Discussion Paper

Global Value Chain
Reframing the Case for India

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Contents

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Abstract

International fragmentation of production process is here to stay. India along with other countries in South Asia is yet to actively participate in the global value chain network. Participating in global supply chain has become a necessary condition for any country targeting a higher growth trajectory. Evidence shows firms which are part of global supply chain are more productive and competitive. Economies which are part of global value chain network are also the countries with higher per-capita income.

However, we find India, and other countries in South Asia are not fully prepared to participate in the global value chain network. To become integrated with the international production process, there is a need to reduce trade cost and enhance trade facilitation measures in South Asia. Also, there is a need to have agreement so that South Asian countries acknowledge one another standards, and have easier customs clearance procedures.

Given the asymmetric large size of the Indian economy in South Asia, the other economies in this region are likely to gain by supplying certain items that fit in the overall supply chain process. Specifically, we find for India there is a need to invest more in physical infrastructure, besides working in the areas such as reforming labour laws, reducing trade costs, a uniform tax policy, an effective judiciary, and better institutions to bring down cost of doing business, for becoming active participant of global supply chain.

Introduction

This paper is about why India, and for that matter any developing countries in South Asia, need to become part of global value chain network. International fragmentation of production process has become a reality. It has become both necessary and desirable for any country to participate in global supply chain. But are they prepared?

In this paper we look at the preparedness of India to become part of global value chain network. A value chain is a chain of activities that a business undertakes in order to produce and sell a product and services. Typically, a value chain starts with research activities in the laboratory which then lead to the development of a product design.

The next step involves the purchasing, processing, and assembly of raw materials and inputs. This is followed by marketing, sale, distributions, and any after-sales service related to the product. In a globalised world, instead of all these activities taking place in the home country, multinationals move certain activities overseas to take advantage of the cost differential. Normally, research and development, designing, and marketing are done in developed countries; whereas the mass scale production takes place in developing nations. When the Ford Motor Company and Nokia shift their production base to India, it is because of India's lower input cost.

In recent times, thanks to the spread of information technology, the global value chain has become more integrated and relevant for any economy. Firms and workers in geographically separated location affect one another more frequently than they have done in the past. Some of these effects are quite straightforward, as when a firm from one country establishes a new factory or engineering centre in another country. Others are more complex, for example when a firm in one country contracts with a firm in another country to coordinate production in plants owned by yet another firm in a third country.

There are also instances of countries moving up the value chain of the global production network. For instance, General Motors initially used Brazil for assembling car parts imported from the US. Over a period of time, Brazil started to produce its own cars and now has become one of the largest manufacturers of automobiles in the world. This indicates that there are opportunities for new markets in places such as Latin America that General Motors could consider building additional assembly lines. It is important to recognise, although, that many countries would welcome foreign direct investment (FDI), but from the perspective of multinational corporations (MNCs) they would prefer to invest in countries where it is easy to do business.

Myths about the Global Value Chain

Job Loss

One popular myth about the global value chain is that developed countries are likely to lose jobs at the expense of developing countries because of MNCs shifting their production base to the latter. Empirical evidence suggests otherwise. Moran and Oldenski (2013) find that foreign multinational firms that invest in the United States, alongside US-headquartered American multinationals, are the most productive and highest-paying segment of the US economy.[1]

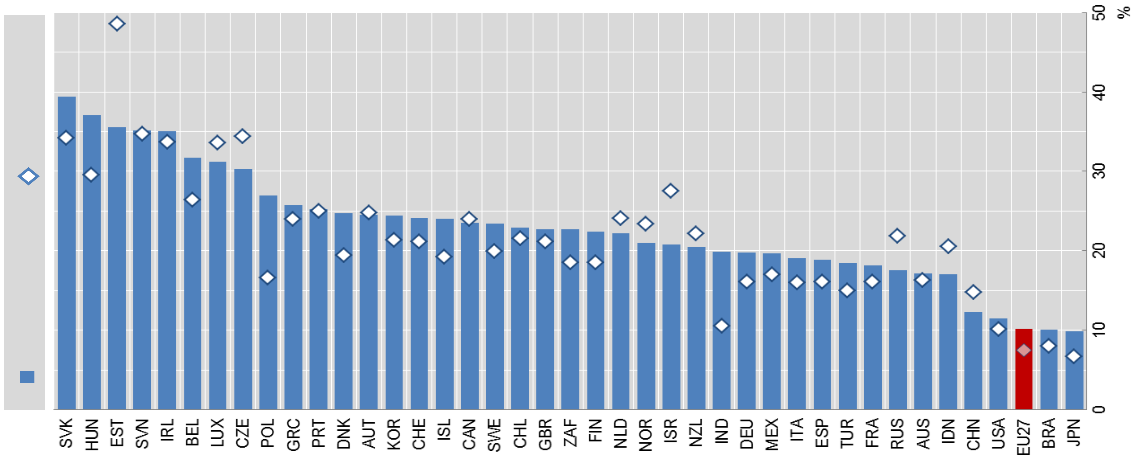
Disproving the often expressed claim that overseas investments by American companies comes at the expense of economic growth and job creation in the United States, the authors show that the reality is US-based companies investing abroad are also the biggest job creators, investors, and exporters at home. These firms conduct more research and development (R&D), provide more value added to US domestic inputs, and export more goods and services than other firms in the US economy. The US based multinational firms spend more than 7 per cent of their value added on R&D. Compare this with the US firms which do not invest outside the US. They spend about 4.8 per cent of value added on R&D (Theodore and Oldenski, 2013).

The superior technology and management techniques employed by the multinational firms spill over horizontally and vertically to improve the performance of local firms and workers. In 2009, the average worker employed with the US firms which do not invest outside the US, earned US$64552 in wages in comparison to the average income of US$77597 for the workers in multinational firms investing outside the US (I*bid*).

Preliminary estimates suggest that over 10 million US jobs were sustained by foreign consumers, with East Asian consumers sustaining 2 million American jobs.[2] Consumers in one country sustain jobs in countries further up the value chain. In 2008, in Europe, between 20 and 40 per cent of the business sector jobs were sustained by foreign demand (see Figure 1).

[1] Moran, Theodore and Lindsay Oldenski, (2013), Foreign Direct Investment in the United States: Benefits, Suspicions, and Risks, with Special Attention to FDI from China, Peterson Institute for International Economics.
[2] http://www.oecd.org/sti/scoreboard-2013-interactive-charts.htm

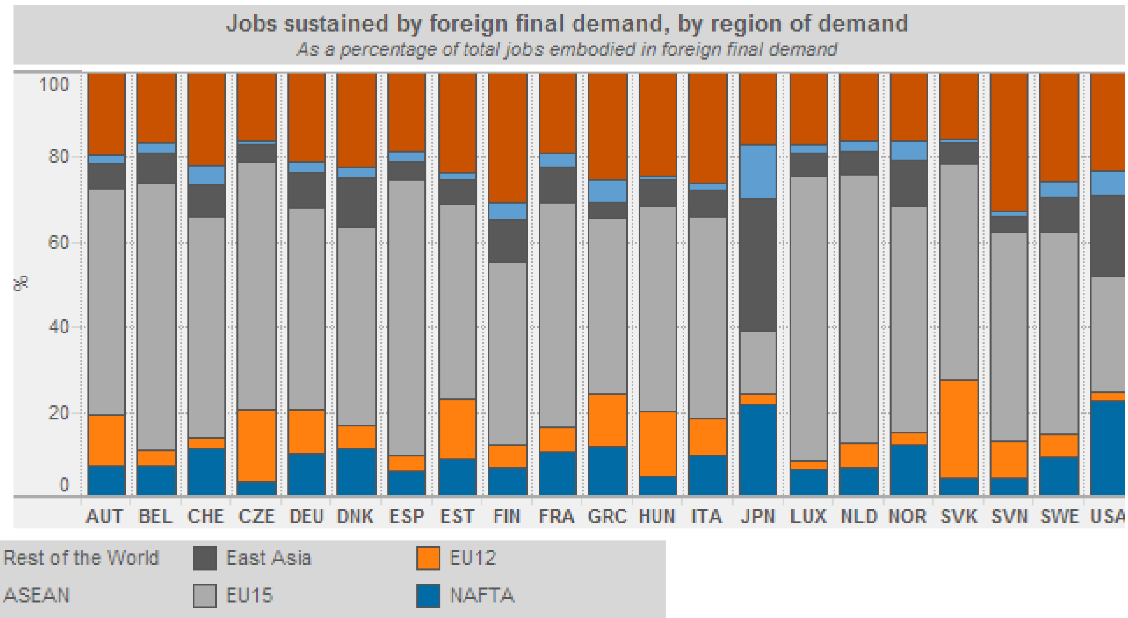
Figure 1: Foreign value added embodied in domestic final demand for European Countries, 1995 and 2009 (As a % of GDP)



Source: OECD-WTO, Trade in Value Added (TiVA) Database, http://oe.cd/tiva, May 2013.

In fact, the higher countries sit in the value chain, the more those countries depend on foreign demand for sustaining jobs in their domestic economy (see Figure 2).

Figure 2: Jobs sustained by foreign final demand, by region of demand



Source: OECD-WTO, Trade in Value Added (TiVA) Database

Re-examining Trade Data

Countries often restrict market access to countries with which they run trade deficits. For instance, the US has historically run a trade deficit with China. In September 2009, the US administration imposed additional duties for a three-year period against imports of tires from China on the theory that they were disrupting the US tire market. This action harmed US consumers and Chinese producers in an effort to provide some benefit to the relatively small number of US workers in the tire industry, but it did nothing to advance the cause of trade liberalisation.[3]

Therefore, the idea of protecting the domestic economy using non-tariff barriers (NTBs) is ineffective. As raising tariff barriers is not feasible under the World Trade Organisation (WTO) framework, individual governments try to protect their respective economies by raising NTBs, such as antidumping measures, sanitary and phytosanitary sanctions, import licenses, etc. It is to be noted that due to WTO commitments, it is not easy for a country to increase tariffs without substantive negotiations with, and compensation to, affected parties and many countries are therefore now using NTBs to protect their economy.

The famous iPhone example clarifies the situation. Although, the iPhone is designed and marketed by Apple Inc. in the US, a large chunk of the device is manufactured outside the US with components coming from many other countries (See, Table 1). So, when China finally sells an iPhone to the US and the US runs a trade deficit with China, it is incorrect to attribute the entire US-China trade deficit to China alone. For there are other countries that have contributed to the production of the iPhone and hence the value addition of these other countries has to be taken into account when calculating the US-China trade deficit. It is certainly not correct to target one country on the premise that it may be the cause of a trade deficit. There is a need to re-evaluate at the gross trade data, taking into consideration all countries involved in the value chain.

Table 1: Apple iPhone (3G) major components and cost drivers

Manufacturer	Component	Cost (in $)
Toshiba (Japan)	Flash Memory	$24
	Display Module	$19.25
	Touch Screen	$16.00
Samsung (Korea)	Application Processor	$14.46
	SDRAM-Mobile DDR	$8.50
Infineon (Germany)	Baseband	$13.00
	Camera Module	$9.55
	RF Transceiver	$2.80
	GPS Receiver	$2.25
	Power IC RF Function	$1.25
Broadcom (USA)	Bluetooth/FM/WLAN	$5.95
Numonyx (USA)	Memory MCP	$3.65
Murata (Japan)	FEM	$1.35
Dialog Semiconductor (Germany)	Power IC Application Processor Function	$1.30

[3] Dylan Matthews (October, 2012), How Obama's Tire Tariffs Have Hurt Consumers, Washington Post. Available at: http://www.washingtonpost.com/blogs/wonkblog/wp/2012/10/23/how-obamas -tire-tariffs-have-hurt-consumers//?print=1.

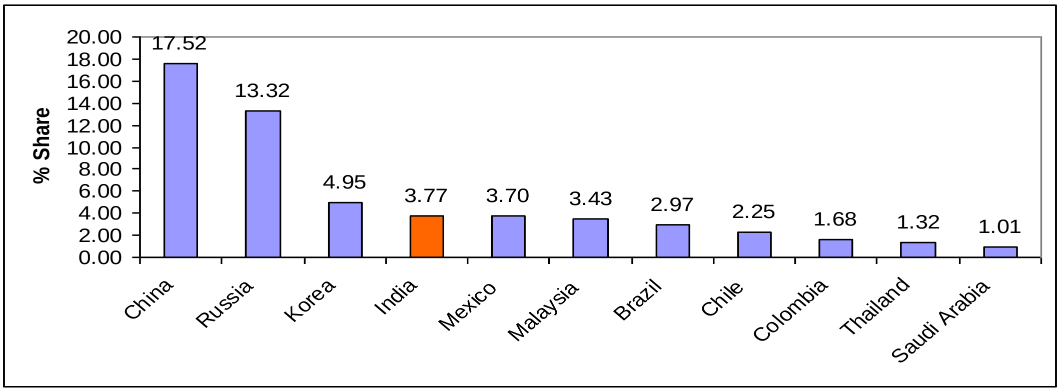
Cirrus Logic (USA)	Audio Codec	$1.15
Rest of Bill of Materials		$48.00
Total Bill of Materials		$172.46
Manufacturing costs		$6.50
Grand Total		$178.96

Source: Rassweiler (2009)[4]

India and the Global Value Chain

Attracting foreign investment might not always be easy for developing countries, like India. This is in spite of many developing countries having advantages in terms of cheaper labour and land. Developed countries such as the US and other Western European countries get more MNC funding because of transparency in business rules and low cost of doing business. Also, because of flexible labour laws and mechanisation of production, labourers are more productive in developed countries. This is in spite of labour being costlier in developed countries. Likewise, state-of-the-art infrastructure such as roads, ports, electric grids, telecommunication, and banks, often lacking or poorly established in developing countries, is essential for running a business. Equally important is the tax regime. The tax system should be business friendly for foreign companies. It is advisable that the host countries do not change tax rules retrospectively or too frequently. From the policy side, to take advantage of the global value chain it is important to build on these aforementioned attributes. The present National Democratic Alliance (NDA) government at the Centre is thinking of strengthening trade ties with China. As Figure 3 shows, there is the possibility of India receiving investment from China. When it comes to outward investment flow from developing countries, China has the largest percentage share. In 2013, China accounted for roughly 18 per cent of the total outward investment flow from developing countries. But for attracting Chinese fund, India needs to work on certain domestic issues.

Figure 3: FDI outflow from Developing Economies



Source: UNCTAD (2014)

[4] Rassweiler, A (2009), iPhone 3G S Carries US$178.96 BOM and Manufacturing Cost, iSuppli Teardown Reveals iSuppli, 24 June. Source: https://technology.ihs.com/389273/iphone-3g-s-carries-17896-bom-and-manufacturing-cost-isuppli-teardown-reveals.

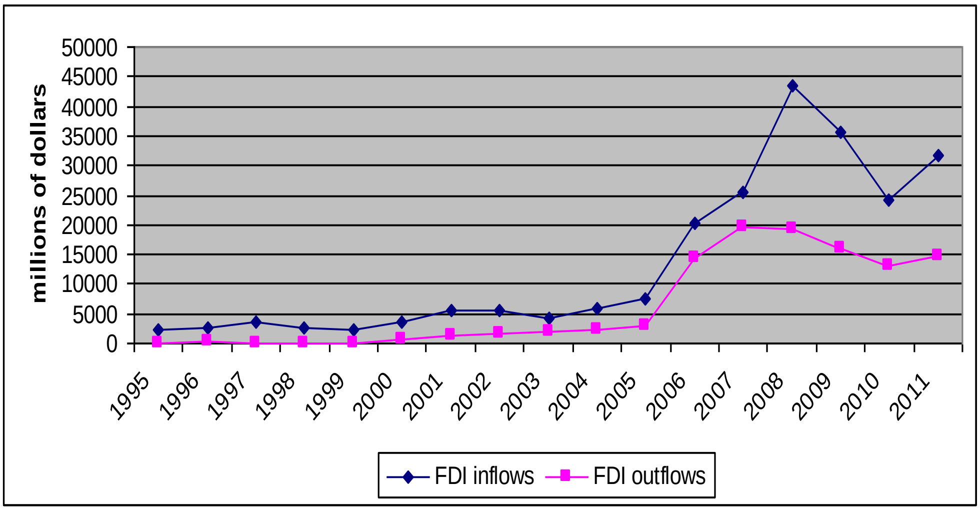
Problems of India Participating in the Global Value Chain

High Cost of Doing Business

Although reforms in India are taking place, they are far from complete. Companies face a maze of government orders, regulations, rules and procedures, which raise the cost of production and hence affect exports. In its Doing Business Report-2012, the World Bank placed India in the 132th position out of a sample of 185 countries, which is far worse than China (91st), Sri Lanka (81st), Bangladesh (129th), or Pakistan (107th) when it comes to the convenience of doing business. Enforcing a contract in India takes an average of 1,420 days and involves 46 different procedures. Importing goods takes an average of 20 days and 11 documents. Tax payments have to be made on average 33 times per year and the process takes 243 hours.[5]

Figure 4 suggests, during the years following the financial crisis – between 2007 and 2010 - FDI inflow to India has fallen sharply in comparison to the FDI outflow. One reason is because of high cost of doing business in India.

Figure 4: India's FDI flows: Inflow *vis-à-vis* outflow



Source: UNCTAD (2014).

Frequent Change in Policy

Private investment, including foreign direct investment, has slowed down. This is primarily because of the Indian government changing policy rules frequently. A number of events since March 2012 have seriously dented India's image as a favourable investment destination.

First is the much talked about Vodafone case where the Union Government in 2012 retrospectively changed the tax laws to penalise the UK-based telephone giant. Second is the cancellation of 2G mobile licences, sending a clear signal to the international business community about an uncertain policy environment in India. Third is the introduction of

5 Doing Business Report (2012), World Bank.
Available at: http://www.doingbusiness.org/data/exploreeconomies/india/

General Anti-Avoidance Rules (GAAR) in the 2012 budget which spooked foreign investors. Fourth is South Korea's steel major Posco getting approval for building a US$12bn steel plant in Orissa, India and a decade later it is yet to become operational. Fifth, in 2013, the Delhi State government under *Aam Aadmi* Party control reversed the Congress government's previous decision to allow foreign direct investment in multi-brand retail.

Infrastructure

To be part of the global value chain, it is necessary to have a well-functioning infrastructure, including electric power, road and rail connectivity, telecommunications, air transport, and efficient ports. India lags behind East and Southeast Asia in these areas. In 2012-13 the World Economic Forum in its Global Competitiveness Index Report places India in the 84th position (out of a total sample of 144 countries) when competitiveness is measured in terms of infrastructure development.[6] India, however, performed relatively better in terms of overall competitiveness (59th position), which takes into account other factors, such as a country's institutions, infrastructure, macro-economy, health, primary education, higher education and training, market efficiency and technological readiness.

India needs to invest over US$320bn in infrastructure. The break up figures during the eleventh five years plan (2007-12) includes US$130bn for power, US$66bn for railways, US$49bn for national highways, US$11bn for seaports and US$9bn for civil aviation.[7] India invests 36 per cent of GDP in infrastructure in comparison to China's 48 per cent. This is notwithstanding the fact that China's GDP is almost four times the size of India's GDP – $8.3 trillion for China and US$2tn for India in 2012.[8]

However, this level of investment requires resources that are not available to the public sector and, hence, there is a need for private participation. Unfortunately, private participation has fallen in recent times due to problems associated with regulatory constraints. Except for telecommunications, sectors such as power, ports, aviation, railways and roads are witnessing slow progress in growth.

The economic reforms are yet to reach the infrastructure sector. The only exception is telecommunications. Without privatisation or commercialisation of infrastructure (power and port), the full potential of the industrial sector cannot be realised. At present what is preventing participation from the private sector has to do with red tape in the infrastructure sector. The essential problem is coordinating among various stakeholders. A reason for cost and time overruns in infrastructure projects has to do with delays in land acquisition, inter-ministerial coordination and clearance, shortage of funds, and contractual disputes.

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[6] World Economic Forum (2013). Available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

[7] From a speech by the Minister for Finance of India, Mr. P. Chidambaram, at the London Business School on 28 June 2007. Available at: http://www.theequitydesk.com/forum/forum_posts.asp?TID=1035. Also see, http://www.london.edu/facultyandresearch/researchactivities/birlaindiacentre/pastevents.html.

[8] OECD Country Reports (2013). Available at: http://www.oecd-ilibrary.org/economics/country-statistical-profile-china_csp-chn-table-en. Accessed, 03/04/2013.

For instance, a power sector project requires clearances from 56 different authorities and ministries. These authorities spread across all three levels of the constitutional devolution – federal, state, and local bodies such as village panchayats and municipalities. It requires clearance from multiple ministries.[9] It should be noted that each one of these ministries operate independently of one another and issues obtaining clearance from any one of these departments can delay the process of setting up a power plant. The present NDA government is contemplating merging various ministries so that a faster policy decision can be undertaken.

As to how a better infrastructure can provide impetus to growth, the stark example is that of The Golden Quadrilateral. This project, started by the Atal Bihari Vajpayee led National Democratic Alliance government in 2001, aimed at building four and six-lane highways to connect four metro cities, namely, Kolkata, Chennai, Mumbai, and Delhi. Other major cities which got connected include Bangalore, Pune, Ahmadabad, Surat, and Kanpur. According to the National Highway Authority of India, 99.71 per cent of the project work was finished during January 2013. The impact of this road completion was telling. Travel time between Kanpur and Kolkata has fallen from 48 to 36 hours.[10]

In addition to the ease of movement of goods and people, there are other economic benefits such as greater choice of locations for initiating industry activity and reduced wastage of agricultural sector.

Labour Market

The lack of labour market reform is preventing India to properly use its demographic dividend and to attract foreign investment in labour intensive modes of production. Labour relations have to be rationalised and made more flexible. India has a vast pool of a young working population which also explains why labour cost is cheaper in India. As per the National Sample Survey estimate, between 1983-84 and 1993-1994, the workforce in India grew at the rate of 2.09 per cent per year. Between 1999-2000 and 2009-10, this figure was 2.48 per cent. However, existing rigidities in the labour market is creating disincentives for the India's manufacturing sector to hire labourers.

The legislative authority over labour issues falls with both the Central and the State governments. The concurrent nature of the labour laws causes problems. The State governments have the authority to amend central legislations or to introduce subsidiary legislations. In addition, the enforcement of many labour regulations, even those enacted by the Central government, lies with the State government. There is a lack of unification and

[9] Ministries involved are coal, railways, environment, state environment committees, state pollution control boards, forest departments, central electricity authority, power grid corporation, central electricity regulatory commission, state electricity regulatory commission, state transmission commission, irrigation department, civil aviation, power ministry, port authorities, chief controller of explosives, custom department, and in some cases, clearances on account of impact on wildlife, coastal zone and archaeology.

[10] Business Today (2013), *Highway to Prosperity*, pp.16, May.

harmonisation of labour laws across States. Even definitions of wages, workman, employee, factory, and contract labour vary from one State to the other.[11]

The variability in labour laws across States leaves room for a large degree of discretion for interpreting these laws, and thereby encourages corruption and rent-seeking activities. Because of this, firm owners become easy targets for the labour inspectors.

Judiciary

Investors will not be willing to invest if there is a delay in the settlement of disputes and weak governance. In 2008, more than 50,000 cases in the Supreme Court, more than 4 million cases in the high courts, and over 27.5 million cases in subordinate courts are awaiting disposal. Considering the total number of outstanding cases, every judge in the country will have an average load of about 2,147 cases. Many times number of judges available in courts are far less than what have been sanctioned. India has 14,576 judges as against capacity to hire 17,641 judges, including 630 High Court Judges. This works out to a ratio of 10.5 judges per million population.[12] This ratio is also going to grow further with more and more people becoming literate. For example, in a relatively literate State of Kerala there is an addition of 28 new cases per 1,000 population per annum, as against 3 new cases per 1000 population per annum in the State of Bihar.[13]

The limited number of judges is certainly a reason for the existing high level of cases as well as the greater acceptance of appeal hearings. Between 2005 and 2008, around 12 per cent (6,900 out of 57,000 cases) were accepted for hearing in the Supreme Court. For the US this figure is around 1 per cent. It is very easy to appeal from a lower court to a higher court, for instance the Supreme Court. Added to this is the high acceptance rate of cases and one can clearly see the reasons for such backlogs.

Trade Costs

Trade costs account for all other additional costs incurred in moving a good to the final consumer other than the marginal cost of producing that good. All types of cost such as freight and time costs, information costs, contract enforcement costs, use of different currencies, language barriers, and lack of trade facilitation measures such as inadequate logistics of moving goods through ports, inefficient handling of custom documentation, lack of harmonisation of regulation standards, etc., all will be counted as part of the trade costs. For example, of the US$2 export value for a Barbie doll, when they leave Hong Kong for the United States, about 35 cents covers Chinese labour, 65 cents covers the cost of materials, and the remainder covers transportation and overhead, including profits earned in Hong Kong. The dolls sell for about US$10 in the US, of which Mattel (the manufacturing

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[11] See, B. Debroy (2005), *Issues in Labor Laws Reform in Reforming the Labour Market*, eds. B Debroy and P D Kaushik, Academic Foundation, New Delhi.

[12] Nick Robinson (2009), *Expanding judiciaries: India and the rise of the good governance court*, Washington University Global Studies Law Review, Volume 8, Number 1.

[13] http://articles.timesofindia.indiatimes.com/2010-03-06/india/28143242_1_high-court-judges-literacy-rate-backlog

company of Barbie dolls in the US) earns at least US$1, and the rest covers transportation, marketing, wholesaling and retailing in the US.[14]

Much of the sources of trade costs result from a lack of trade facilitation and lack of availability of physical infrastructure in South Asia. For instance, in 2012, logistics costs in India were among the highest in the world (at 13 percent of GDP), and inadequate infrastructure is responsible for holding back GDP growth by roughly 2 percent, or an annual hit of approximately US$20bn to economic progress. Other elements of trade costs are abound. At the India-Bangladesh border a consignment needs at least 22 documentations, more than 55 signatures and a minimum 116 copies for the final approval.

Paying bribes is a common phenomenon. Across South Asia the size of a bribe was reported to be between 2.2 percent and 2.5 percent of firm's sales. In the context of South Asia, the size of bribe payments is relatively lower in India, Sri Lanka, and Bhutan in comparison to Bangladesh, Pakistan, and Nepal. South Asian region needs to work in the area of trade facilitation. If countries in South Asia raise capacity building in trade facilitation halfway to that of East Asia's capacity, average trade is estimated to increase by US$2.6bn. This is approximately 60 per cent of the regional trade in South Asia. The areas that will provide the greatest gains are the service-sector infrastructure and efficiency in airtime and maritime ports.[15]

With respect to 'Trading Across Borders', in 2013, India ranked 132 out of 189 countries, while Bangladesh, Nepal, Pakistan and Sri Lanka ranked 130, 177, 91, and 51, respectively. There is a need to have agreement so that South Asian countries acknowledge one another standards, and easier customs clearance procedures.[16]

Conclusion

Multinational Corporations are increasingly using global value chain networks to make up for the cost differential that exist in a spatially differentiated market segment. Countries that are participating in the global value chain have been able to sustain a steady growth of their economies. India along with other countries in South Asia is yet to actively participate in the global value chain network, which is becoming necessary. Analysis of trade data suggests that between 1995 and 2009 the domestic content in share of exports has decreased for most of the economies, especially, for the OECD economies.

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[14] Anderson, J.E and van Wincoop, E. (2004), *Trade costs*, Journal of Economic Literature, Vol. XLII, pp.691-751.

[15] For more about trade cost is South Asia see, N. Banik and J. Gilbert (2010), *Trade Cost and Regional Integration in South Asia* in D. Brooks (eds.), Trade Facilitation and Regional Cooperation in Asia, Edward Elgar, Northampton.

[16] For more on this see, Chatterjee (2014), "What we need to trade across borders". Available at: http://thesarcist.org/frmRegionalcorporation.aspx.

Production process in any economy is becoming more dependent on foreign inputs. Evidence also suggests, firms which are part of global supply chain are more productive and competitive. Economies which are part of global value chain network are also the countries with higher per-capita income. Based on this information, India along with other developing economies in South Asia should endeavour to actively participate in the global value chain network.

Given the asymmetric large size of the Indian economy in South Asia, the other economies in this region are likely to gain by supplying certain items that fit in the overall supply chain process. For example, in the supply chains involving the textile industry – from raw cotton to readymade garments – India can supply cotton bales and Bangladesh can manufacture readymade garment using these cotton bales.[17]

A trade led growth strategy with increased participation in global value chain will attract more FDI inflow. Countries with a higher level of participation in global value chain network are also the ones that attract more FDI inflow. However, to attract FDI in the area of global value chain it is equally important that countries in South Asia, works towards reducing trade costs and work towards building trade facilitation measures such as easier custom clearance procedures and mutual recognition of standards.

As this paper suggests, there is significant room for improvement, especially for India. This encompasses building better infrastructure, reforming labour laws, reducing trade costs, a uniform tax policy, an effective judiciary, and better institutions to bring down cost of doing business.

[17] Fore more on this see, Mahmud (2014), "Move Beyond Trade list Bargaining". Available at: http://thesarcist.org/frmRegionalcorporation.aspx