel dismissed the Indian claims on all three major grounds that New Delhi raised in its complaint. The panel said India was unable to provide evidence that Section 334 of the Uruguay Round Agreements Act is inconsistent with Articles 2(b) or 2(c) of the rules-of-origin agreement. These two provisions - Articles 2(b) and 2(c) - require that WTO members not pursue rules of origin for "trade objectives" and that they do not create "restrictive, distorting, or disruptive effects on international trade". Similarly, the panel dismissed India's complaint against Section 405 of the US Trade and Development Act on the ground that its was consistent with Articles 2(b), 2(c) or 2(d) of the trade body's rules-of-origin agreement.

This is a case, which clearly demonstrates that the voice of nations with more bargaining power is heard at the bilateral level. The US bowed before the EC pressure by making amendments in its law. Subsequent Indian attempt to take the same to the multilateral level too was of no use because the Panel categorically rejected all the claims of India. It is also true that there is a not a single clause in ROO that dealt with Special and Differential Treatment principles or addressed the concerns of the developing nations. But what was astonishing is the truth that US was not at all averse to make changes to EC demands; but it did not care much about the concerns of developing nations. The ruling was a respite to US, given its appalling track record of losing all its textile disputes until then. The US had lost all the three previous major textile disputes raised by WTO members. In the first textile dispute raised at the WTO, Costa Rica secured a major victory against the US restriction on Costa Rican underwear exports. India won the second major case against US restrictions on Indian wool shirts and blouses. Pakistan won the third case against United States' restrictions on Pakistani cotton-yarn exports.

The harmonization of Rules of origin was supposed to be over within three years, i.e. by July 1998. In fact, developing nations allege that the continued impasse in harmonization of rules of origin was attributed to the intransigence of the US that repeatedly stalled attempts to establish the new harmonized rules of origin. The then outgoing chair, Vera Thorstensen (Brazil), told the Committee on Rules of Origin on 25 March 2010 that WTO members have reached consensus on country-of-origin rules for 1,528 products. This meant that only 55 per cent of the work of the Committee had been completed. Thorstensen, who was chair for six years, observed that the reality of globalization and increasing multi-country production of a good necessitated reaching an agreement on specific rules of origin for 2,739 products.[14] But developing countries felt that WTO has reached harmonization of laws that are of substantial intrest to the developed nations alone, making WTO too a power- oriented institutional mechanism.

3. CONCLUSION

The developing countries as a whole, are very much concerned about the back loading of the integration process vis-a-vis textiles and clothing.One of the act of the very first Congress of the United States in 1789 was the imposition of tariffs on importedgloves hats and clothing, which continues even after 224 years as a continues feature of US trade policy. High tariffs, voluntary export restraints, safeguard, Multifibre, Arrangement , antidumping and coutervailing duty restrictions, carve outs, rules of origin etc are policy features that intend to protect the US textile industry. The EC is no exception to this rule Undoubtedly, WTO enabled India to incise some of these protectionist measures multilaterally. But still there exist more miles to go.

End Notes

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1 On these provsions the developed nations- the US and Japan stood united that there was no legal duty, since "the second sentence of Article 15 does not impose anything other than a procedural obligation to "explore" possibilities of constructive remedies."

2 A U.S. textile and apparel category system.

[3] The negotiation of RTAs among countries geographically distant has also become an increasingly frequent feature in the 1990s.

[4] RTAs were established under Article XXIV; under the 1979 Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries and under Article V of the General Agreement on Trade in Services (GATS).

[5] The Panel found that this conclusion was supported by the context of this provision, in particular the text of Articles XXIV:5(b), XXIV:4, XXIV:6 and XXIV:8.

[6] Except, where necessary, those permitted under Articles XI, XII, XIII, XIV, XV and XX.

[7] The firm is internationally recognized for its expertise in customs law, anti-dumping and other commercial defence laws, and WTO law work that include advising clients on and participating in WTO dispute settlement proceedings as well as EU trade regulations and policy, and representing them before the Community institutions in anti-dumping litigation, anti-subsidy investigations, and other EU trade litigation disputes.

[8] Since developing countries have a comparative advantage in the production of labor-intensive textiles and clothing, the developed nations always tried to insulate their textile market from competition through some formal arrangements. Following stiff competition from the newly independent developing countries, the textiles and clothing was withdrawn from the GATT's remit. The industrialised nations, especially, the US and UK sought to erect protectionist trade barriers against imports from nations like Japan, Hong Kong, Pakistan and India. The measures included voluntary quotas to limit imports from these nations. More substantive measures were introduced during the Dillon Round (1960-61) by negotiating a Short-Term Agreement on Cotton Textiles. This was followed by a Long-Term Agreement Regarding Trade in Cotton Textiles in 1962. When developing nations acquired equivalent technological capability in the production of synthetic fibres - mainly polyester and acrylic - more restrictions followed through voluntary export restraints (VERs), which was later codified in the 1974 Multi-Fibre Agreement (MFA). All these arrangements were intended to provide more time for industries in developed countries to adjust to competition from developing countries.

[9] There is wide variation in the practice of governments with regard to the rules of origin. While the requirement of substantial transformation is universally recognized, some governments apply the criterion of change of tariff classification, others the ad valorem percentage criterion and yet others the criterion of manufacturing or processing operation. In a globalizing world it has become even more important that a degree of harmonization is achieved in these practices of Members in implementing such a requirement.

[10] With respect to rules of origin applied for the purposes of government procurement, this provision shall not create obligations additional to those already assumed by Members under GATT 1994.

[11] Greige fabric is a term used to describe textile products prior to bleaching, dyeing or finishing.

[12] Federtessile (the Federation of the associations of Italian enterprises in the textile and clothing sector) lodged a complaint before EC that some of the changes made in 1996 by the United States of America to their rules of origin for textile and apparel products created adverse trade effects. Two agreements were invoked in the complaint by Federtessile: the WTO Agreement on Textile and Clothing and the WTO Agreement on Rules of Origin. The Commission services find that both agreements establish rights of action for the Community.

[13] The WTO dispute settlement procedure was suspended on 15 July 1997, in the light of an apparent negotiated solution to the dispute, laid down in a *procès-verbal* concluded between the two parties that same day. In this *procès-verbal*, the US Administration agreed to bring about legislative change in view of reintroducing the pre-Uruguay Round Act rules of origin for those textiles affected by the procedure. A new request for WTO consultations was therefore circulated on 25 November 1998 (WT/DS151/1). El Salvador, Honduras, Hong Kong, China, India, Japan, Pakistan and Switzerland. These consultations failed to solve the dispute. But further bilateral negotiations between US and EC mad US to bring amendments. After examining the amendment and after consultations with the complainant the European Commission concluded that section 405 of the Trade and Development Act of 2000 was 'in conformity with the US commitments under the *procèsverbal* of 16August 1999 and effectively removed the obstacles to trade addressed in Federtessile's complaint of 11 October 1996', the EC suspended its investigations against US. See http://trade.ec.europa.eu/doclib/docs/2004/october/tradoc_112211.pdf. But the amendment did not mirror the concerns of the developing nations. India approached WTO in 11 January 2002, India approached WTO.

[14] See http://www.wto.org/english/news_e/news10_e/roi_25mar10_e.htm)

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Annexure 1

Table 1 India as Complainant

No.	Dispute (Details, dispute no./ year and defendant	Stage
1	Import régime for automobiles (DS 19/1995- Poland)	Mutually Agreed Solution
2	Measures affecting imports of women's and girls' wool coats (DS 32/1996 - US)	Inactive
3	Measures affecting imports of woven wool shirts and blouses (DS 33/ 1996 - US).	Panel/AB
4	Restrictions on imports of textile and clothing products (DS 34/1996 - Turkey)	Panel/AB
5	Import prohibition of shrimp and shrimp products (Brought by India, Malaysia, Pakistan, Thailand) (DS 58/1996- US)	Panel/AB
6	Measures affecting import duties on rice (DS 134/1998 - EU)	Inactive
7	Anti-dumping measures on imports of unbleached cotton fabrics from India (DS 140/1998 - EU)	Inactive
8	Anti-dumping measures on imports of cotton-type bed linen from India (DS 141/1998 - EU)	Panel/AB
9	Anti-dumping duties on import of certain pharmaceutical products from India (DS 168/1999 – South Africa)	Inactive
10	Anti-Dumping and Countervailing Measures on Steel Plate (DS 206/2000 - US)	Panel
11	Continued Dumping and Subsidy Offset Act of 2000 (DS 217/2000 - US)	Panel/AB Stage
12	Anti-Dumping Duties on Jute Bags from India (DS 229/2001 - Brazil)	Inactive
13	Measures Affecting the Import of Pharmaceutical Products (DS 233/2001 - Argentina)	Inactive
14	Rules of Origin for Textiles and Apparel Products (DS 243/ 2002 - US)	Panel
15	Conditions for the Granting of Tariff Preferences to Developing Countries (DS 246/2002 - EU)	Panel/AB Stage
16	Anti-Dumping Duties on Certain Flat Rolled Iron or Non-Alloy Steel Products (DS 313/2004 - EU)	Mutually Agreed Solution
17	Customs Bond Directive for Merchandise Subject to Anti-Dumping/Countervailing Duties (DS 345/2006 - US)	Panel/AB Stage
18	Expiry Reviews of Anti-dumping and Countervailing Duties Imposed on Imports of PET from India (DS 385/2008 - EC)	Inactive
19	European Union and a Member State — Seizure of Generic Drugs in Transit (DS 408/2010 – EU, Netherlands)	Inactive
20	Turkey — Safeguard measures on imports of cotton yarn (other than sewing thread) (DS 428/2012 - EU)	Inactive

Annexure 2

India as Complainant Panel/Appellate Body

Dispute number	*Defendant nation*	*Agreement involved*	*Outcome of the dispute*
DS 33	United States	Art. 6 of Agreement on Textile and Clothing (ATC)	India won
DS 34	Turkey	Art. XI, XIII (GATT) and Art. 2.4 of ATC	India won
DS 58**^**	United States	Art. X:1 and XX(g) of GATT	India won
DS 141	EC	*Anti Dumping Agreement*	India partially won
DS 206	United States	*Anti-Dumping Agreement; and the SCM Agreement*	India partially won
DS 217**^^**	United States	*Anti Dumping Agreement & Subsidies Agreement*	India partially won
DS 243	United States	*Agreement on the Rules of Origin.*	India lost
DS 246	EC	*Paragraphs 2(a), 3(a) and 3(c) of the Enabling Clause.*	India won
DS 345	United States	*Anti-Dumping Agreement and SCM Agreement*	India partially won

^ Joint complaint by India, Malaysia, Pakistan and Thailand .See Appellate Body, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WTO/DS 58 dated 12 October 1998

^^ Joint complaint by Australia, Brazil, Chile, European Communities, India, Indonesia, Japan, Korea and Thailand (WT/DS217), and Canada and Mexico (WT/DS234). The DSB also agreed, in accordance with Article 9 of the DSU, that the panel established to examine the complaint by Australia, Brazil, Chile, EC, India, Indonesia, Japan, Korea and Thailand (WT/DS217) on 23 August 2001 would also examine the complaint by Canada and Mexico (WT/DS234).

The Novartis Verdict: Implications for India

Reji K. Joseph[*]

Abstract

The Supreme Court judgement in the matter of Novartis AG Vs. Union of India and Others (2013) has put an end, to the apprehensions on the future of Indian generic pharmaceutical industry, the pharmacy of the world. But there are still a few unresolved issues, which are hotly debated now, on the long term implications of the judgement on investment in R&D and innovation in the industry, particularly in the pharmaceutical sector. While MNCs and their lobbies criticise the Supreme Court judgement that it will lead to deterioration of the innovation environment in the country, the real issue that we need to explore is the potential of the judgement in directing innovations that are needed for the country – innovations that are genuine and at the same time affordable.

Key Words: Patent, Novartis, Indian Patent Act, TRIPS

1. NOVARTIS CASE: THE GENESIS[1]

The origin of the dispute *Novartis AG Vs. Union of India and Others*(Supreme Court of India 2013) is traced to the decision of the Assistant Controller of Patents and Designs of India, Chennai, on January 25, 2006 rejecting the application of Novartis for a patent on ImatinibMesylate in beta crystalline form. The reasons for the rejection were: (a) invention was not new – invention was anticipated by the patent on the derivatives of N-phenyl-2-pyrimidine-amine (Zimmermann patent, hereafter); (b) invention was obvious to a person skilled in the art in view of the disclosures made in the Zimmermann patent specifications; (c) invention did not meet the patentability criteria set by section 3(d) of the Patents Act 1970 of India, as amended in 2005 (Patents Act, hereafter). *Section 2(1)j* of the Patents Act defines invention as "a new product or process involving an inventive step and capable of industrial application". *Section 2(1)ja* defines inventive step as "a feature of an invention that involves technical advance as compared to the existing knowledge or

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having economic significance or both and that makes the invention not obvious to a person skilled in the art".*Section 3 (d)* excludes the following from patentable inventions: "The mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere user of a known process, machine, or apparatus unless such known process results in a new product or employs at least one new reactant. Explanation - For the purposes of this clause, salts, esters, ethers, polymorphs, metabolites, pure form, particle size, isomers, mixtures of isomers, complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy".

2. MEASURES AT DISPUTE: NOVARTIS' ARGUMENTS

Novartis appealed against the decision of the Assistant Controller in the Madras High Court, but which was transferred to the Intellectual Property Appellate Board (IPAB) in April 2007[2]. Novartis, however, also challenged the constitutional validity of section 3(d) in Madras High Court, wherein it argued that Section 3(d) of the Indian Patent Act is vague and ambiguous and therefore violates the equality provision under article 14 of Indian Constitution and that it is not in compliance with the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement of World Trade Organization (WTO); therefore section 3(d) of the Patents Act should be declared unconstitutional. The Madras High Court upheld the validity of Section 3(d) and clarified that the patent applicant needs to show that the invention has resulted in the enhancement of the known efficacy of that substance. Efficacy in the context of pharmaceutical compounds has been equated with therapeutic efficacy on body. Regarding TRIPS compliance, the Court held that it has no jurisdiction to decide such matters as it relates to a multilateral international treaty and the proper forum for adjudication would be the WTO Dispute Settlement Body. Novartis did not file any appeal against this decision.

In IPAB, Novartis challenged the decision of the Assistant Controller on grounds of novelty, non-obviousness and section 3(d). IPAB overturned the decision of the Assistant Controller that the invention was not new and obvious and held that Novartis' invention meets the criteria of novelty and non-obviousness. However, IPAB upheld the decision of Assistant Controller that the patent application did not meet the criteria established in Section 3(d) of the Patents Act.

Novartis filed a Special Leave Petition (SLP) in the Supreme Court against the decision of the IPAB that its invention did not satisfy the patentability criteria of section 3(d). The

NATCO Pharma and M/s Cancer Patients Aid Association[3] also filed SLPs challenging the findings of IPAB in favour of Novartis. There are other interveners such as Professor ShamandBasheer of National University of Judicial Sciences, Kolkata. Novartis case became a test on the validity of the patentability standards in the Patents Act – novelty, non-obviousness and section 3(d).

3. THE JUDGEMENT AND AFTER

Novartis argued in the Supreme Court that Imatinibmesylate beta crystalline form involved two inventions, beginning with Imatinib. First invention used methanesulfonic acid to produce methanesulfonic acid addition salt of the free base Imatinib in the base form. In the second invention, the beta crystal form of methanesulfonic acid is developed, which is suitable for administration in solid oral dosage form. Novartis held that these inventions were not obvious to a person skilled in the art: Zimmermann patent did not suggest the use methanesulfonic acid in the first invention and the therapeutic application of the second invention. Novartis held that the Zimmermann patent only described how to manufacture Imatinib free base and it would have anti-tumour properties to the BCRABL Kinase; but the arrival at the conclusion that the beta-crystalline form of ImatinibMesylate is effective in the treatment of chronic myeloid leukemia involves two inventions which are new and not obvious to a person skilled in the art[4]. The Supreme Court after examining the Zimmermann patent application and an article on anti-tumoral properties of ImatinibMesylate published in the journal *Cancer Research* arrived at the conclusion that Novartis patent application does not contain anything new[5]. The Court held that the Zimmermann patent application explicitly states that the application covers the salts of the compound. The application states that "…any reference to the free compounds should be understood as including the corresponding salts, where appropriate and expedient" (Supreme Court of India 2013: 60). The appl Novartis had filed in US Food and Drug Administration (FDA) for ImatinibMesylate for the treatment of patients with chronic myeloid leukemia held that ImatinibMesylate which was a known substance from the Zimmermann patent had undergone pre-clinical, technical and clinical research[6]. Therefore, the beta crystalline form of ImatinibMesylate is a new form of a known substance the efficacy of which was well known. And therefore, section 3(d) would apply. Novartis also argued that beta crystalline form of ImatinibMesylate shows a definite and tangible enhancement of efficacy as compared to Imatinib in free base form as it is highly soluble and therefore very suitable for administration in human beings. The Court held that the test of efficacy required under section 3(d) in the context of medicines is nothing but 'therapeutic efficacy'. Different forms of compounds listed under the explanation of section 3(d) have some properties inherent to that form, e.g., solubility to salt and hygroscopicity to polymorph and “mere change in the form with properties inherent to that form would not qualify as enhancement of efficacy of a known substance”(Supreme Court of India 2013: 91).

The most important aspect of the judgement is that therapeutic efficacy is clearly differentiated from other forms of efficacy. To the evidence provided by Novartis that the beta crystalline form has better properties related production and storage (e.g., heat stability), Court clarified these properties may be important from storage point of view, but not relevant for enhanced therapeutic efficacy (Abbot 2013). This judgement has provided a clear direction to pharmaceutical firms that a pharmaceutical product, if it is an already known substance, will get patent protection in India only if it demonstrates enhanced therapeutic effects. The judgment also underscored the rationale of the Section 3(d), that is, to strike a balance between incentives for genuine innovations and price of medicines.

4. IMPLICATIONS FOR INDIA

The responses of Novartis and some industry bodies on the Supreme Court verdict convey a message that Section 3(d) is anti-innovation friendly and upholding of current patent law in India will result in deterioration of research and development efforts for innovative medicines in the country. Novartis’ reaction to the judgement was that the judgement “provides clarification on Indian patent law and discourages innovative drug discovery essential to advancing medical science for patients...The primary concern of this case was with India’s growing non-recognition of intellectual property [IP] rights that sustain research and development for innovative medicines” (Novartis 2013). The US-India Business Council (USIBC) President Ron Somers stated that without protection of intellectual property India will not be able to attract investment in this or other highly complex sectors (USIBC 2013). Pharmaceutical Research and Manufactures Association of America (PhRMA) responded that “this decision marks yet another example of the deteriorating innovation environment in India” (PhRMA 2013). PhRMA has been holding the view in its Special 301 submissions to United States Trade Representative (USTR) that section 3(d) of Indian Patents Act undermines incentives for innovation. But examination of facts shows that these criticisms are unfounded and the judgement indeed provides incentives for genuine innovations.

Important question in this context is whether strong IP leads to blooming of innovations? It is not empirically substantiated that strong IP alone will lead to better innovations. If it was true, Sub-Saharan Africa should have been blooming with innovations, which is not the case. Studies have shown that MNCs are not interested even in filing for patents in those countries where the market is not attractive, despite having very strong patent laws. A study conducted in 53 African countries for 15 antiretroviral drugs found that patenting prevalence was only 21.6% (Attaram and Gillespie 2001). Review of literature suggests that strong IP would encourage foreign firms to invest in R&D and to innovate only when there are adequate science and technology capabilities in the domestic market and competition from domestic firms (Dhar and Joseph 2012). History of industrial development shows that countries like Japan and Switzerland had not extended product patent for pharmaceuticals in the early years of industrialization. Still, innovation flourished in those countries. In the United States also, during the first forty-seven years of its existence, strong patent protection was provided only to its residents and denied patents to foreigners (Scherer 2007). In other words, patent standards have been set depending on the socio-economic conditions prevailing in the countries.

The discussion in the Indian Parliament on the Patents (Amendment) Bill 2005, which the Supreme Court closely examined, shows that approximately 80% of the time spent on the Bill was on issues relating to access to affordable medicines. In medicines, major concerns were on the abuse of patent monopoly and exorbitant prices. The liberal patentability standards in the West which allow protection for minor or incremental innovations have resulted in regular extension of patent life or 'evergreening of patents'. Having concerns on evergreening, the law makers in India wanted to have a narrow patentability criteria for pharmaceutical products. The fact that in pharmaceutical compounds it is very easy to incorporate minor modifications of existing innovations underlies the apprehensions on evergreening. During the discussion in the Parliament, it was pointed out that while Novartis was selling Glivec for Rs. 120,000 per month generic versions were available in the range of Rs. 8000 and Rs. 10000. Given the huge variation in the prices of patented and generic medicines, it was in the interest of the country to have a narrow patentability standard where in bad patents are sifted out.

This does not mean that Section 3(d) does not allow any minor or incremental innovations. The study undertaken by James (2009) shows that there were at least 86 pharmaceutical products for which product patents have been granted. These were not break through innovations but minor or incremental innovations upon existing products. Therefore, the allegation that Indian patent law does not permit incremental innovations is absolutely baseless.

There have been reports from advanced countries like the US which have very liberal patent standards on the ill effects of bad patents and the need to overhaul the patent system to make it help promote innovation, competition and welfare. The Deputy General Counsel for Policy Studies of Federal Trade Commission (FTC), Susan S. DeSanti made a statement before the Antitrust Modernization Commission (AMC) hearing on patent law reform in 2005 that “the prevalence of poor quality patents is an impediment to competition, and it is an impediment that, by definition, is governmentally created and, like private business restraints, harms consumer welfare” (USFTC 2005). The special report on Reforming US Patent Policy prepared by the Council on Foreign Relations in 2006, very celery stated that “more rigorous standards for determining whether an invention is obvious or novel be applied to patent applications” (Maskus 2006). Further, the *Harvard Business Review* in its November 2004 issue made following observations which very clearly brings out how unfriendly the liberal US patent system has become to incentives for innovation; “For the better part of two centuries, the US patent system has driven America’s extraordinary innovativeness. In the last two decades, however, the system of laws that for so long fuelled the innovation engine has become sand it its gears…Two apparently mundane changes in law and policy have transformed the patent system. The results? Weakened examination standards, a runaway increase in marginal patent applications, and indiscriminate filing of patent infringement suits as a generic competitive weapon”[7].

Therefore, the Supreme Court judgement or Indian patent law cannot be considered as anti-innovation friendly. The court has clearly stated that Section 3(d) does not bar patent protection for all incremental inventions of chemical and pharmaceutical substances. Experiences from counties with liberal patentability standards show that broad patentability standards lead to situations where there are no incentives for genuine innovations and competition is killed. The current IP system in the West are highly undesirable as there is no incentive to reduce the wastage and thus reduce the cost. Pharmaceutical firms charge exorbitant prices for medicines in the pretext of recouping R&D expenses. At the same time these companies are not willing to make public the actual cost of R&D. The system existing in the West does not require the firms to come clean on actual R&D cost and at the same time allows exorbitant prices under patent monopoly. It is therefore imbedded in the Western IP system, inefficiencies and wastage. By upholding the patentability criteria in Indian patent law and underscoring their rationale, the Supreme Court has conveyed a clear message to innovators that India requires medicines which are therapeutically more effective and affordable to

Table 1: Advertisement & marketing and R&D expenses and profit as percentage of sales turnover

	Advertisement and Marketing	R&D	Profit after Tax
2001-02	7.6	0.6	10.6
2002-03	7.5	0.7	10.4
2003-04	7.5	0.6	12.9
2004-05	7.1	0.9	18.3
2005-06	6.1	1.3	21.9
2006-07	7.0	1.1	23.4
2007-08	6.3	1.2	25
2008-09	7.0	1.5	24.9
2009-10	7.6	1.5	20
Source: Prowess			

There is no evidence to show that MNCs have been making substantial R&D investments in the country, to have a re-look at their plans to make India the R&D hub. They make only limited R&D investments in India. Even the limited amount MNCs spent on R&D in India ison phase III clinical trials. After examining the purposes of FDI transactions of the R&D projects Abrol et al. (2011) concludes that " a large number of R&D investment projects are focused on developing facilities for phase III clinical trials and other such modules that only integrate Indian talent and facilities into foreign pharmaceutical firms' global objectives" (page 342). Their investment on clinical trials is not going to be impacted by the Supreme Court verdict; they will continue to invest in clinical trials so long as India has its diverse population. India provides a large population which is ethnically and genetically diverse and suffering from various ailments (Grace 2004). India has six out of the seven genetic varieties of human race and a large size of treatment-naive population (untreated) who are looking for cure and better treatment (Srinivasan and Sachin 2009). English speaking population and a well developed communication network with information technology capabilities are also advantages in favour of India in clinical trials.

5. CONCLUDING REMARKS

The Supreme Court verdict by upholding the sanctity of the patentability criteria in the Patents Act gives a clear message on the nature of innovations in pharmaceuticals that are required in the country – innovations that are therapeutically more effective and affordable. An IP system that allows wastage, inefficiencies and exorbitant prices, as those in the West, is not desirable in Indian contexts. Underscoring of the rationale behind Section

End Nots

[1] Some parts of this section have been reproduced from Joseph (2016).

[2] Originally the appeal was filed in Chennai High Court. Later when IPAB became functional, five writ petitions challenging five orders of Assistant Controller were transferred to IPAB. And two writ petitions on the constitutional validity and TRIPS compliance of Section 3(d) were heard by the High Court.

[3] NactoPharma and Cancer Patients Aid Association were among the five parties which had filed pre-grant oppositions in the Patent Office on the patent application of Novartis.

[4] See para 107 of the Supreme Court Order (Supreme Court of India 2013).

[5] Article entitled 'Inhibition of the Abl Protein-Tyrosine Kinase in Vitro and in Vivo by a 2-Phenylaminopyrimidine Derivative' was published in the January issue in 1996. See para 127 of the Supreme Court Order.

[6] Novartis had filed an investigational new drug application for Gleevec on April 19, 1998 and new drug application on for ImatinibMesylate on February 27, 2001 in US FDA. Novartis sells the drug ImatinibMesylate under names Gleevec and Glivec.

[7] Quoted in James 2009.

[8] Anti-cancer drug Nexavar of Bayer cost Rs. 280428 per month in India. NatcoPharma was granted a compulsory license on this drug in March 2012 and the firm agreed to supply the drug at Rs. 8800 per month.

[9] Taken over Indian firms such as Ranbaxy, Matrix, etc. have not been included in the classification of MNC subsidiaries.

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GUIDELINES FOR SUBMISSION OF MANUSCRIPTS

Original papers that fall within the scope of the Journal shall be submitted by e-mail. An Abstract of the article in about 150 words must accompany the papers. The length of research papers shall be between 5000 and 7000 words. However, short notes, perspectives and lengthy papers will be published if the contents could justify.

1. The paper may be composed in MS-Words format, Times New Roman font with heading in Font Size 14 and the remaining text in the font size 12 with 1.5 spacing.

2. Notes should be numbered consecutively, superscripted in Arabic Numeral in the text and attached to the end of the article. References should be cited within the text in parenthesis. e.g. (Sen 2003:150).

3. Spelling should follow the British pattern: e.g. 'colour', not'color'.

4. Quotations should be placed in double quotation marks. Long quotes of above 4 (four) lines should be indented in single space.

5. Use italics for title of the books, newspaper, journals and magazines in text, end notes and bibliography.

6. In the text, number below 100 should be mentioned in words (e.g. twenty eight). Use "per cent", but in tables the symbol % should be typed.

7. Bibliography should be arranged alphabetically at the end of the text and must be complete in all respect. Examples:

    1) Hoffmann, Steven (1990): *India and the China Crisis,* Oxford University Press, Delhi.

    2) Bhalla and Hazell (2003): "Rural Employment and Poverty: Strategies to Eliminate Rural Poverty within a Generation", *Economic and Political Weekly,* Vol.33, No.33, August 16, pp.3473-84.

All articles are, as a rule, referred to experts in the subjects concerned. Those recommended by the referees alone will be published in the Journal after appropriate editing. No article shall be sent for publication in the Journal if it is currently being reviewed by any other Journal or press or if it has already been published or will be published elsewhere.

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