

Position Paper



INFORMATION TECHNOLOGY AGREEMENT Why Pakistan should accede

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List of Acronyms

FBR	Federal Bureau of Revenue
FDI	Foreign Direct Investment
FED	Federal Excise Duty
GDP	Gross Domestic Product
GITR	Global Information Technology Report
GSMA	Groupe Speciale Mobile Association
GST	General Sales Tax
GPS	Global Positioning System
ICT	Information and Communication Technology
IT	Information Technology
ITA	Information Technology Agreement
MNC	Multinational Company
MRI	Magnetic Resonance Imaging
NEC	Nippon Electric Company
NRI	Networked Readiness Index
PASHA	Pakistan Software House Association
PSEB	Pakistan Software Export Board Association
WTO	World Trade Organization

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Information Technology Agreement: Why Pakistan should accede

Talha Hassan & Dr. Manzoor Ahmad¹

1. Summary

This paper presents a Pakistani case of accession to the WTO Information Technology Agreement which obliges the signatories to withdraw any import duties and taxes on a list of IT and telecom equipment. Some of the products under the coverage of ITA are: computer hardware and software, telephones, semiconductors, measuring, testing and analysing instruments etc.

IT is a growing industry in Pakistan. Government is continuously allocating resources to enhance the proliferation of e-governance and e-commerce systems in the economy. Mobile application industry is driving up, educational institutions have also begun offering short courses and diplomas in application and software development. Law enforcement agencies, civil administrations and educational institutions are gradually enhancing the usage of information technology but the road ahead is not without major diversions and collisions.

Although the Information Technology is bringing efficiency and transparency among its hosting sectors, but its contributions in terms of value addition to the overall economy seems insignificant when compared with many other Asian countries. Pakistan's share of global IT sales is \$2.8 billion out of which \$1.6 billion is attributed to IT services and software exports. On the other hand the per year software exports of India are \$100 billion. Similarly, the amount (\$2.8 billion) is a tiny percentage of the global market of expected \$3.2 trillion in 2015. One of the major reasons behind this

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trend is the higher taxes and import duties on IT sector and it places Pakistan amongst those 5 countries which has highest import taxes on IT products. In 2013, custom duty on IT products was amounted to Rs. 3 billion and Rs. 5.7 billion was attributed to income tax on these items.

It is widely accepted that the benefits of IT are mostly related to its usage, not with its production. Taxation on IT is severely affecting the usage of IT across the economy and ultimately, it is blocking the organizational and technological developments, not only in the IT sector but also in the other sectors as well. On the basis of IT networked readiness, the GTR (2014) ranked Pakistan 111 among 158 countries. However, with the introduction of 3G and 4G spectrum the internet penetration has grown by over 300 percent but still internet penetration in Pakistan is likely to be among one of the lowest in the world. Although the government has earned around \$1.1 billion from the auction of 3G/4G spectrum but at the same time federal government has imposed 14 percent withholding tax on internet. It is not only affecting the \$1.1 billion investment of the cellular companies, which have purchased the 3G/4G spectrum but it will also hamper the proliferation of mobile broadband.

Taxation on IT can hamper connectivity, which can then hinder the GDP growth of the developing countries. In Pakistan, more than 50 percent of the users access the internet from their mobiles. However, in 2011, 30.4 percent of the cost of mobile ownership is attributed to taxes which was third highest level of taxation in the sample of 111 countries and resultantly, mobile phone subscribers in Pakistan are lesser than many other Asian countries.

Empirics prove that the reduction of taxes on IT sector can increase the economic growth of Pakistan and the liberalized IT sector has a potential to add a huge amount to the revenue of the government. Therefore, it is highly recommended that Pakistan should also accede to IT Agreement in the greater benefit of its own people and economy.

2. Overview of the Information Technology sector

The contribution and potential of Information Technology (IT) sector in terms of value addition to the economy of Pakistan cannot be ignored. Every year around 10,000 fresh IT graduates enter the market but only a limited number can be absorbed.² Freelancing industry is also establishing in Pakistan and according to Pakistan Start-up Report (2014), there are about 1 million freelancers in Pakistan. These freelancers are working mainly via Elance, Freelancers and Odesk (famous freelancing websites) and making Pakistan among top 5 freelancing nations. IT sector in Pakistan has a lot of potential, but there is no IT product manufacturing industry in the country and therefore, in terms of revenue generation, this sector is highly dependent upon the IT services and software exports. Pakistan's share of global IT sales is \$2.8 billion out of which \$1.6 billion is attributed to IT services and software exports. However, the amount (\$2.8 billion) seems insignificant when compared with the global market of expected \$3.2 trillion in 2015 and it is also dwarfed by the \$100 billion of Indian software exports per year³.

Although the IT services industry is growing in Pakistan and is creating opportunities for young entrepreneurs but the IT sector as a whole is facing severe problems in its penetration. The Global information Technology Report (GITR) of 2014 depicts a dismal condition of the development of this sector in Pakistan. This report is based on:

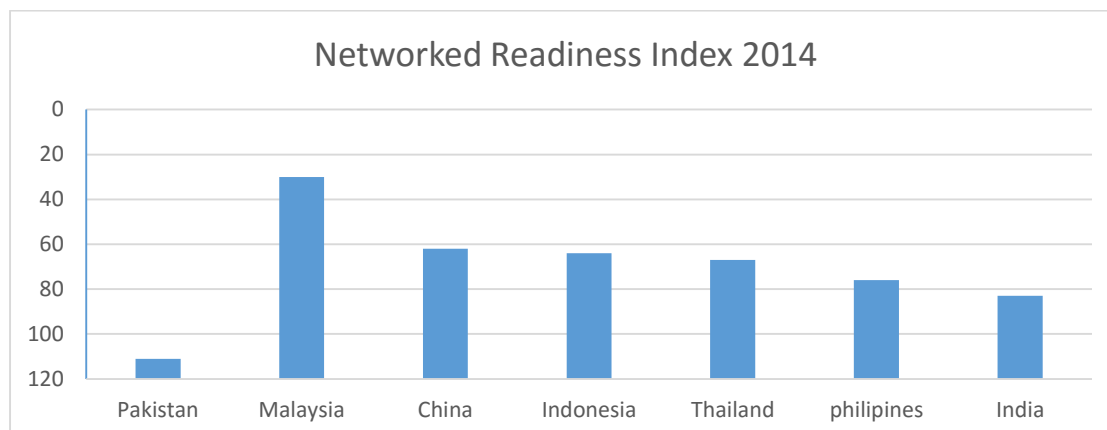
- The tendency of domestic atmospheres for the development of ICT, its diffusion in the economy and it is done on the basis of the business climate, regulatory frameworks, infrastructure (human and other infrastructure)
- The usage of IT by individuals, government and by business sector.

On the basis of IT networked readiness, the GITR (2014) ranked Pakistan 111 among 158 countries⁴. On the other hand, Malaysia is ranked at 30, China is at 62, Indonesia at 64, Thailand at 67, Philippines is ranked at 76 position and India is ranked at 83.

² Shah (2015) "Pakistan, the next software hub"; for details see: http://www.nytimes.com/2015/08/11/opinion/bina-shah-pakistan-the-next-software-hub.html?_r=0

³ Shah (2015) "Pakistan, the next software hub"; for details see: http://www.nytimes.com/2015/08/11/opinion/bina-shah-pakistan-the-next-software-hub.html?_r=0

⁴ Global Information Technology Report (2014); World Economic Forum

Figure 1: Networked Readiness Index (2014)

Source: World Development Indicators

Despite the fact that, in the current year, with the introduction of 3G and 4G spectrum the internet penetration has grown by over 300 percent. There were 3.8 million internet subscribers in June 2014 and by June 2015, the internet subscriptions surged up to 16.9 million but still internet penetration in Pakistan is likely to be among one of the lowest in the world⁵ and its further growth would depend on favourable domestic policy environment.

Most of the Asian economies have liberalized their IT sector but in Pakistan, it is still operating under the protectionist policies. At present, IT sector in Pakistan is struggling under custom duties (ranges between 10 and 25 percent), sales tax (17 percent) and non-adjustable income tax (5.5 percent).

Table 1 : Taxes on imports of ICT products

Types of taxes on IT	Percentage of IT taxes
Custom duties	10% and 25%
Sales tax	17 %
Income tax	5.5 %

⁵ <http://tribune.com.pk/story/939178/retrogressive-tax-on-internet-pulls-down-economy/> retrieved on 18 August 2015.

In addition to this, the Sindh government is collecting 6 percent sales tax on immovable property renting and in Punjab, the sales tax on services in relation to machinery, equipment and appliances, is 16 percent.

Although the government has earned around \$1.1 billion⁶ from the auction of 3G/4G spectrum but at the same time federal government has imposed 14 percent withholding tax on internet. Moreover, provincial governments, except Punjab, also imposed General Sales Tax (GST) on internet usage⁷. Sindh government levied 18 percent GST while in Khyber- Pakhtunkhwa and Baluchistan the GST on internet is 19.5%.

3. Information Technology Agreement (ITA)

Information Technology Agreement (ITA) was concluded at the first WTO Ministerial Conference in Singapore in 1996. Initially 29 countries signed the agreement but the number grew rapidly and by 1997 several other countries accounting for more than 90 percent share of world trade in information technology (which was the basic criteria of the declaration) joined the Agreement. At present there are 81 participants of ITA and they are having more than 97 percent share of the global trade in information technology. ITA is basically a plurilateral tariff cutting framework and requires complete elimination of tariffs/duties on the IT products covered in the agreement. While entering into this agreement, the participants have to follow three basic principles: 1) All the products mentioned in the agreement must be covered, 2) all the listed products must be covered, and 3) all the other duties and charges must be eliminated.

4. Expansion of Information Technology Agreement (ITA-II)

Pakistan has been deliberating on joining the ITA since 1997 while many other countries have moved on to an expanded IT agreement i.e. ITA-II. After several rounds of negotiations, on July 24, 2015, 54 WTO member countries agreed on the ITA expansion and confirmed the elimination of tariffs on 201 additional IT products. It is agreed by the participants that the reduction in the tariffs will be started by 2016 and majority of the tariffs will be eliminated within three years.

⁶ Pakistan Telecommunication Authority, for details visit: <http://www.pta.gov.pk/annual-reports/ptaannrep2013-14.pdf>

⁷ Though note that Punjab, and probably all others have still imposed 19.5% on the mobile internet usage.

These 54 countries have 90 percent share in the world trade of IT products. Moreover, the 201 products, prescribed in the expanded ITA, have 7 percent share in the global trade i.e. the world trade in these products amounted to more than \$1.3 trillion annually⁸. Among some of the products included in the new settlement are: new-generation semi-conductors, GPS navigation systems, high tech medical products such as the Magnetic Resonance Imaging (MRI) machines, telecommunication satellites and touch screens.

5. Impact of ITA on global economy

Over 1996 to 2010, the global trade in information technology products had almost tripled and one of the most important aspect of the growth performances of IT products is that these trends took place against the declining prices of some main IT products⁹. The price decline in these products, enhanced the usage and benefited the users in terms of increase in their productivities. Between 1996 and 2010, the share of developing countries in the global exports of IT has increased from 31 percent in 1996 to 66 percent in 2010¹⁰.

Asia's share in the global exports of IT products, increased from 44 percent in 1996 to 66 percent in 2010. Among the Asian countries, the development in the IT sector of Vietnam is of great importance. Vietnam managed to be in the top 30 exporters of IT products in 2010 and the IT sector in Vietnam had highest annual growth among the top 30 IT exporters of the world i.e. between 1996 to 2010 the growth rate in the IT sector of Vietnam is 45%. IT exports of Vietnam amounted to \$30 million in 1996 and reached to \$5 billion in 2010¹¹. Moreover, in China the favourable market conditions attracted several Multinational Companies (MNCs) and resulted in to increased production capacities in China. The favourable market environment in China also boosted the production of assembled IT products which are assembled by using imported components. China observed 29 percent growth in the IT exports which was second highest among the top 30 IT exporters of the world and over the same period India also observed 17 percent growth in the IT exports¹².

⁸ Source: https://www.wto.org/english/tratop_e/inftec_e/inftec_e.htm, retrieved on 18th August 2015.

⁹ WTO: 15 years of ITA. Source: https://www.wto.org/english/res_e/publications_e/ita15years_2012full_e.pdf
¹⁰ *ibid*

¹¹ WTO: 15 years of ITA. Source: https://www.wto.org/english/res_e/publications_e/ita15years_2012full_e.pdf

¹² WTO: 15 years of ITA. Source: https://www.wto.org/english/res_e/publications_e/ita15years_2012full_e.pdf

6. Reason behind Pakistan's reluctance in joining ITA

Pakistan started towards the accession process in 2001-2002 and eliminated custom duties on most of the IT products. However, this decision was then kept on hold and then reversed and duties and other taxes were imposed on IT products.

One of the major reasons due to which Pakistan is not acceding to IT Agreement is that the Federal Bureau of Revenue (FBR) fears reduction in the revenue collected from IT-sector¹³. Revenue from IT sector is attributed to sales tax, income tax, excise duty, withholding tax and custom duty. In 2013, FBR collected Rs. 3 billion from customs duty, paid on IT equipment, and Rs. 5.7 billion was attributed to income tax on these items¹⁴.

7. Possible outcomes of joining the ITA

The empirical evidence suggests that signing the ITA agreement would have far reaching beneficial impacts on the economy of Pakistan. The accession to ITA is likely to result in the following:

7.1 IT-spillovers

IT spill-overs represent the advantageous effects of advanced and new technological knowledge on the productive and innovate capacity of different industries across the economy. IT related spill-overs are mostly incorporated through market mechanisms such as trade, foreign and domestic investments, patents and copy rights etc. Since technology is non rival and therefore, once it is invented, it can easily be diffused to the imitators of the new technology¹⁵ and hence these spill-overs are also known as positive externalities of IT.

It is expected that higher the openness of the economy, higher will be the beneficial impacts of the technology spill-overs¹⁶. In the early 1990s, in order to protect its domestic computer manufacturing industry, India adopted the import substitution strategy and placed higher tariffs on computer imports and other IT related products.

¹³ *Information Technology Agreement: Implication for Pakistan, presented by Dr. Manzoor Ahmad (former WTO Ambassador of Pakistan), 22nd April 2015, meeting at the Ministry of IT.*

¹⁴ *Ibid.*

¹⁵ *Use of IT by one agent does not limit its use by others. Similarly, the cost for a one more user to use an existing technology is negligible as compared to the cost of inventing it.*

¹⁶ *Giovanni Peri, World Economy Technology Spillovers; http://economics.ucdavis.edu/people/gperi/site/papers/tech_spillovers.pdf; Kalra and Sodsriwiboon (2010), "Growth Convergence and Spillovers among Indian States: What Matters? What Does Not?" IMF working paper.*

However, Kaushik and Singh found that, due to lost spill over effects, with every \$1 being imposed on IT imports, India suffered an economic loss of around \$1.30¹⁷. As the authors quoted “High tariffs did not create a competitive domestic [hardware] industry, but [they] limited adoption [of ICT by users in India] by keeping prices high.”¹⁸ Realizing the negative impact of tariffs on ICT products, India was amongst the first countries to join the ITA. After acceding to ITA, India’s IT industry is playing a major role in revenue generation. The year on year growth of India’s IT exports is 13 percent and its current target of revenue out of this mode is \$146 billion.¹⁹

7.2 Digital inclusion

Lower tariffs minimize the cost of IT products and facilitate the diffusion of technologies which are essential for economic growth. The demand for IT products is associated with the changes in income and prices, which means that level of openness and the tariffs can really affect the diffusion of IT in the economy. Research reveals²⁰ that the demand for these products is price and income elastic i.e. a one percent increase in income or a one percent decline in prices leads to a more than one percent increase in the demand for IT products. It means that when there is an increase in the economic growth of a country then the demand for IT also increases. Similarly, demand for IT also respond positively towards falling prices of these products.

This behaviour of the demand of IT, significantly benefited the global economy and it is evident through the impacts of ITA on the global economy i.e. higher economic growth and the fall in the prices of IT, which are associated with the trade openness, facilitated the diffusion of IT and resulted in the acceleration of innovation and productivity of different economies.²¹

17 P.D. Kaushik and Nirvikar Singh, “Information Technology and Broad-Based Development: Preliminary Lessons from North India” (working paper No. 522, UC Santa Cruz Economics, July 2002), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=344830.

18 *ibid*

19 Source: <http://www.nasscom.in/indian-itbpo-industry>, assessed on 29th July 2015.

20 Mann (2006) *op. cit.*, Mann, C.L. and Kirkegaard, J.F. (2006), *Accelerating the Globalization of America: The Role for Information Technology*, Washington DC: Peterson Institute for International Economics, pp 12-14. Dedrick, J., Gurbaxani, V. and Kraemer, K.L. (2003), “Information technology and economic performance: a critical review of the empirical evidence”, *ACM Computing Surveys* 35(1): 1-28.

21 WTO: 15 years of ITA. Source:

https://www.wto.org/english/res_e/publications_e/ita15years_2012full_e.pdf

7.3 Affordability and usage

In Pakistan, higher taxation is making IT related products and services unaffordable and it is badly affecting the IT usage in the country. Argentina's experience shows that the protection of domestic IT-industry can lead to a situation where individuals have to pay higher for the inferior goods. In order to protect its domestic computer industry, Argentina imposed tariffs on assembled computers. It resulted in inefficient computer industry in which one-third of the computers are hand assembled in small shops²². Conversely, Philippines and many other signatories of ITA have established their IT industries which are adding a huge amount to their GDPs²³.

The impact of higher taxation can be investigated through the causes of higher taxation on mobile industry. Mobile industry has a lot of potential to contribute in the economic growth of the country. It is one of the important factors in leading to a knowledge based economy and in the enhancement of the digital inclusion of the country²⁴.

In Pakistan, more than 50 percent of the users access the internet from their mobiles. However, mobile users are also suffering from the government taxation and in 2011 30.4 percent of the cost of mobile ownership is attributed to taxes which was third highest level of taxation in the sample of 111 countries²⁵. Similarly in 2013, it is estimated that mobile operators paid \$57 million in terms of income tax at import²⁶.

The study conducted by Deloitte (UK) noted that the tax revenue collected in 2013 was \$31.5 billion and 7 percent of this amount is contributed by mobile sector. The impact of this taxation is replicated in the affordability of mobiles in Pakistan. Fig 2 shows that the mobile phone subscribers in Pakistan are lesser than other Asian countries.

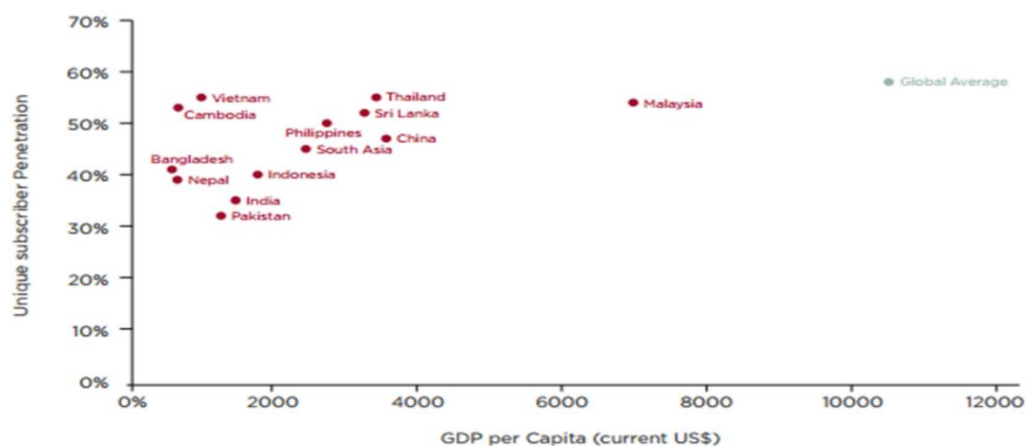
22 Ezel and Atkinson(2010): *The Good, the Bad, and the Ugly of Innovation Policy: Executive Summary*; <http://itif.org/files/2010-good-bad-ugly-exec-summary.pdf>

23 "Boosting Trade, Jobs, and Economic Growth by Expanding the ITA", presentation to World Trade Organization, by Dr. Robert D. Atkinson, President, ITIF (12th May 2012).

24 Qiang, C. Z. W., Rossotto, C.M, 2009.

25 GSMA/Deloitte, *Global Mobile Tax Review*, 2011

26 Deloitte analysis based on operator and GSMA Intelligence database data

Figure 2: unique subscriber penetration and GDP per capita

Source: GSMA Intelligence database and World Development Indicators

In addition to taxation on mobile, the imposition of taxes on the internet usage is creating severe problems for the internet penetration in the country. It is not only affecting the \$1.1 billion investment of the cellular companies, which have purchased the 3G/4G spectrum but it will also hamper the proliferation of mobile broadband.

It is widely accepted that the benefits of IT are mostly related to its usage, not with its production. India is not an IT hardware manufacturer but it is experiencing great surge in investment and exports, related to IT industry. In the US, around 80 % of the benefits from IT are related to its use by different organizations, rather than its production²⁷.

Rausas *et al.* (2012) found that only internet usage has contributed to around 11 percent of GDP in 13 countries including India, China and Japan²⁸. According to him, this is the reflection of increase in the efficiency of the small and medium scale enterprises.

7.4 Productivity and innovation

IT helps in the acceleration of technological and organizational innovation in different sectors of the economy. However, the benefits of the innovation in this sector is not only related to bringing the new products in the market but the way in which these products are being utilized is also of great importance. 3 D printers, bar code scanners etc. are the technological innovations in the IT sector and the usage of these products

²⁷ "Boosting Trade, Jobs, and Economic Growth by Expanding the ITA", presentation to World Trade Organization, by Dr. Robert D. Atkinson, President, ITIF (12th May 2012)

²⁸ Rausas *et al.*, (2011) *Internet Matters: The Net's Sweeping Impact On Growth Jobs and Prosperity*

can bring efficiency and increased productivity in the other sectors of the economy. Man (2006) found that in the US “more than half of the gain in productivity growth from the mid-1990s to the recent 2000s has come from the use of IT”.²⁹

In Pakistan, higher taxation on this sector is creating severe problems in the development of IT sector. It is not only effecting the consumers but it can also discourage the future investment in this sector and all this is blocking the development of IT sector in the country which is already not in a good condition.

With the elimination of taxes, the scope of investment in this sector will be widened, which ultimately enhance the intensity of IT across the economy. This increase in the intensity of IT can improve the innovative capacity and efficiency of the firms and make them highly productive.³⁰ Studies conducted by Oliner (2000) and Jorgenson (2003) reveal that the firms that make larger investment in information technology, can experience larger productivity gains.³¹

7.5 Revenue Generation

Elimination of taxes on IT can increase the demand of IT related products and services and can increase the tax base of the economy. The enhancement of tax base will then add a huge amount to the revenue of the government.

By reducing the sales tax on SIM card, government of Pakistan has already seen some of the benefits of reforming IT-specific taxes. The sales tax on SIM card was reduced from Rs. 2000 to Rs.1000 in 2004 and it is further reduced to Rs. 250 in 2009. As a result of this reduction, there was a phenomenal increase in the mobile penetration and in the government revenue. In these five years the cumulative revenue from this sector amounted to \$8 billion³².

A recent study by Deloitte (UK) shows that if the taxes on mobile sector are rationalized in 2015, there may be an overall tax loss of Rs. 14 billion in first year followed by revenue neutrality after two years and cumulative benefit of Rs. 15 billion in 5 years³³. Thus not only there are gains for the consumers but the revenue also increases substantially. Tax-wise details of losses/gains are given below:

²⁹ See Mann (2006), *op. cit*

³⁰ See Ann et al. (2005), <http://www.nber.org/papers/w11773.pdf>

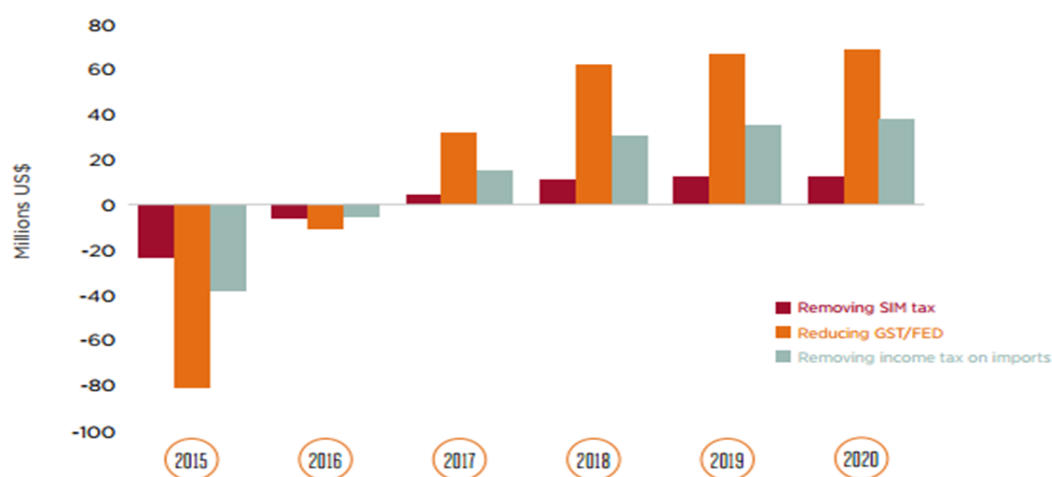
³¹ For details see: Jorgenson, Ho and Stiroh (2003) and Oliner and Sichel (2000).

³² For details see the report “Digital Inclusion and Mobile taxation in Pakistan”, Deloitte (2014) for GSMA

³³ For details see the report “Digital Inclusion and Mobile taxation in Pakistan”, Deloitte (2014) for GSMA.

If SIM card sales tax of Rs. 250 is abolished, there will be a tax loss of \$22 million in first year but removal of SIM card sales tax will increase mobile connections by 500,000. As a result tax revenue will be neutral by 2017 and by 2020, there will be surplus of \$2.5 million. Similarly reduction of GST/FED on all mobile services to 17%, there may be a loss of \$80 million in first year but this reduction will generate an additional 2 million connections by 2020. As a result there will be revenue neutrality by 2017 and cumulative benefit of \$69 million in 2020. If the withholding income tax of 5.5% is eliminated, it would result in increased connection by 900,000. As a result, initial loss of \$38M (Rs. 3.8 billion) in first year will become neutral by 2017 and by 2020, there will be benefit of \$75 million.

Figure 3: potential tax revenues compared to the under tax counterfactual under tax reform alternatives



Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

7.6 Demographic Dividend

Pakistan has more than hundred million youth in 2013. According to labour force survey 2012-13, labour force was growing at an average rate of approximately 3 percent while the economy was accelerating at 3.5 percent. Hence it is estimated that around half of the new entrants in the job markets join the existing stock of unemployed each year for next few years. With this type of demographic structure, Pakistan can earn a huge amount of demographic dividend. IT sector can be one of the major sources in availing that opportunity because it is estimated that the usage of information technology has favourable impacts on the job industry³⁴. Empirics also

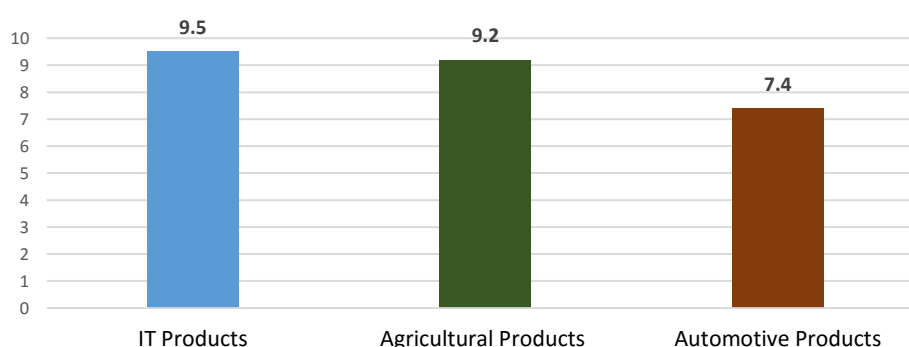
³⁴ Catherine L. Mann (2012), "Information Technology Intensity, Diffusion, and Job Creation"

reveal that the highly IT intensive firms are 30% more likely to generate employment than low IT-intensive firms³⁵. Thailand participated in ITA in 1996 and from 2002 to 2010 the Information and Communication Technology (ICT) workers have been increased by 37 percent³⁶. India acceded to ITA in 1997 and now there are 3100 plus digital start-ups, making it a fourth largest start-up growing community in the world³⁷. Moreover, 53 percent of these start-up founders are of the age of 26-35 years and 52 percent of them are post graduates.

7.7 Benefits from becoming part of the global supply chains

IT products have got a higher share in merchandise exports, than the other sectors. During 2010 the share of IT products in the world merchandise export is 9.5 % which is higher than the share of agricultural and automotive products³⁸. In 2010, exports of ITA products reached to \$1.3 trillion and it is much higher than the global share of IT exports in 1996 i.e. approximately triple the value of 1996³⁹.

Figure 4: Share of IT products in World Merchandise Exports



Source: World Trade Organization

This increase in the global share of merchandise exports has created several opportunities for the developing countries.

³⁵ "Boosting Trade, Jobs, and Economic Growth by Expanding the ITA", presentation to World Trade Organization, by Dr. Robert D. Atkinson, President, ITIF (12th May 2012)

³⁶ *ibid*

³⁷ <http://www.nasscom.in/india-startup-ecosystem> assessed on 29th July 2015.

³⁸ WTO (2012): 15 years of ITA ;

https://www.wto.org/english/res_e/publications_e/ita15years_2012full_e.pdf

³⁹ *ibid*

The business environment in Pakistan is not facilitating the MNCs to establish their industries in the country. In 2012, while addressing to a public meeting in Pakistan, Jana Levene, Google's head of Emerging Market Development, South East Asia, said that Pakistan is Google's next big market in the region, "Pakistan is a \$400 to \$500 million market for Google,"⁴⁰. However, she told the gathering that before entering into any market Google not only analyse the demographics of a country but it also considers the Laws and regulations of the country. She said, "The laws regarding internet censorship, the security of our employee etcetera are the things we take into account." Recently, on 11 September 2015, Google's delegation again visited Pakistan and it can be perceived that Google is going to open its permanent office in Pakistan. However, Badar Khushnood, former consultant of Google in Pakistan, denied this by saying that government has to amend its policies in order to attract big companies like Google and if such companies came into the country then other smaller companies will also rush towards the Pakistani market⁴¹.

With the liberalization of IT sector, the economies like Pakistan, can attract the Multinational Companies (MNCs) and can become part of the global value chain. After signing ITA, China, Thailand, Malaysia and Philippines, joined the global supply chains and their exports revenues grew several folds. The impact of joining ITA on Philippine's economy is an excellent example for the countries like Pakistan which are deliberating in acceding to this agreement. After becoming signatory of ITA, Philippines attracted the MNC's. Today eight out of the thirty world's top chip makers and the electronic companies like Hitachi, Toshiba, Fujitsu and NEC are operating in Philippines and in 2006, their exports of semiconductors and electronics amounted to \$30 billion⁴².

7.8 Economic benefits of accession to WTO Basic Telecom and Financial Services Agreements

The possible outcomes of signing ITA agreement can also be viewed through the impact of becoming signatory of WTO Basic Telecom and Financial Services Agreements in 2003. With these accessions, Pakistan attracted huge investment and it has also resulted in the employment generation. As shown in the Figure 5, after

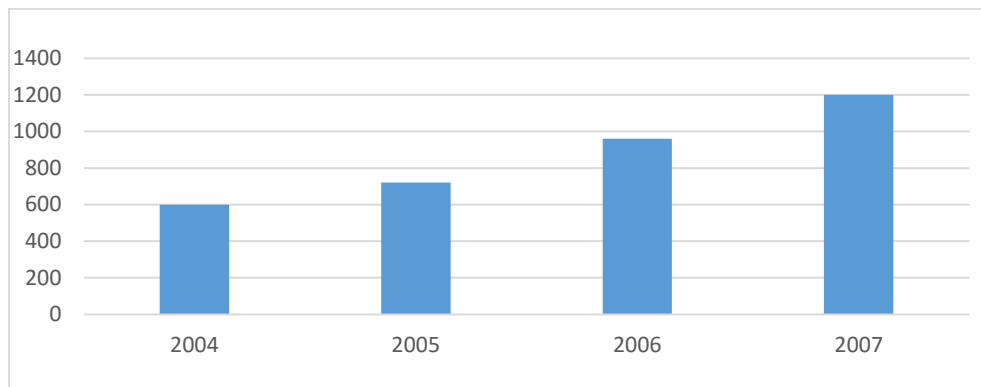
⁴⁰ Source: <http://tribune.com.pk/story/434461/up-and-coming-google-pakistan-earns-500-million-in-revenue/> retrieved on 16 September 2015

⁴¹ As per our telephonic conversation with Badar Khushnood, former Google's consultant in Pakistan, on 16 September 2015

⁴²The Report: The Philippines (2009); pp (148-149)

accession to WTO Basic Telecom and Financial Services Agreements software revenue of Pakistan has also increased tremendously and it surged up from \$600 million in 2004 to \$1200 million in 2007.

Figure 5: Software Revenues (Mill. \$)



Source: Pakistan Software House Association (PASHA)

7.9 Building on the current IT infrastructure and human resource

As in the case of WTO Basic Telecom and Financial Services Agreements in 2003, Pakistan can greatly build on its IT infrastructure and well-trained human resource. According to the details given by the Pakistan software export board (PSEB) and Pakistan Software House Association (PASHA):

- i) The industry as a whole is incurring a revenue of more than \$2 billion and based on the current scenario, it is expected that it will exceed the mark of \$ 11 billion in next five years.
- ii) There are more than 1500 IT and other IT associated companies and there is a skilled labour force of more than 100,000 English-speaking IT professionals in Pakistan.
- iii) Since 2007 IT industry as a whole is growing at a rate of 40% and a larger part (50%) of this growth is coming from software and other high margin services.
- iv) Pakistan's IT sector has also fascinated the multination companies like IBM and Microsoft and in turn attracting a huge amount of foreign capital.
- v) The most impressive part of the IT industry is that it is experiencing an increasing growth in the youth entrepreneurship and several start-ups are now supported by capital providing companies like Adobe and Motorola.
- vi) There were only four founding companies in early 90s and at present the membership of PASHA is 370. Similarly, according to PASHA there were

only 4200 employees in the IT services industry in 2004 and in 2014 the number reached to 12000.

Although the details provided by PSEB and PASHA depicts that the IT sector in Pakistan has a lot of potential but yet its performance seems unsatisfactory when compared with other Asian countries like India, Malaysia, and Philippines etc. government regulations are halting the momentum of development of this industry, which is already in a nascent condition

7.9 Economic growth and sustainability

With accession to the ITA, Pakistan can enhance the technological progress in the economy and this upsurge in the technological progress can result into increase in the economic growth of the country⁴³. It is found that in low and middle-income countries, a 10% increase in broadband subscriber penetration increase economic growth by 1.38%⁴⁴. Findings of the World Bank and GSMA also revealed that a 1% increase in mobile penetration can cause an increase in the GDP growth by 0.28%⁴⁵.

The development of the IT-sector has resulted in the acceleration of the economic growth of ITA signatories. According to Atkinson (2012), from 2006 to 2011, the internet alone has contributed to 21% of the GDP growth across 13 economies, including China, Russia, India, Brazil and Korea. In India, aggregated revenues of IT sector was \$130 billion in 2014 and it is expected to reach \$146 billion in 2015.⁴⁶

8. Conclusion

If the government decides to join the Information Technology Agreement, it will be a win-win situation for consumers, industry, government and other stakeholders. Within a short time, there will be substantial gain in tax revenues (\$1.9 billion by 2020), new investment in IT sector and more employment generation. This would also help Pakistan move towards a knowledge-based economy.

⁴³ Solow growth model also predicts that in the long run, economic growth is dependent upon the level of technological progress.

⁴⁴ Qiang, C. Z. W., Rossotto, C.M., 2009.

⁴⁵ Based on a study of 40 economies over the period 1996-2011; for details, see <http://www.gsma.com/publicpolicy/wp-content/uploads/2012/11/gsma-deloitte-impact-mobile-telephony-economic-growth.pdf>; Qiang, C. Z. W., Rossotto, C.M., 2009. *Economic Impacts of Broadband, in Information and Communications for Development 2009: Extending Reach and Increasing Impact*, World Bank, Washington D.C.

⁴⁶ Source: <http://www.nasscom.in/indian-itbpo-industry>, assessed on 29th July 2015.

There will be many ancillary gains. Our industry, in particular Small and Medium Enterprises, will be able to work more efficiently and productively. Delivery of government services particularly in health and education will improve substantially. Greater use of IT will also bring more transparency and reduce corruption. If computers and other related information technology products are cheaper, every organization will be tempted to use them as has happened in case of other developed countries which joined the ITA.

It is hoped that the Government of Pakistan will introduce bold, pro-market reforms in the liberalization of IT sector thus creating more job opportunities, growth and competition. If the reversal of the anti-competition International Clearing House policy directive is any guide, accession to IT Agreement should become a natural choice for the leadership.