Trade in Professional Services and Technical Barriers to Trade in India's Preferential Trade Agreements

by

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Dedication

This work is dedicated to my grandparents, Nil Mohan and Debika Mookerjee, my father, Mr. Pankaj Kumar Banerjee, and my dearest wife, Madhumanti.

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Abstract

TRADE IN PROFESSIONAL SERVICES AND TECHNICAL BARRIERS TO TRADE IN INDIA'S PREFERENTIAL TRADE AGREEMENTS

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The thesis presents an institutional analysis of the effectiveness of preferential trade agreements (PTAs) in ensuring deep market access commitments improving upon the status-quo multilateral obligations from countries participating in such PTAs. The thesis contends that PTAs are not effective tools in achieving such depth of commitments using an institutional analysis based on comparative assessment of commitments of India's PTAs with Malaysia, Japan, and Singapore. This analysis focuses on professional services and technical barriers to trade since they represent areas that have maximum interface with domestic regulation that impacts market access, and thus are areas where depth of trade commitments that requires resolution of market barriers resulting from domestic regulatory requirements remains critical to facilitating trade.

Chapter 1: The Relevance for Analysis of Preferential Agreements and their Design

1.1. Introduction

The period starting from the early 1990s saw a rapid increase in the level and scale of participation in the global economy across the world. Large emerging economies like India, Brazil, and Indonesia that were typically protectionist undertook a series of trade reforms, some of which were mandated by their commitments in the Uruguay Round (UR) of multilateral agreements that led to the establishment of the WTO, but others of which were unilateral reforms. As Goldin and Reinert (2012) point out, technology enabled communication costs to drop and logistical innovations such as the increasing use of containerized cargo for shipping led substantial fall in trade costs, allowing a larger number of players to participate in global trade.

Grossman and Helpman (2005) stress on the fact that falling costs of communication and digitization also led to the growth of offshoring of functions related to information technology (IT) and IT enabled services (ITES) to emerging countries which had such skilled workers available at lower costs. The increasing pace of globalization and development of new business models needed newer trade regimes to provide the institutional architecture for rules-based exchange of goods and services across borders. However, the Doha Development Round of multilateral trade negotiations could not

make progress due to competing pressures between various interest groups. This led to countries seeking alternatives to multilateral negotiations through preferential trade agreements (PTAs) [1]. Thus, simply put preferential agreements are attempts by participating countries to define a rules based institutional basis for their bilateral exchange of goods and services.

However, the motivation behind PTAs is far more complex than that. The set of rules that administer trade and impact its movement across borders are getting increasingly more complex. The formulaic negotiations around tariff reductions and rules of origin are the easy part of the institutional design of trade agreements. More complex are negotiations around regulatory barriers that prevent the free flow of goods or services from taking place. As has been pointed out by Borchert et al. (2012), trade in services such as professional services, banking and finance, construction, health, education, insurance, logistics, and civil aviation are subject to rules and regulations at the border (i.e. specific to service providers of a foreign origin), and behind the border (rules that while are not discriminatory, puts a dis-proportionate burden of compliance on foreign service providers).

Thus, bilateral agreements and Free Trade Agreements (FTAs) are just not an attempt to close the gap in rule making due to the lack of progress in multilateral negotiations, they are also attempts at policy innovation to close the gap between the actual requirements of

[1] For the purposes of this dissertation, preferential trade agreements refer to Free Trade Agreements (FTAs) and Regional Trade Agreements (RTAs).

industry defined by the nature of trade flows and the existing institutional architecture governing the flows of goods and services across borders.

1.2. Indian negotiations as an Example of Large Emerging Country Evolution of Trade Policy

Lack of progress in the Doha Round of the multilateral trade negotiations has led to a huge increase in preferential trade negotiations leading to comprehensive agreements. India has been one of the many countries leading this trend. Since 1999, India has entered into negotiations for fourteen preferential agreements, and till December 2012 nine agreements have entered into force[2].

India is in some ways a good representative of a large emerging economy with a large domestic industrial base that has started the process of integration into the international economy relatively recently. Like Brazil, Russia, and Indonesia, three of the four other BRIIC countries (Brazil, Russia, India, Indonesia, and China), India did not follow an export oriented industrialization model. This necessarily meant that the Indian trade policy (like that of Brazil, Indonesia, and lesser extent Russia) till the mid-1990s was defensive (Chakraborty et al. 2007), focusing on ensuring continued protection to domestic industries. India had largely followed an import-substitution model of development since independence in 1947, and was a highly protected market. An aggressive market seeking strategy was not a part of its trade policy framework.

[2] Agreements with EU, Israel, Australia, Canada, Thailand, Indonesia, GCC, and New Zealand are on-going. India-Japan, India-Korea, India-Malaysia, India-Singapore, India-ASEAN, India-Afghanistan, India-Chile, India-MERCOSUR, and India-Sri Lanka are in place.

As Srinivasan (2001) points out, this defensive strategy in trade policy, with a focus on protection domestic industry was also the central to India's approach to the Uruguay Round (UR) of multilateral negotiations that led to the establishment of the WTO. This approach is also similar to that of Brazil and Indonesia (Russia not having been a member of the WTO until 2012). Of the large emerging nations that followed a largely import-substitution model, India has become the most aggressive pursuer of preferential agreements. This makes analysis of Indian engagement in preferential agreements extremely relevant to better understanding of future directions of trade policy especially with respect to other large emerging nations.

Thus, well into the mid 1990s, India's trade continued to be heavily regulated with high-tariffs, and extensive licensing requirements and quotas. But continued economic reforms and economic growth saw an evolution in India's approach towards trade liberalization. As Panagariya (2005) points out, there was a gradual reduction in the level of tariffs, and the system of quotas and licenses were gradually dismantled. This liberalization of the trade regime coincided with a period of rapid expansion of the domestic economy, with concomitant rise in imports. Policy makers realized the need for rapid export growth needed to keep the balance of payments deficit within reasonable limits in the light of rapid growth in import demand.

As Seshadri (2009) points out, India's initial approach to preferential trading agreements was largely motivated by political considerations in South Asia and elsewhere. Preferential agreements with Nepal and Bhutan in the 1950s were aimed at consolidating

India's economic and political leverage in these strategically located neighboring countries that play a crucial role in securing its eastern border with China. India's commitment to the Non-Aligned Movement (NAM) led to the signing of a trilateral preferential trade agreement in 1967 between India, Egypt and former Yugoslavia.

Seshadri (2009) refers to India's negotiation for preferential trade agreements in South Asia, and specifically the India-Sri Lanka Free Trade Agreement (ISLFTA) in the mid 1990s as the second phase in the evolution of India's trade strategy. This phase was largely dominated by India seeking to enter into preferential agreements that would deliver substantial liberalization of merchandise trade with South Asian regional partners. The ISLFTA stands as the sole success of this strategy.

As pointed out earlier, economic growth since the early 1990s had rapidly expanded the domestic appetite for imports. Rising incomes and rapidly growing infrastructure and industrial demand ensured that India had started to look increasingly at overseas markets to source raw materials and energy resources. This meant that the balance of trade deficit was growing rapidly, and the only way to counter this was to have some strategy on expansion of exports. India's relative lack of success as an exporter was in stark contrast to other emerging economies with a significant industrial base in South-East and East Asia like China, Korea, Taiwan, Thailand, and Malaysia.

As Sen and Srivatsava (2012) point out the reason for this lay in the fact that India was not well integrated into the production networks that characterize a large volume of intra-regional trade between East and South East Asian economies. It was this background in

mind that India started to look towards concluding more comprehensive agreements that covered not just trade in goods but services and investments as well, specifically in the regional context of Asia. Integration through comprehensive agreements that covered services and investment were seen as the vehicles which would allow India achieve two important trade policy goals. As highlighted by Dhar (2012), the first would be to provide a platform for Indian manufacturing firms to integrate into Asian production networks[3]. The second would be to allow Indian services exporters (especially in the IT and ITES sectors) who had achieved such success in the US and European markets diversify and replicate their success in major Asian economies like Korea, Japan, and Singapore.

The evolution of Indian trade policy over the years therefore led to giving priority to FTAs to achieve its trade policy goals. However, the motivation for such proactive engagement in preferential trade agreements as enunciated by policy-makers did not just come from a desire to expand India's exports. There is a competitive element to these agreements. As other countries enter into agreements with major economies, Indian policy-makers realized that Indian exporters would be at a competitive disadvantage vis-à-vis these competitor nations if it did not have same level of preferences in these partner countries.

An addition, a strong argument put forward by policy-makers in favor of these preferential agreements has been that many of these agreements are comprehensive in nature covering market access in goods, services and investment, and includes disciplines related to regulatory harmonization. Policy makers have argued that such preferential

(i.e. in India's case a purely bilateral FTA) approaches allow for negotiating disciplines required for deep engagement in areas related to institutional barriers in services and regulatory measures impacting trade in goods. The implicit assumption here is that such comprehensive preferential agreements provide India with the opportunity to gain substantially in terms of market access and create new export opportunities.

This phase in India's trade strategy saw initiation and successful completion of a comprehensive agreement with Singapore. This agreement would serve as the model for future negotiations with Japan, Korea, Malaysia, Thailand, and Indonesia. While agreements are in place with Japan, Korea, and Malaysia, negotiations are still on with Thailand and Indonesia. This dissertation will analyze four agreements: The India-Singapore Comprehensive Economic Cooperation Agreement (ISCECA), the India-Korea Comprehensive Economic Partnership Agreement (IKCEPA), the India-Japan Comprehensive Economic Partnership Agreement (IJCEPA), and the India-Malaysia Comprehensive Cooperation Agreement (IMCECA).

Analysis of these four agreements holds rich policy lessons. India is a large emerging economy with a significant domestic economy with competing interests in terms of an export oriented lobby and a domestic industry that seeks protection from external competition. On the other hand, the four partners are a very diverse group of countries. Japan is a mature industrialized economy, Korea is a newly industrialized economy, Singapore is a high-income city state that is also a regional trade and services hub, and finally Malaysia is developing economy with a significant export-oriented manufacturing

industry. Thus, the similarities and differences in the architecture of these agreements that emerges from the proposed analysis would hold key insights for preferential trade negotiations between other countries.

1.3. Importance of the Design of Agreements for Indian Trade Policy Goals: Stated Motivation for Preferential Agreements

Two of the critical stated objectives offered to the domestic constituency by policy-makers for their countries entering into preferential trade agreements are that they 1) offer increased and more certain access to the partner country market, and 2) will allow them negotiate on issues that are typically considered to be too difficult for multilateral negotiations involving many countries. Thus, the stated objectives for entering into such agreements are achieving greater scope (i.e. greater levels of market access) and depth (i.e. would cover new ground in terms of issues covered).

This covering of new ground in terms is especially relevant for some key services and manufacturing sectors that remain highly regulated but are primary Indian export interests. As discussed earlier, one of the main trade policy goals for Indian policy-makers were to allow Indian services firms to gain a substantial foothold in fast growing Asian markets replicating their success in North America and Europe. However, the fundamentals of the success of Indian IT firms require to be understood better in order to establish the link between trade policy goals and Indian success in IT and ITES.

As Banerjee et al. (2010) point out, the tremendous success of the IT outsourced services exports opened up the way to leverage relatively cheaper Indian skilled human resources

for other tasks related to business and administrative services such as customer support, administrative back-office functions, transaction processing, sales, editing, and transcription. Identified by the catch-all phrase, Business Process Outsourcing (or BPO) this represented a fundamental shift in world services trade as developing countries led by India started to compete for white-collar jobs that were traditionally not traded across borders. As new technologies related digital imaging and secure data exchange started to develop and their costs of started to decline, it seemed to offer the possibility of India expanding beyond just IT and basic BPO services to capture larger shares of more value-added professional services in accounting and financial services, engineering, architecture, legal, design, and medical support services.

While this has happened to a limited extent, it has not taken off in a way earlier predicted. Part of the reason lies in the fact that business models and cultures still prevent the offshoring of some core functions even if there are significant costs advantages in doing so. This is especially true for countries like Japan, Germany and France. However part of the failure also lies with lack of more far-sighted trade policies and reforms in India. Indian trade policy in services became IT-centric with an over-emphasis in its trade negotiation priorities on Mode 4 (or liberalization of the movement of people), a critical demand of the Indian IT lobby. In doing so, it did not focus on the barriers preventing the take-off of other services such as behind the border regulatory restrictions on accounting, legal, engineering, architecture, or health related professional services in partner countries. It also paid little attention to emerging issues in data privacy and data restrictions which are becoming increasingly important. Multilateral regimes did not offer

the scope for negotiations on such issues, and therefore preferential regimes assume great importance for Indian trade policy objectives in services.

Similarly, as pointed out by Nordas (2005) the second major trade policy objective of integration into Asian production networks in sectors such as auto and auto components, machine parts, chemicals, pharmaceuticals, and textiles would require not just lowering of tariffs but also non-tariff technical barriers to trade (TBT). In an environment of falling tariffs, such TBTs would emerge to become increasingly more important regulators of flow of goods across borders. As technology-intensity of these sectors increase, the need for better and more improved standards, and their cross-border verification and certification would also rise. Given these dynamics, a future oriented trade agreement would require to have the institutional capacity to address these issues. Thus, it was expected that India's bilateral trade agreements, especially those looking to integrate Indian manufacturing to a wider Asia production network would have to address issues related to TBT in a comprehensive manner. In other words, the extent of success in achieving trade policy objectives for India would be defined by depth and design of agreements with partners. But depth and design of agreements is just not a concern for Indian trade policy objectives, but relevant to the understanding of the evolving architecture of trade regimes globally.

1.4. Importance of Depth and Design of Agreements to Future Trade Patterns

In discussing issues related to coverage and depth of agreements, it becomes important to establish what they actually mean. Coverage refers to the extent of additional

liberalization achieved by a preferential trade agreement achievement, i.e. lowering of tariffs beyond multilateral commitments by the partner country, or scheduling of services sectors (or modes of supply) that was not covered in the multilateral schedule of the partner country.

In his discussion on institutional design of agreements, Lawrence (1996) defines trade agreements that concern itself only with border measures as “shallow” agreements. Essentially, these agreements accord nondiscriminatory national treatment to foreign goods and services but stop short of intervening in domestic economic policies beyond this requirement. The author defines “deep” agreements as those that include disciplines and rules related to domestic policies and regulatory issues that impact trade but are not border measures per se. The World Trade Organization (2011) extends the discussion on depth to two dimensions. The first dimension relates to an agreement actually including elements that go beyond lowering of tariffs and granting of national treatment (or in the case of services, actually scheduling market access and national treatment in a particular service and/or mode). Essentially this involves disciplines on harmonization of rules, or disciplines on recognition and granting of national treatment on each other’s standards or educational qualifications. The World Trade Organization (2011) defines the second dimension of depth as the intensive margin of deep integration and this is related to the level of institutional depth achieved in an agreement, i.e. whether the agreement actually requires the creation of common institutions and more sophisticated ways of sharing sovereignty.

It follows that different domestic constituencies would have different priorities. Exporter communities would prefer greater coverage and greater depth in agreements, while import-competing constituencies prefer less coverage and less depth in such agreements. However, systemic changes are underway in which goods and services are produced and distributed that is leading to the creation of an increasingly vocal lobby in favor of greater coverage and greater depth.

As the World Trade Organization (2011) points out, international productions networks today are witnessing an increasing trend to unbundle different stages of production across geographies. Such trends are not just true for manufactured goods, but also for services which operate through global networks of skills and deliver services from remotely using IT enabled technologies. As Jones and Kierzkowski (2001) argue, physical dispersion of production processes requires coordination to connect production blocks, and the cost of managing this coordination process is reflected in the extent of services and managerial expertise that is required for it. Deardorff (2001) sees such fragmentation as dispersion of the various independent tasks that contribute to the production system across various locations.

Ando (2006) observes that in the case of international fragmentation, trade and regulatory barriers impose additional coordination costs. Thus, this network-centric international trade demands policies of preferential trade that reflect this new reality of coordinated agglomeration of tasks and functions across borders, and the costs imposed upon such coordination by trade related barriers. Since various stages of production within a

network maybe geographically dispersed, the effects of trade barriers on the cost of a particular stage of production is proportional to the number of times the product crosses national boundaries. As more and more manufacturers and service provider are becoming a part of a network and integrated into a value-chain, the clear cut lines between exporters vs. importer interests are becoming more blurred. In light of such developments, trade agreement design with reference to coverage and depth are becoming central to the discussion on trade policy.

Despite this growing focus on institutional design of agreements in terms of coverage and depth, there is little evidence to show that most preferential agreements actually achieve this goal. Baccini et al. (2011) undertook the most comprehensive exercise till date in the assessment of coverage and depth of preferential agreements. The authors analyzed 404 agreements signed between 1945 and 2009 for a total of 10 broad sectors of cooperation ranging from market access to investments, services, intellectual property rights, competition, and dispute settlement. While the authors find a significant increase in scope, they do not find substantive evidence for depth in either services or Non-Tariff Measures (NTMs). This is especially surprising given the stated goal of policy-makers in negotiating such agreements are increase in coverage and depth. There are several explanations, especially in the literature on trade policy that is rooted in the law and economics tradition, with specific reference to idea of trade agreements as contracts. As Baccini et al. (2011) analysis shows, most trade agreements today remain highly incomplete contracts. They do not attempt to specific all the obligations and commitments of both the parties and include flexibility in the design and language of

such agreements that allows for discretion and subjective interpretation and is a combination of more rigid elements and elements where policy decisions by contracting parties are not constrained by their agreement commitments.

1.5. Agreements as Incomplete Contracts: The Economics of Contracts and Transaction Costs

Copeland (1990) explains this feature of the institutional design of trade agreements by distinguishing trade policy instruments into two categories, i.e. negotiable and non-negotiable. Negotiable instruments are those that can be specified in a contract. Tariffs and national treatment clauses are obvious examples of such instruments. Non-negotiable instruments refer to those barriers that cannot be specified into a contract. Trade policy negotiations according to Copeland can then be perceived as a two stage game. In the first stage, partners negotiate binding agreements on the negotiable elements that is specified in a binding contract between the two parties. Thus this stage of the game is one of active cooperation. In the second stage, individual governments choose the levels of the remaining trade policy instruments in a non-cooperative manner. Since both the stages of negotiations are inter-dependent, negotiators will act in the first round in a manner that will help them influence the outcome of the second round.

Copeland argues that such a negotiating environment is the only practical solution to trade agreements between countries. The author argues that a treaty cannot cover all aspects of regulation that impacts trade because it would be too complex to do so. Also, most domestic regulations have trade policy side-effects and therefore attempts to forge a

comprehensive trade agreement would constrain domestic policy making. Copeland also points out that since the implementation of many policies requires certain amount of discretion (e.g. for safety inspections related to product quality) it is very difficult to design agreements that would be able to prevent cheating.

Thus the two reasons for lack of depth in trade agreement design are to do with issues of importance of flexibility such 'incomplete contracts' afford partner countries, and with prohibitive transaction costs of negotiating 'complete contracts' that offer deeper integration with reference to institutional and regulatory aspects of trade policy. Rosendorff and Milner (2001) point out those negotiators would want to retain some flexibility in their agreements to allow for policy discretion in time any future shock arising from economic, political, or technological changes. Such shocks might alter the priorities for the countries involved in the agreement and the 'incompleteness of the contract' would help them alter policies without having to pay to high price or loss of credibility that a more 'complete' binding agreement would have subjected them to.

Bagwell and Staiger (2005) argue that flexibilities in trade agreements are efficient responses to domestic political uncertainty. The author's contend that governments are likely to have private information about the extent of both transitory as well more systemic and persistent political pressure. This essentially leads them conclude agreements that have weaker bindings allowing for flexibility. Having the option of being able to be more flexible on policy itself makes the agreement politically more amenable to domestic pressure groups.

While these arguments by Rosendorff and Milner and Bagwell and Staiger have been made in the context of tariff negotiations in goods, a similar situation is applicable to services and NTMs related to standards. In the case of services, commitment bindings are observed to be often less liberal than actual market access situations. Also, governments unwillingness to push for clarity in institutional aspects of integrations such as explicit differentiation of which tasks of a particular profession are governed by regulations related to licensing and education, and which are not, or full transparency in terms of how NTMs related to health and safety standards are applied are also signs of keeping a range of trade defense mechanisms that can be used for protection.

However, transactions costs of negotiating complex complete contracts are also an important impediment. Horn et al. (2010) argue that if contracting an agreement is costly then the agreement is likely to be incomplete. The authors contend that that taking contracting costs explicitly into account can help explain a number of key features of real trade agreements. Typically, the cost of negotiating complex agreements that deal with regulatory issues and institutional integration are higher than negotiating simpler agreements that refer only to border measures and allows greater flexibility.

The transaction costs of negotiating more complex agreements increases for parties whose domestic regulatory regimes are weaker in the sense that there is less clarity, and laws and statutes governing specific sectors are less clearly defined. Negotiating costs also increase for parties whose domestic stakeholders are less well organized in terms of having the institutional strength to understand the impact of trade policy to their longer

term export market seeking and import-competing interests and coming up with efficient responses, for e.g. whether or not to push for mutual recognition of standards or qualifications. This is typically true of developing countries and/or large countries of a federal nature that have complex and overlapping regulatory and institutional regimes.

Thus, the twin forces of flexibilities afforded by incomplete contracts and high transaction costs push countries towards trade agreements that are incomplete contracts. But this directly contradicts the stated ambition of deeper integration referred to earlier. An important way to explore and analyze the effective level of market liberalization and access such agreements provides exporters are through a through institutional and legal analysis of these agreements that is embedded in the actual export preferences and competitiveness of the partner country in question. However if the pressure for entering into such agreements are primarily motivated by maintaining or enhancing export competitiveness vis-à-vis third countries (i.e. the domino effect) then the design and depth aspects might be sacrificed given the reasons outlined above. Several authors have actually argued that domino effect is the primary consideration behind the large number of agreements being negotiated.

1.6. The 'Domino' Effect: Negotiating Agreements to Neutralize Third Country Advantage

Baldwin (1997) rejects the hypothesis that the inability of multilateral forums to deal with contemporary issues in trade policy that call for deeper integration and changes in institutional design of agreements to accommodate the same is leading to a proliferation

of regional agreements. Instead his argument is that there is a “domino” effect that is at work. Essentially, a preferential agreement between two countries (or a group of countries) negatively impacts the export competitiveness of excluded of third countries. These excluded countries then seek to sign FTAs as a means of redressing the new discrimination.

There is some empirical evidence on such a domino effect behind the formation of preferential agreements. Building on Baldwin (1993), Baldwin and Jaimovich (2010) argue that that FTAs tend to be ‘contagious’ in the sense that FTAs between a country’s trade partners creates a range of political-economy based incentives for that country so as to make it more likely for it to enter into FTA negotiations. The authors find empirical evidence of the fact that the probability of a pair of countries will enter into negotiations for a FTA increases with the threat of trade diversion, i.e. with the increasing likelihood of their exporters facing discrimination in partner country markets due to preferential agreements that the partner country enters into with other third-countries.

Using data for 145 countries during 1955–2005, Egger and Larch (2008) find evidence that pre-existing preferential agreements increase the probability that a country-pair will enter a bilateral preferential agreement. Another important finding of the authors is that the effect of pre-existing preferential agreement on the probability of country-pairs entering into preferential agreement diminishes with distance. Authors contend that trade typically takes place between countries with low costs of trading, and trade cost increases with distance. Thus, potential trade diversion decreases with distance.

Chen and Joshi (2010) find empirical support for their hypothesis that a country's decision to enter into an FTA is dependent on that country's existing relationship with third countries. They also find support for the hypothesis that incentives of two countries to form an FTA with each other are unambiguously greater when they both have FTAs with the third country.

Freund (2000) makes a very important contribution to the literature by showing that an environment of falling tariffs as represented by multilateral commitments on tariff-cuts can actually provide greater incentive for entering into preferential agreements. The author argues that an environment of high world tariffs, reduction induces greater competition leading to greater output (i.e. efficiency). However, lowering tariffs also means smaller profits for domestic companies (due to increased competition) and less tariff revenue. At overall low tariff levels, although the efficiency affects still leads to incentives for tariff reduction, preferential reduction is less costly because profits and tariff revenue fall by less. While Freund explores the case of multilateral tariff cuts induced by the WTO, the same argument extends to an overall low tariff environment induced by unilateral liberalization.

But tariff barriers are not the only impediment to trade. Regulatory and NTMs protect domestic industry and thus potentially are a source of higher profits (i.e. due to lower competition). However, unlike tariffs, regulatory barriers have not seen a secular decline in recent years. Moreover, unlike tariffs that offer explicit levels of protection, the impact of regulatory barriers as protectionist measure varies and is a function of several factors.

Fugazza and Robert-Nicoud (2010) analyze preferential agreements entered into by the US using a detailed data set at the tariff line level. The authors find evidence that the Uruguay Round multilateral tariff concessions have been emulated in subsequent preferential trade liberalization. Thus, there is a clear link between past and future liberalization down to the sectoral level (represented by the tariff line analysis) and multilateral and preferential trade agreements are dynamic complements

While the domino effect might be an important motivator for countries to seek preferential agreements, another important question needs to be addressed. This is related directly to stated motivations for such agreements by policy-makers, i.e. the institutional design of agreements and the achievement of greater coverage and depth that go beyond what is possible in a multilateral setting.

1.7. Analysis of Depth and Design: Critical to Understanding Relevance of Trade Policy to Evolving Patterns of Trade

A recent body of trade literature has started to investigate the actual achievements in terms of both scope and depth in such preferential trade agreements. The literature so far has provided an overview analysis of agreements based on institutional and legal analysis[4]. A formal database that measures the scope and depth of preferential trade agreements notified to the WTO is in the process of being developed by the WTO secretariat. However, the existing literature provides an overview of the scope and depth of such agreements and comparison with the existing multilateral regimes.

[4] World Trade Report 2011, Baccini et al. 2011, Gootiz and Mattoo 2009.

This dissertation takes this legal and institutional analysis deeper by comparing depth and scope not just with multilateral regimes, but actual autonomous levels of market access and trade barriers on the ground. Doing this would allow deeper understanding of the actual incremental preferential gain achieved by a preferential agreement. Such an analysis would focus on the legal regulatory aspects trade policy and the way these are addressed in the language of trade agreements. In other words, the focus of this dissertation is not the empirical analysis of gains in actual trade flows or expected gains from tariff liberalization, but improvements in the institutional architecture that governs trade.

An improvement would mean trade agreement design addressing regulatory barriers both at the border and behind the border (due to national laws that while not being discriminatory, provide undue advantage to domestic suppliers). As stated, this comparative analysis must therefore address three different regimes. The multilateral regime that has been committed to at the WTO and is applicable to all countries, the preferential regime that has been committed to its bilateral trade partner (i.e. India) and applicable to it, and the autonomous regime which represents the actual governance mechanisms in place which might differ widely from commitments in being much more trade friendly, or might contradict the spirit of liberalization.

Given the focus on institutional design of agreements, this dissertation covers two areas that are most impacted by regulations and are of interest to Indian exporters, i.e. professional services and TBT. As pointed out earlier, professional services are important

for Indian IT and ITES firms to be able to expand and diversify their service offerings and therefore exports. In an environment of falling tariffs (unilateral, and well as in preferential agreements), TBTs are emerging as the most important barrier for manufacturing exports. This dissertation provides a detailed analysis of both these issues within a framework of institutional analysis. Through this analysis this dissertation provides better understanding of the actual level of impediments and barriers on the ground based on the reality of the business models and processes that govern cross-border transactions, and the relevance of trade agreement design towards facilitating such transactions.

Chapter 2 of this dissertation that follows provides a conceptualization of the professional services trade as trade in specific tasks that lie within a value-chain hierarchy defined by the skills and complexity of the specific tasks involved. Such a conceptualization is important to understand how professional services are traded globally, and the role of regulatory regimes upon on the nature of such trade. Chapter 3 uses the trade in tasks framework established in chapter 2 to analyze the impact of the India's four PTAs with major Asian economies on professional services trade. Chapter 3 provides a detailed analysis of the changes (if any) that is achieved by these PTAs in the regulatory architecture governing the trade in such professional services tasks in relation to the already existing architecture defined by multilateral trade rules and domestic law (i.e. autonomous regulation) of the partner countries.

Chapter 4 turns its attention the issue of TBTs, and explores the existing literature related TBT, exports and trade policy. It also provides the methodological approach for analyzing the impact of the four PTAs on issues related to TBTs. Chapter 5 analyzes the four PTAs impact of mitigating TBTs for Indian exporters. It does so by comparing the existing regulatory and institutional architecture in place and the changes achieved through PTAs, as well as by looking at the actual regulations at the border in practice to examine the criticality of regulatory changes actually required in such PTAs. Chapter 6 concludes with a policy discussion on the importance of the design and architecture of trade agreements in a world defined by fragmented production networks where institutional and regulatory barriers are assuming greater importance relative to tariff related barriers.

Chapter 2: Conceptualizing Professional Services in Preferential Trade Agreements

2.1. Introduction

This chapter analyzes India's market access gains in services from preferential comprehensive agreements covering goods, services, and investment. A detailed analysis of trade policy gains of India's recent preferential agreements adds value because these agreements are with Malaysia (a developing country), Singapore (a high-income city state that is also a regional services hub), Korea (a newly industrialized economy), and Japan (a mature industrialized economy). Thus, such an analysis has important policy lessons and implications for all developing countries considering such comprehensive preferential agreements.

This chapter adds to the literature on trade in services by integrating analysis of trade policy with an analysis of actual institutional regulations governing professional services in partner countries (i.e. the autonomous regulatory regime in place). This enables this chapter to provide insight on whether such trade agreements include architecture that results in effective incremental market access. In other words, the chapter assess whether these agreements just formalize and locking-in existing levels of market access for professional services exporters, or due to actually provide incremental market access gains.

Trade in services is essentially a trade in specific tasks requiring specific skill inputs and expertise. The hierarchy of such tasks defines the value-chain of professional services. This chapter examines the trade policy implications of trade agreements and autonomous regimes in the light of such a value-chain hierarchy of tasks. This approach is adds to the literature and provides greater insight into the actual impact of trade agreements on policy on specific business models of professional services delivery. This is critically important as services agreements are not negotiated on the basis of specific tasks within a professional services value-chain but in terms of the professional service itself. By providing an institutional analysis of trade regimes and autonomous regulation on a type of tasks basis, this chapter attempts to bring greater clarity to the actual scope and extent of trade in professional services.

Chapters 2 and 3 together investigate the following issues. First, whether India's PTAs are at best a locking-in of existing levels of market access available to all exporters, and do not represent actual incremental gains. Second, whether India's comprehensive agreements do not achieve the levels of deep integration expected from a comprehensive preferential approach in terms of regulatory harmonization and disciplines on preferential access to markets and third whether existing regulatory disciplines allow for trade across most of the value-chain in professional services excepting the tasks at the very apex of such a value-chain. The three issues taken as a whole asks the question whether the value-added to the actual scope of business in professional services by such agreements is extremely limited. These two chapters also analyze future possible disruption to cross-border trade to those aspects of the professional services value-chain that are traded

freely today due to new kinds of domestic regulation (i.e. autonomous regimes) that are already emerging in areas such as data privacy and limitations on digital exchange of information.

2.1.1. Trade in Professional Services and Trade Agreements

The disintermediation of services functions carried out by white-collar professionals is becoming increasing common. Specific functions related to business processes, information technology applications, and administrative functions are increasingly being delivered remotely by specialized firms. This is phenomenon of outsourcing of services functions have also acquired an international dimension when they are delivered from offshore (i.e. they are offshored to a foreign country). As Manning et al. (2008) point out such offshoring is no longer limited to standardized information technology (IT) or business processes, but increasingly involves product development functions, such as engineering, research and development (R&D), and product design. It also includes specialized professional services related to accounting, finance, and legal functions.

But while the business literature has focused on the various economic, technological and managerial forces that are shaping a new economic geography of services production and delivery, it has largely tended to ignore the specifics related to trade policy that create the institutions of governance regulating the cross-border flow in services. This has largely been due to the fact that such literature has limited its focus on offshoring, or remotely delivery of services tasks, and not delved into the entire range of activities that define the value in chain services, and the combination of delivery models required to successfully

and consistently deliver such services from overseas locations. For example, while aspects of professional services tasks can be done remotely, periodic physical presence of the professional(s) might be necessary at the client location. This brings in the challenge of having a systemic, consistent, and liberal visa regime that enables professionals to travel to foreign locations for business reasons at a short notice.

Just before India started to aggressively engage in comprehensive preferential agreements covering services and investments, Mattoo and Chauduri (2004) pointed out that India faced the twin challenge of securing access to foreign markets for offshore delivery of services, an area where it has a established a relative comparative advantage, and also ensuring that policy in areas such as visa regimes that are essential to support such offshore delivery also see progressive liberalization. In their analysis, Mattoo and Chaudhuri found the environment for cross-border trade in services is quite liberal in 2004. This remains largely true today in terms of actual policies in place in most countries. But just like in 2004, such access might not be legally bound by the language of trade agreements. The consensus prescription was that India must seek to pre-empt potential protectionism by locking in the current open regime. They had argued that Indian must devise proactive strategies for international trade negotiations to deliver both improved access to foreign markets.

Market access certainty and regulatory transparency are critical to trade in professional services. Professional services present significant differences concerning the provider-client relationship. They tend to develop long-term provider-client relations, since they

are associated with high initial costs of building trust, which makes supplier shifting onerous. This is the case, for example, in auditing, legal and management consulting services where learning about clients' systems and processes and involving clients are necessary. Thus trade agreements for such services need to have disciplines that establish such certainty, transparency, and consistency. As Mattoo and Sauve (2003) point out, domestic regulation in terms of transparency and norms that impact services delivery across borders, or disciplines related to harmonization and recognition of standards and qualifications required for the delivery of such services in the domestic market is one of the key determinants of effective market access. The authors concede the possibility that such preferential agreements, especially those among countries with similar regulatory regimes, might provide the institutional mechanism for achieving greater integration on issues related to regulatory transparency and harmonization.

Thus, the framework for evaluating a preferential trade agreement must start with the analysis of levels of effective additional market achieved for exporters to the partner country. In the case of trade in goods, such an analysis is relatively simple. One has to compare pre-agreement applied tariff rates applicable on the exports to the partner country with post-agreement rates. In addition, measures to deal with NTMs are included in the matrix to judge the overall success of the agreement. In the case of services, especially professional services, such an analysis becomes far more complicated. Unlike goods, professional services can delivered by various different ways (or modes, discussed in the following section), the barriers they face are regulatory in nature and not a simple

metric like a tariff rate, and they face barriers that are just not related to trade policy (measures to keep out foreign suppliers), but are implicit and institutional in nature.

In addition, professional services are essentially a series of tasks undertaken by human resources that is defined by a hierarchy of skills and expertise that determine the place of particular tasks within a value-chain. Trade policy in terms of regulatory barriers that it imposes has very strong implications for which particular tasks within the value-chain can be traded and which cannot. Thus, any analysis of preferential agreements would have to take a detailed perspective of the nature of trade in services and its value-chain related implications.

Section 2 that follows provides context behind the Indian strategy to engage in preferential agreements, and the policy priorities that made professional services an important part of these negotiations. Section 3 builds on the discussion in chapter 1 on the institutional design of agreements, and brings out the importance of such institutional design in the context of trade in professional services. Section 3 elaborates on the specific types of barriers that are typical to trade in professional services. Section 4 specifies the factors that make trade in professional services essentially the specialization in the performance various tasks across different locations. It is this aspect of professional services as trade in tasks across border that creates unique requirements on trade policy to facilitate such trade.

Section 5 elaborates on the implications of the value-chain of professional services as defined by sets of different tasks and the impact of trade policy on this value-chain.

Section VI presents main hypothesis and research objectives of this chapter and establishes the methodological approach used for analysis**.**

2.2. Trade Policy Related Challenges and Objectives for Professional Services: The Depth and Institutional Design of Agreements

2.2.1. Rationale for the Pursuit of Preferential Agreements in Services

Lack of progress in the Doha round of the multilateral trade negotiations has led to a huge increase in bilateral and regional trade negotiations leading to comprehensive preferential agreements. India has been one of the many countries leading this trend. Since 1999, India has entered into negotiations for fourteen preferential agreements, and till December 2011 six agreements have entered into force[5]. Chapter 1 has provided a discussion on the larger perspective behind the motivation for entering into such agreements. In the context of professional services policy makers have argued that such preferential approaches allow for negotiating disciplines required for deep engagement in services. The implicit assumption here is that given India's relative comparative advantage in services, such comprehensive bilateral preferential agreements provide India with the opportunity to gain substantially in terms of market access and create new export opportunities. The argument made in favor of preferential trade agreements were that such agreements would be able to make speedier progress in matters related to regulatory cooperation in services trades, especially with reference to harmonization of services

[5] Agreements with EU, Israel, Australia, Canada, Thailand, Indonesia, GCC, and New Zealand are on-going. India-Japan, India-Korea, India-Malaysia, India-Singapore, India-ASEAN, and India-Sri Lanka are in place.

related regulatory standards and mutual recognition of licenses and professional degrees. Negotiations on complex regulatory barriers are difficult to achieve in a multilateral setting, and preferential approaches provide far greater chance of success.

Kim (2011) argues that that a key criteria for a preferential agreement to be considered to be liberalizing 'substantially all trade' as is required by Article XXIV of the GATT should be whether or not the agreement addresses regulatory issues covered by what is defined in other restrictive regulations of commerce (ORRC). One can extend the authors argument to GATS Article 5.1 requirement of preferential agreements leading the 'absence or elimination of substantially all discrimination'. Kim (2011) makes a very important point that domestic marketplace regulations that adversely affect imported goods and services as compared to domestic goods and services should effectively be considered as discriminatory measures, and as such falls within the ambit of both the GATT Article XXIV requirement for the elimination of ORRC in goods and GATS article 5.1 requirement for the elimination of all discrimination.

Mattoo and Sauve (2008) have argued that regulatory intensity (i.e. the extent of which a particular service is subject to regulatory disciplines that impact its production and trade) is an important factor on whether preferential agreements can play a positive role in trade and investment. Deeper convergence (i.e. the depth of agreements discussed previously) between countries that encompass regulatory disciplines might more feasible in a preferential setting, especially if those countries share ambitious goals on integration or have commonalities in terms of institutions.

Another assumption made in the literature was that preferential agreements will show a much greater level of ambition when it came to the classification of services sectors. The existing W120 UN classification of services as used by the multilateral negotiations in the GATS has become outdated despite revisions. As Mattoo and Wunsch-Vincent (2004) point out, there is no easy correspondence between the services that are being traded and the existing services sector classification. A key challenge is that several cross-border services are generic support functions that are common to several services. For example data entry or transaction processing is a common function for accounting services, back-office banking services, and certain types of legal services.

This dichotomy between the exact nature of services functions that are being traded, and the defined list of services within the GATS classification list typically used for trade negotiations is a matter of concern as lack of proper definition could lead to future acts of protectionism. Given the specific market access needs of partner countries negotiating preferential agreements, one could argue that such agreements that seek greater depth would spend negotiating time in evolving services sectoral schedules that are more reflective of the way services are produced and traded in the global economy.

2.2.2. Deeper Integration in Preferential Agreements: Evidence of Actual Achievements

The reality of attempts at such deep integration in services that covered regulatory harmonization and mutual recognition in the last decade has not been very positive. Since many of these initiatives deal with barriers that are not explicitly discriminatory, and are

part of long-standing national institutional provisions, there is a natural tendency for countries to be more cautious in diluting or modifying them. Whatever progress has been achieved in addressing such implicit barriers has tended to be modest, and have taken very long and cumbersome negotiations. Hoekman and Mattoo (2011) argue that regulatory barriers explain a lot of the limited progress made in trade negotiations related to services. They also argue that the best offers made so far in the Doha negotiations are on average twice as restrictive as actual policy (the autonomous regime in place) and will generate no additional market opening.

Mattoo and Fink (2004) found little evidence of progress on deeper convergence on areas related to regulatory harmonization. A comprehensive analysis of specific measures across regional and preferential trade agreements by Baccini et al. (2011) also does not find evidence of deeper integration in services related disciplines. Roy et al. (2007) point out that overall, the PTA experience in services negotiations appear to offer limited value added over GATS disciplines, especially in the crucial aspect of implicit barriers represented by domestic regulation.

However, Mattoo and Sauve (2008) point to two areas of tangible gains in preferential services agreements. This refers to a) the mechanism of prior comment, and b) mutual recognition agreements (MRAs). Prior comment refers to a mechanism where a country explicitly asks for comments and response from preferential agreement partner country on all regulatory changes with an impact of services. This allows the partner country to put forward concerns and possible policy solutions for any trade impeding policy

measures. This is a strengthening of Article VI of the GATS dealing with transparency of domestic regulation.

MRAs refer to mutual recognition of standards, qualifications, and education degrees by partner countries. This is especially important in the context of professional services where the recognition of specialized skills and qualifications are an important aspect of their portability across borders. Fink and Molinuevo (2008b), while analyzing PTAs in services in East Asia, provide some limited examples of some attempts at regulatory harmonization in professional services that are related to mutual recognition of professional qualifications that would allow professionals to provide a full spectrum of their professional services in the partner country market. Very few agreements identify specific professions for which such negotiations should take place on a priority basis. In some cases, PTAs have established a negotiating timeframe of 1–3 years after entry into force of the FTA. But most simply call for an early outcome of attempts at regulatory harmonization between partners.

Discussing preferential agreements in services specifically dealing with investments and commercial presence of foreign services providers in partner country markets, Adlung and Molineuvo (2008) point out that the range of actually applied bilateral preferences tends to be limited given that most governments' intention to attract foreign investment from whatever source. Furthermore, the value added by any preferential agreement tends to be diminished due to the widespread absence of Most Favored Nation (MFN) exemptions under the GATS which automatically ensures in many cases the

‘multilateralization’ of benefits that might be involved. While one can argue that multilateralization of benefits is a good thing, one of the essential principles behind preferential agreements is that it provides partner countries ‘better than for non-agreement countries’ or preferential treatment allowing their firms and businesses to benefit from a first mover advantage into their respective markets. First mover advantage is even more crucial to services sectors, especially professional services, as they are dependent on establishing long-term relationships and business delivery models that are costly to replicate.

Another challenge to the idea of FTA as a tool for preferential liberalization is that in many cases the level of liberalization being scheduled in such an agreement is actually less than what is on offer in the autonomous regime of that partner. In other words, the actual level of market access and regulatory mechanisms available to all trading partners is much more liberal than the scheduled level of market access and regulatory mechanisms being committed to by FTA partners. Such a gap between bound and actual policies may introduce uncertainty, because governments at any point can restrict foreign participation in their domestic service market, as long as they stay within their trade commitments. In their study of East Asian PTAs in services Fink and Molinuevo (2008b) has found evidence of such agreements typically do not require signatories to make bindings at the level of actual openness, and that most East Asian PTAs similarly do not impose any requirement to bind at the actual level of openness.

It is important to introduce the idea of 'Mode' of service delivery before going into the specific challenges in trade policy and their relationship to different ways of delivering such services across the border. Services can be traded across the border in different ways. For example, a service can be delivered digitally or by phone by a service provider sitting in one country to a customer in another. Such remote cross- border delivery of services is defined as *Mode 1* in trade policy parlance. Services can also be used by a customer by actually travelling to a foreign country, for example a US based client can travel to London to avail legal advice. In this example, the delivery of legal services by a British lawyer to a US client on location on British territory is called *Mode 2* in trade policy parlance. There can be very little restriction to such trade, and is therefore not of interest to this or the following chapter. Services can also be delivered by a foreign firm by actually investing in a commercial presence abroad. For example, a US bank can invest in a branch in Zurich to serve European customers or an Indian IT firm can invest in an operational facility in the US to serve its US based clients. Such delivery of services by investing in commercial presence in the territory of the customer is called *Mode 3* in trade policy parlance. Services can be also delivered by a foreign professional travelling from his home country to the location of his client abroad. For example an Indian IT professional travels to the US to deliver IT services to US clients. This form of service delivery is called *Mode 4* or the movement of professionals.

2.2.3. Movement of People and Professional Services: Trade Policy Challenges

The other important area where progress has been very slow in the multilateral trade negotiations is related to the movement of people. Bhandari (2006) argues that unlike international trade rules, national migration rules, and by extension rules governing cross-border movement of foreign workers seeking employment is not based on global economic considerations. Migration regimes including temporary migration regimes are instead the function of several other considerations including but not limited to political sensitivity of domestic workers and their perception of competition, demography, considerations of state security and sovereignty, and cultural concerns. This complicates negotiations on movement of workers, and thus Mode 4 remains one of the most difficult areas of progress for trade policy.

Chaudhuri et al. (2004) recognize that Mode 4 will remain a vital mode of delivery for many services. The authors also reiterate that the achievements of the multilateral GATS framework with reference to both movement of individuals unrelated to a commercial presence abroad as well as facilitation of the movement of personnel employed by multi-national firms across borders have been very modest. Panizzon (2010) points out that economic migration for employment is the focus of only two multilateral treaties: the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families of 18 December 1990, which so far has not been ratified by a single industrialized country and WTO's General Agreement on Trade in Services (GATS), which has not been able to push through an ambitious agenda on such economic migration.

Even the limited achievements of the GATS in liberalizing the movement of professionals and workers for employment abroad have been subject to requirements of prior investment of capital thus reducing their efficacy. Panizzon (2010) underlines the linkage between Mode 3 and Mode 4 in the GATS regime, referring to the fact that over 60% of all commitments in Mode 4 are linked to commercial presence and FDI in some way. The rationale for this linkage is that it ensures that the temporary movement of labor is complemented by the parallel inflow of foreign capital. Panizzon (2010) argues that the taxes a foreign investor pays or the employment it creates in the host country acts as a collateral for what a foreign professional or worker may cost the host country's public welfare system. A further advantage of the Mode 4-Mode 3 linkage is that the foreign service provider will monitor its foreign employees against overstaying their visas. Thus, most Mode 4 commitments concentrate on categories which come with a link to Mode 3 such as intra-corporate transferees, business visitors, executives, managers and specialists.

As Ganguly (2005) points out, temporary movement of foreigners for employment are subject to several restrictive immigration and administrative procedures. Domestic political pressures in combination with concerns about national security and sovereignty have led to such restrictions in several countries. These restrictions typically take the form of restrictions on visas and work permits. But Ganguly (2005) makes an important point by pointing out that many of the barriers faced by foreign service suppliers are often not apparent. Nationality and residency requirements and other staffing requirements lead to limitations in market access. Specific sectors are subject to many

aspects of domestic regulation that restrict temporary movement in the sector. Given such complications related to the trade policy overlap with movement of people, it was expected preferential agreements, especially regional agreements, would be better able to make progress in this key area of policy. Winters (2008) points out that temporary mobility is a well established phenomenon outside the WTO with many countries operating temporary labor schemes with specific partner countries. These existing bilateral or plurilateral temporary mobility schemes are interesting because they offer models for achieving a broader range of temporary mobility for workers and professionals that can be adapted within the contours of preferential and multilateral trade agreements.

However, in their analysis of regional initiatives among ASEAN member economies in the area of liberalizing the movement of workers across borders Bhatnagar and Manning (2005) find that unilateral, national policies rather than regional or multilateral commitments dominate in policies towards temporary foreign workers. The authors argue that little progress has been made towards achieving 'GATS-Plus' outcomes preferential agreements, partly because of the lack of a strong political commitment among member countries to liberalizing the entry of foreign workers. A critical element that defines how well an agreement addresses the main issues of concern in services market liberalization, especially with reference to regulatory and legal barriers that define the universe of trade in services, is the institutional design of agreements. A legal perspective of such institutional design is the key to gauging how useful an agreement

would be in addressing the impediments to services trade. The next section discusses trade agreements from within this legal and institutional framework.

2.3. Trade Policy and Institutional Design of Agreements: A Legal and Institutional Framework of Analysis for Trade Policy

It is important to reiterate the point made by in Chapter 1 with reference to the transactions costs of negotiating complex complete contracts. As was pointed out, Horn et al. (2010) argue that if contracting an agreement is costly then the agreement is likely to be incomplete. The cost of negotiating complex agreements that deal with regulatory issues and institutional integration are higher than negotiating simpler agreements that refer only to border measures and allows greater flexibility, and such costs are even higher for large developing countries with federal structures that typically have complex and overlapping regulatory and institutional regimes.

This fact is reflected in the choice of institutional design of agreements. As Stephenson (2002) has argued, the choice of institutional design has important ramifications for liberalization outcomes including the institutional depth of agreements. The key differentiation is between NAFTA style negative list agreements and GATS style positive list agreements. In GATS positive list style agreement schedules list specific commitments to provide national treatment and market access for particular service sectors and modes of supply. In a NAFTA negative list style agreement all measures and sectors are considered to be liberalized (i.e. providing complete market access and national treatment) unless otherwise indicated in lists of reservations.

The additional advantage of the architecture of NAFTA type agreements is that they incorporate greater transparency by listing sectoral reservations (i.e. measures that impact market access) in terms of discriminatory and non-discriminatory measures. NAFTA style agreements also ensure the transparency of any future measures arising out of domestic legislation by giving the right of prior comment on new regulations to partner countries. This means that partner countries will have the right to review and provide detailed comments (including objections) on any national legislation that impacts their rights of market access and national treatment.

However as Fink and Molinuevo (2008a) point out, negative list approach no guarantee that a country will offer greater and more transparent commitments. The authors find that Singapore's commitments in its agreement with Japan that was based on the positive list approach to be more liberal and comprehensive compared to its commitments in the agreement with Australia that was based on a negative list approach. In their survey of East Asian PTAs, Fink and Molinuevo (2008b) find that there is a variety in architectural approaches. Most agreements between Asian countries (including the agreements being considered in this chapter), and between EU and other developing countries tend to follow the GATS approach. On the other hand US led agreements such as the US-Japan FTA tend to follow the NAFTA positive list model.

But it is just not the overall institutional architecture that matters. As Persin (2011) argues services trade agreements differentiate mainly between modes that are 'linked' versus 'unlinked' to commercial presence. For example, Mode 1 cross-border trade or Mode 4

movement of personnel in a particular sector might be linked to Mode 3 commercial presence. As discussed in the earlier discussion on Mode 4 in section I.I of this chapter, this makes cross-border trade concomitant on FDI by the foreign service provider. This FDI pre-requisite would make accessing the market much more expensive for smaller services entrepreneurs. Persin (2011) finds that the new preferential trade agreements are able to narrow the gap between the market access granted to both 'linked' and 'unlinked' modes, this has leveled the playing field between large and small enterprises in terms of services market to an extent.

Nsour (2008) points out that such preferential agreements are essentially legal documents. Thus, a legal analysis of such agreements is no less important than analyzing their economic and political impacts. Nsour (2008) argues that the WTO, regional and bilateral agreements are legal texts that are interpreted pursuant to The Vienna Convention on the Law of Treaties. Nsour (2008) also stresses that a legal examination is crucial in the analysis of the relationship between multilateral and preferential trade agreements and this analysis cannot be done through a strictly economic lens. Yarbrough and Yarbrough (1987) have argued that the institutional variety that is observed in international trade agreements is a direct outcome of the choice of legal frameworks that negotiators have chosen to implement in the agreement. Such legal choice is itself a function of the transaction costs of negotiation and the degree of need for flexibility determined by the political economy facing the negotiators, and the institutional depth of their domestic legal institutions.

Abbot et al. (2000) provide an analytical framework for determining the degree of institutional variety and institutional depth of international agreements. They refer to this variety of institutional depth as the degree of legalization. Legalization according to Abbot et al. (2000) refers to a particular set of characteristics that institutions may (or may not) possess. These characteristics are 1) obligation, 2) precision, and 3) delegation. Obligation is defined by the degree by which states are bound by rules or commitments. Precision is the degree that rules in an agreement define the conduct required by states and clearly spell out the various terms and conditions under which states are going to implement the obligations made in the agreement. Delegation refers to the extent to which third parties have been granted authority to implement, interpret, and apply the rules; to resolve disputes, and under certain conditions to make further rules. Third parties might refer to international organizations or agreements to which both contracting states are parties to. They might also refer to domestic rule making institutions within the contracting states that have a sovereign right to legal interpretation for some aspects of the agreement signed by the contracting states. Legal analysis of the institutional architecture along these three characteristics is the key to determining the depth of an agreement. Agreements that have a greater obligations undertaken by both parties, a higher degree precision, and lesser degree of delegation are stronger agreements, or as Abbot et al. (2000) defines them, 'hard law agreements'.

The perception in the services sector has also been that such agreements have not actually brought tangible gains in services market access. Indian industry participant point out that besides the existence of trade policy related and regulatory related barriers, there are

systemic barriers in terms of the cost of acquisition of local expertise and ability to participate in local business networks. Such systemic barriers are much more significant for services, especially professional services than they are for trade in goods, and opportunity cost of overcoming them are often higher than the perceived gains from being able to operate in those markets[6]. The question then arises, why are countries persisting with, and spending precious negotiating time and resources engaging in, comprehensive trade agreements with deep services disciplines?

One fundamental gain of such trade agreements on services that is highlighted by policy-makers is that they often formalize the existing autonomous level of market access and national treatment[7]. This is important to foreign service providers, because as pointed out earlier, there is always the concern that once services providers have invested in skills and service delivery infrastructure, a reduction in the level of market access will cause them significant loss. Extracting a commitment on keeping autonomous regimes intact also creates policy stability leading to greater confidence on the part of potential investors seeking opportunities in partner economies.

The crux of this chapter is therefore based on two important dimensions. The first, as discussed in the preceding two sections (2.2 and 2.3) is the extent the institutional design of the agreements facilitates the trading of such tasks. The second is the analysis of hierarchy of tasks within professional services that can be potentially traded, and the

[6] Notes from the proceedings of Confederation of Indian Industry (CII) International Trade Committee, of which the author served as the secretariat (meeting dates 21st September, 2010 and 16th February, 2011).
[7] Discussions with with senior policy researchers in India's two main trade research institutions, Indian Council for Research on International Economic Relations (ICRIER) in August 2010, and Research and Information Systems for Developing Countries (RIS) in February 2011.

impact of the institutional design on trade agreements in on the ability of such tasks to be traded and delivered in different modes, which follows in section 2.5 and 2.6. However, before proceeding to a discussion on the trade policy related barriers on different aspect of professional services tasks, it is important to first establish the nature of such barriers. Section 2.4 that follows discusses the trade policy related barriers and their impact on services delivery.

2.4. Trade Barriers in Professional Services: Explicit, Implicit, and Systemic

It is widely recognized that foreign firms incur additional costs of doing business relative to domestic firms. The decision to trade or not trade is dependent on the level of incidence of such costs. Zaheer (1995) introduced the idea of liability of foreignness (LOF), defined as the social, political, and economic costs associated with identification and operation as a foreign firm within a particular host country context. More specifically Zaheer describes these costs as additional costs that a firm operating in a market overseas incurs that a local firm would not.

This distinction between formal and systemic barriers is recognized in business literature related to offshoring of services. Bunyaratavej et al. (2007) point out that foreign firms (and by extension, individual professionals) face additional costs associated with doing business in unfamiliar environments where local competitors have both tangible and intangible advantages. Tangible costs are related to foreign entities facing discriminatory treatment from host country governments (explicit), or expenditures associated with acquiring information regarding cultural, political and economic differences (systemic).

Essentially, this liability of foreignness in services consists of three distinct components or impediments. These barriers or impediments in services are qualitatively different from trade in goods. Thus, it is important to classify such barriers in a way that relates to negotiations on trade liberalization in services. These three kinds of barriers are 1) explicit trade policy barriers, 2) implicit barriers that relate to national regulatory regimes could be addressed by bilateral initiatives in trade facilitation, and finally 3) systemic barriers that lie outside the limits of bilateral cooperation, but can play a critical role in determining whether trade actually takes place or not.

2.4.1 Explicit and Implicit Trade Policy Barriers

Explicit barriers refers directly to those provisions and rules that actually prevent foreign participation in local services markets, for example limitations on the scope activities open to foreigners or limitations on FDI. Implicit barriers usually refer to those regulations that, while not discriminating foreigners, are effectively a barrier to trade in services. A good example is activities reserved for professionals who have local licensing to give them the ability to provide statutory services.

Implicit barriers are typically related to institutional or operational limitations that are applicable to all services providers (i.e. domestic and foreign), and thus are not a violation of National Treatment norms in trade agreements. But such institutional rules and operational limitations are such that they effectively create barriers for foreign service providers. For example, the need to appear for a local qualifying examination conducted in the local language in order to acquire professional certification might be

applicable to all professionals, but as such represents a far greater compliance burden on the foreign professional.

Implicit barriers, if not directly addressed in trade agreements, can be addressed by bilateral partners by mutual consent to facilitate trade. For example, the partner countries can decide to enter into Mutual Recognition Agreements that would recognize each other's professional certification without the need for appearing for local exams in local languages. Table 1 below lists the explicit and implicit barriers in professional services by mode of service delivery

Table 1. Explicit and Implicit Barriers to Trade in Professional Services

Mode 1 Barriers	***Mode 3 Barriers***	***Mode 4 Barriers***
Explicit Barriers	**Explicit Barriers**	**Explicit Barriers**
Restrictions on the type of services that can be delivered by foreigners	Restrictions on the type of services that can be delivered by foreigner firms	Employment Visa restrictions
Need for local commercial presence of foreign firms to deliver services cross-border	Limitation on extent of foreign Onwership	Restrictions on the type of services that can be delivered by foreigners
Rules relating data-security, data privacy, and IPR	Residency and Local Presence requirements for foreign owners/partners	Residency and Local Presence requirements for foreign professionals
Ability of professionals to travel to client site on need	Temporary Movement of People (Intra-Corporate and other)	
	Ability to Hire/Partner with Local Professionals	
Implicit Barriers	**Implicit Barriers**	**Implicit Barriers**
Activities reserved by law for professionals with local statutory qualification	Investment and ownership by non-professional investors	Rules regarding acquisition of professional qualification
Rules regarding acquisition of professional qualification	Rules regarding acquisition of professional qualification	

Developed by the author

Specific barriers can be related to and influence another type of barrier. It is also important to recognize that barriers that impact one mode can have an impact on the effective level of market access in another mode. A detailed discussion on these inter-relationships is therefore necessary. Mode 1 or cross-border trade in professional services will naturally be restricted by the type of services that foreign professionals are allowed to deliver in the local market. This in turn is directly related to the activities reserved by law for professionals who have acquired local licensing (through qualification norms) and thus able to provide such licensed statutory services. The extent that such reservation is a barrier will be a function of the difficulty of acquiring such local statutory qualification (i.e. an implicit barrier). The other important barrier to Mode 1 delivery of professional services is related to the need for having commercial presence in order to be able to deliver them in the local market. The level of impediment this presents is directly related to level of barriers in establishing commercial presence, i.e. all Mode 3 barriers.

Another important factor that facilitates effective Mode 1 market access is the ability of foreign professionals working offshore to visit client sites on-shore as and when required. This allows foreign firms to find the optimal balance between the work that can be done offshore (i.e. Mode 1), and the work that needs to be delivered onshore by the physical presence of a professional (i.e. Mode 4). Thus, Mode 4 related barriers have a direct impact on the effective level of market access for Mode 1.

The ability for firms to deliver services through local presence (Mode 3) is obviously limited by the restrictions on the type of services a foreign-owned firm can deliver in the local market. However, the most critical barriers in Mode 3 are related to restrictions on extent of foreign ownership allowed in professional services firms, and limitations on the type of commercial presence. For example, a country might only allow partnerships, and not incorporated entities to deliver professional services. The extent of such a restriction would be further aggravated if only those individuals who are recognized professionals are allowed to be partners (or would have to have a majority in partnership arrangement). Restrictiveness would further increase if the acquisition of professional status (local licensing and qualification) is difficult for foreigners.

Mode 3 delivery services are also impacted by rules governing the ability of foreign firms to hire or enter into joint-ventures and partnerships with local professionals. The acquisition of local expertise is key factor for many professional services, especially those aspects that require knowledge of ever changing laws, regulations, and procedures. The challenge posed by restrictions on hiring/partnering with locals would increase if the rules governing the ability of foreign firm to bring overseas professionals to work in the local facility (i.e. intra-corporate transfer) are also restrictive. Such rules are a direct function of Mode 4 or movement of professionals' related regulations.

Mode 4 services delivery are directly related to work visa related restrictions, but are also directly affected by restrictions on the type of services that foreigners can undertake and the level of difficulty in acquiring requisite licensing and qualification required to

undertake specific tasks in the local market. The ability of foreign professionals to effectively access the local market can also be hampered by onerous residency and local presence requirements that restrict their mobility and increase the costs of operating in the local market.

2.4.2. Systemic Barriers

While table 1 above presents the family of explicit and implicit barriers in trade in professional services, systemic barriers to such trade are just as important. Luo and Mezias (2002) define systemic barriers as impediments that are not only the function of the complexity and uncertainty of local regulatory and legal environments, but also by the specificity and criticality of social and cultural environments. Thus, the concept of systemic barriers is similar to the concept LOF discussed earlier.

Mezias (2002) summarizes the different theories of LOF to identify the generic definitions of LOF. These include culture and language differences, economic and political regulations, and costs stemming from either unfamiliarity with host-country operating environments or a discrimination hazard. Mezias (2002) also points out what can be described as the critical element of LOF. He argues that LOF can arise from costs that are not exclusive to foreign firms. Some significant operating costs affect both foreign and domestic firms, but foreign firms may experience these costs disproportionately because domestic firms have learned to mitigate these costs. Systemic barriers are of three types as indicated in Table 2.

Table 2: Systemic Barriers in Professional Services

Difficulty of Acquiring Regulatory Knowledge	Difficulty of Penetrating Networks	Perception of Risk
Language	Local Business culture	Nature of Professional Contracts
Institutional Similarity of Laws	Resistance of local Professionals	Potential financial and legal risk perceived by local client of non-performance by foreign professional/firm
Legal and Jurisdictional Complexity	Extent of internationalization of local firms	Financial and legal risk perceived by foreign professional/firm arising from operations in local market
Attitude of Professional and Regulatory Bodies	Presence of Multinationals	Perceived effectiveness of arbitration mechanism in case of dispute

Source: Developed by the author based on the Mezias (2002) and Zaheer (1995)

All professional services have aspects that have to deal with issues related to laws and regulatory compliance. This means that foreign professionals would have to acquire know-how about local laws and regulatory practice if they are to become competent in delivering their professional services to local clients. The ability and effort required by foreign professionals to in acquiring such knowledge would depend on language (use of English versus local language for official work), similarity of regulatory institutions between the professional's home country and the local market (common law system versus continental system), legal and jurisdictional complexity (complexity increases with large number of regulators, and existence of different sub-regional systems), and finally on whether local professional and regulatory bodies act as facilitators of

knowledge, or chose to be opaque system with a tight control over information and knowledge.

The ease of being able to business in foreign markets would also depend on the difficulty in penetrating local networks. As such, this would be a function of local business culture (open to foreigners or closed system of suppliers and professionals). Luo and Mezias (2002) point out that networking with local business community via cooperative alliances or joint ventures reduces LOF at least in four ways. It leads to better access to important local resources. It results in learning from local partners about how to do business locally. It ensures improving business–government relations. Finally, it allows for sharing a partner firm's local experience, networks, and image.

But this would require the ability to invest in and participate in the domestic market, be able to enter in to joint-ventures with local affiliates, and employ locals. As discussed earlier, explicit and implicit barriers might prevent these foreign participants from all of these avenues. However, even if rules do not prevent them from such networking and partnership between foreign firms and local stakeholders, the political-economy environment might itself lead to more systemic opposition to market entry and integration of foreign firms.

To a large extent, local business culture would be influenced by the level of resistance of local professionals to foreign professionals entering their preserve. Vernon (1977) recognized that a growing local bias against MNCs represented a specific disadvantage facing foreign firms operating abroad. He attributed this local bias to host governments

and domestic firms viewing powerful MNCs as threats to their countries' technological and industrial development.

Generally, a higher level of internationalization of local firms would be likely to positively impact their openness and acceptance of foreign professionals. In a similar vein, the presence of a larger number of MNCs within the local market would afford greater opportunities for foreign professionals to do business. Finally, risk perceptions play a very important role in professional services given its interface with regulatory aspects and potential for litigation and disputes. The efficiency of contractual enforcement in the local market would play a positive role in increasing confidence of both parties to enter into commercial agreements. However, the perceived financial and legal risks of the local client in case of non-performance by a foreign professional, and in turn the potential legal and financial risk faced by the foreign professional would also influence decisions. Perceived efficacy of arbitration mechanism available would also be a factor in facilitating trade in professional services.

Trade agreements and trade facilitation measures cannot address systemic barriers to trade, and as such the lie outside the scope of trade negotiations. However, they are the often the reason for trade not taking place in the magnitude expected despite obvious complimentarity between two trade partners, and concomitant trade liberalization. It must be pointed out that businesses and firms can find a way around such systemic barrier in cooperation with local agents. But this requires that the combined cost of arrangements required in dealing with systemic barriers and the opportunity cost of diverting the firm's

resources to foreign markets is lower than the expected gains from that market. This idea of implicit and systemic barriers and their relationship to trade in professional services in discussed in greater detail in section 2.6.

2.5. Special Features of Trade in Professional Services: Impact of Trade Policy and Trade Facilitation

In order to analyze the trade policy implications of trade in professional services, it is important to understand the nature of production and trade of such services, and related transaction costs that hinder such trade. There are some key underlying features of professional services that make it different from other services and goods. These are

- Professional services represent intellectual and technical inputs acquired through years of training
- The critical element of a professional service is a skill that often incorporates geographical or sectoral specialization aspects, i.e. domain knowledge
- This critical element of skill is embodied in the human resource, i.e. the professional
- Production and delivery of professional services involves the performance of a series of tasks by the professional
- Professional services need to be delivered according to established local standards, as defined by local institutions. They also need to meet local norms of codification and presentation. Thus, the significance of market specific (i.e. local) institutional knowledge is very high

Given the nature of trade barriers applicable to trade in professional services, and the availability of different modes of delivery of the exact same service by a foreign professional, implications of trade policy are much more nuanced for professional services. Specifically, trade policy has very strong implications on *exactly which of the tasks can be performed by a foreign professional and in which way it can delivered to clients in the importing country*. Thus, trade policy rules play a major role in defining the value-chain of trade in professional services.

In this context, the model of international trade developed by Grossman and Rossi-Hansberg (2008) that envisages the international production process as a continuum of tasks that is integrated within an international supply chain is especially relevant. The authors assume that the production of every good or service requires the performance of a continuum of tasks by each of the factors of production, and they allow for the possibility that these tasks might be performed in different locations and that the organization of production can be varied continuously.

In such a model, the primary motivation for trade to take place (i.e. offshoring of certain tasks) is to save on factor costs, but the limit to trade is set by the level difficulty to offshore different tasks. Grossman and Rossi-Hansberg (2008) make a distinction between routine (tasks that can be well described by deductive rules) and non-routine (tasks that require pattern recognition and inductive reasoning). It is assumed that non-routine tasks are more difficult to offshore as compared to routine tasks. In other words, the greater the requirement for a professional service to have significant amount of

domain knowledge that is specific to a particular geography or the ways of performing tasks in a certain environment, less likely it is to be traded across borders.

This distinction between routine and non-routine tasks helps to conceptually develop the idea of value-chains in services trade that is central to understanding the efficacy of trade policy facilitation of professional services. As defined by Rabach and Kim (1994) core functions in the services value-chain include those tasks that are least routine and require specific domain expertise and institutional knowledge. Extending this idea to professional services, such core functions would also require knowledge of local laws, institutions and norms necessary to deliver such professional services according to local specifications. Within the value-chain, such core functions have the highest returns in terms of value-added. The peripheral functions are relatively more routine in nature, and require lesser degree of domain or institutional knowledge.

Farrell et al. (2006) argue that low cost of digitization and communications technology means that any activity that is not tied to a particular place by the need for customer contact, or local knowledge, or complex face-to-face interactions with colleagues, can be performed remotely. The authors further argue that this had been further facilitated by freer trade between countries and a reduction in the perceived risks of operating overseas. Thus, two related factors that help in offshoring of specific tasks that have minimal local contextual content are facilitating technology, and institutional developments that are a function of international safeguards to trade and investment. It needs to be noted that such safeguards does not have be through an FTA or bilateral investment agreement. As

pointed out in section 2, unilateral regulatory reforms in individual countries that lead to more liberalized autonomous regimes (i.e. regulatory environment in that particular country independent of any specific trade agreement, and applicable to all economic participants) have been the real drivers of change.

The trade in tasks model is supported by academic assessments of skilled labor availability by geography. According to a McKinsey (2012) there are over 33 million university graduates who have also acquired work experience living in emerging countries of Asia, Eastern Europe, and Latin America compared to just 15 million in the 8 largest industrialized economies. According to Hansen (2006) the numbers of university graduates are increasing at a rate of 5.5% in emerging economies compared to just 1.1% in industrialized nations. Such increasing dispersion of education and by default requisite skills needed to undertake tasks in professional services necessitates a model that integrates tasks across geographies. Hansen (2006) argues that such geographic dispersion of skills have led to increasing integration of not just skilled workers, but also of the institutional and contractual models used for the governance of such worker-firm, or worker client relationships.

In other words, significant aspects of the systemic barriers discussed in the earlier section are seeing harmonization. Such forces are in turn leading to increasing amounts of cross-border services trade in tasks, especially related to professional services. The other interesting aspect that Hansen (2006) brings to light is the increasing competition being faced by those who demand such services to retain the skills they need. Such competition

is leading to greater specialization and in turn greater arbitration in skills and tasks across borders.

On a similar vein, Kshetri (2007) posits that the process of offshore outsourcing is deeply embedded in a diverse set of formal institution related to regulatory controls such as legal documents, policies, formal systems, standards and procedures that define the relationship between the two parties. Such formal systems are in turn defined by the rules framed in the trade agreement, and autonomous regulatory regime governing international trade in such services of the countries in question.

But Ksehtri (2007) argues that this governance structure is not entirely a function of such formal institutions. To resolve ambiguities and make outcomes more predictable, it is necessary to understand social, interpersonal and informal infrastructures related to norms, shared values, internalization and beliefs. It is this set of 'informal institutions' that are described in the preceding section as 'systemic barriers' and thus beyond the scope of analysis of this chapter.

Hansen (2006) points to the fact that two important drivers of this international arbitration of skills (and thus tasks) and increasing harmonization of international norms, rules, and contractual models that govern them are a) rapid internationalization of industrialized country multinationals in their hunt for new markets and new sources of skills in order to stay competitive, and b) the nascent rise of emerging country firms who are increasing their footprint in the global market (an in turn transforming into

multinational corporations), and their efforts to tap new markets and develop their own skilled talent pools.

This means that the nature of regulatory and contractual environment in which professional services are delivered becomes very important to effective degree of openness of this market to foreign participants. A good model theoretical underpinning to importance of contractual environment in trade is developed by Grossman and Helpman (2005). The Grossman and Helpmann model is based on transaction costs (of search for the right partner) and the theory of contracts. Their model assumes producers of differentiated final goods must go outside the firm for an essential service or component. Search is costly and specific to a market.

If a firm finds a potential partner with suitable expertise, the supplier can customize an input for the final producer's use. Such relationship-specific investments are governed by incomplete contracts, and the contracting environment may differ in the two countries. An additional assumption of this model is a thick-market externality, i.e. search related transaction costs decrease in the presence of higher number of suppliers, and likewise input suppliers have lesser transaction costs in the presence of higher number of customers. The quality of the contracting environment determines the demand for intermediate goods. A positive contracting environment increases the demand, while a negative environment does just the opposite.

Interpreting intermediate goods and services as specific professional services tasks, this model can easily approximate the reality of professional services trade. An additional

institution that emerges is the presence of network externality for both suppliers and importers of these tasks. This clearly establishes a virtuous cycle for professional services trade, where improvements in contractual environment increases the probability of trade, and increase in trade (i.e. number of importers of intermediate tasks) further facilitates such trade.

Thus, the limits to trade in services are two-fold. It is limited by explicit trade policy barriers, and it is limited by the ability of foreign professionals of acquiring requisite local expertise, context and networks to be able to provide such services effectively. As discussed earlier in section 2, trade policy objectives in PTAs can address explicit trade barriers. But implicit barriers that make the acquisition of localized domain knowledge and networks can only be clubbed under trade facilitation in services.

Holcomb and Hitt (2007) present an institutional framework to explain the outsourcing of tasks outside the firm (whether offshore or onshore) by a combination of transaction-based and resource-based logics. They coin the term strategic outsourcing to define this phenomenon of firms relying on intermediate markets (internal or cross-border) to provide specialized capabilities that supplement existing capabilities used in production, in other words integrating tasks within and without the firm for production purposes.

Essentially, Transaction cost theory (TCT) has been the dominant means of explaining outsourcing as an economizing approach whereby cost efficiencies are achieved by assigning transactions to different governance mechanisms (i.e. trade between keeping specific tasks within and without firms). However, Holcomb and Hitt (2007) argue that

outsourcing depends not only on the economizing aspect defined by transaction costs approach, but also on capability attributes, and the governance context that it creates. Thus, substantial empirical support exists for the proposition that capability considerations (i.e. arbitrage in skills and specializations related to specific tasks) trade-off with economizing constraints in the decision to outsource.

An important proposition advanced by Holcomb and Hilt (2007) is that the cooperative experience between the outsourcing firm and specialized firms (outsourced service provider) from intermediate markets, defined by the length and the quality of previous relationships, positively affects the likelihood a focal firm will pursue strategic outsourcing. In other words, the level of constraints in the contractual environment that affect the business relationship is important for future development and expansion of business. This is precisely where trade agreements start playing a role, whereby liberalized cross-border trade regimes, in combination with removal of institutional and regulatory impediments that negatively impact the quality of cross-border cooperative business relationships, can be removed.

Liu et al. (2011) provide empirical support for the connect between a value-chain hierarchy of specific tasks and institutional environment that define transaction costs of trade in such tasks. The authors adopt a transaction cost approach to the offshoring of services, arguing that production costs alone cannot explain the vast array of preferences that determine the choice for particular geographies for offshoring of particular types of services. Using Bureau of Economic Analysis data on US service outsourcing across 11

types of services to 31 countries between 1992 and 2005, the authors make some important observations. First, they find that generally, the more routine, less complex, and less interactive services functions are offshored more. Second, institutional quality matters in that countries with better institutions tend to attract more offshoring. Finally, the better the quality of institutions in a country, the more complex and non-routine functions are offshored to such locations. In essence, Liu et al. (2011) are defining a hierarchy or value-chain of tasks within services, and arguing that institutional quality and governance regimes have a role to play in determining the cross-border trade in such tasks. This idea leads us to the discussion in the next section relating to the value-chain implications in professional services trade as they relate to governance structures related to their trade.

2.6. Professional Services as Trade in a Hierarchy of Tasks: Impact of Trade Policy

2.6.1. Trade Barriers and Related Outcomes for Professional Services

Value added in the manufacturing sector is easily observable as the difference between the cost of the inputs and outputs at each stage of the chain. However, the value chain of professional services is not easily observable since it integrates different tasks and the relative valuation of each individual task is particular to the firms or contractual agreement between firms in question. Further, the value-chain of services is not so much defined by labor-intensity or costs, as it is by functional requirement, knowledge and specific technical skills.

Thus, the phenomenon of cross-border trade (or offshoring) of services tasks should not be seen in the light of just cost-savings. As Lewin and Peeters (2006) argue, such cost reduction strategies are highly imitable they cannot be a source of sustained competitive advantage. The rapid diffusion of offshoring is also creating upward pressures on labor costs in developing countries, diminishing the returns from labor arbitrage. Therefore, beyond taking out costs, companies can be expected to evolve towards offshoring strategies that create value and enable innovation and growth. Furthermore, developing economies are beginning to recognize the limits to labor arbitrage and are increasingly expanding investments in human capital, especially engineering, mathematics and computer sciences as a way of attracting higher level technical jobs and thus creating a talent-based advantage.

Lewin et al. (2009) point out that the trend is for companies is to increasingly offshore more complex and higher-value-adding activities that require access to subject-matter expertise and a growing number of highly skilled and qualified workers. This trend is influenced and affected by various factors, including trade liberalization policies, advances in information technologies and the ability of companies to dis-intermediate and modularize almost any process, including knowledge-creating processes. Trade agreements need to be designed keeping in mind this evolving global framework in skills and professional expertise related arbitrage across borders. Thus, while trade in professional services tasks might exist (or exist in negligible amounts) among emerging country nations today, the likelihood of such trade taking place in the near future is very high.

In this context, it becomes important that a more detailed understanding of the precise structure of a value chain for professional services tasks is evolved. Leamer and Storper (2001) have defined the hierarchy of services functions in terms activities that require codifiable information and those that require tacit information. Levy and Murnane (2004) have used the level of routine-ness of an activity to distinguish between activities that can be delivered remotely. Blinder (2006) emphasizes the need for personal interaction when delivering the services. Liu et al. (2011) has used the routine-ness of jobs, the levels of complexity of tasks and extent of interactiveness and cultural proximity needed from them as the characteristics to determine what jobs can be offshored.

Knowledge intensity of a particular task can serve as a good proxy for its relative position within the professional services value chain. Gereffi and Fernandez-Stark (2010) have related the value of different services to employee education level and work experience. Education and work experience can also be said to proxy the ideas developed by Grossman and Rossi-Hansberg (2008) discussed earlier in terms of certain tasks being routine (less education and experience required to carry them out), and less routine (requiring knowledge and experience intensive).

This dissertation builds on this literature, but unlike earlier works that focuses purely on more than whether or not a job can be done physically overseas; this dissertation focuses on the levels of difficulty a foreign professional will to be able to deliver a certain tasks for clients in the local market. This level of difficulty in essence becomes the value-chain,

with more difficult the task in terms of complexity and need for local context, the higher the returns to it.

2.6.2. The Idea of Implicit Contextual Knowledge within Value Chains in Services

A further nuance can be added into this, bringing in the idea of contextual knowledge. Contextual knowledge is different from education and work experience in the sense that they refer to the acquisition of knowledge and network relationships for particular geography, sector, and client group (or combinations of these). For example, a foreign architect can have acquired the status of a recognized architect in Malaysia, but that necessarily does not translate into that foreign architect having intimate knowledge of the municipal building regulations of Kuala Lumpur. On the other hand, a foreign architect while not having attained official certification in Malaysia, might just due to the experience of having worked in projects acquired a strong working knowledge of such municipal laws.

As the example provided above illustrate, contextual knowledge itself has two dimensions. One is the acquisition of the knowledge itself, and the other is official recognition of having acquired that knowledge. The first involves an investment by the professional or by the firm providing such services. The second requires trade facilitation measures in-built into trade agreements. Specifically, trade facilitation should allow foreign services professionals to acquire requisite local certifications or recognitions and allow foreign firms to hire locals who already have such certifications.

However, it needs to be recognized that acquisition of contextual knowledge involves a cost, whether represented by the foreign professional investing time and effort to acquire it (including sitting for local exams) or a foreign firm paying for local professionals who have such knowledge. Whether or not professionals or a firm of professionals would be interested to take advantage of opportunities in foreign markets would depend on the trade-off between cost of acquisition of such contextual knowledge and expected gains in the foreign market. This choice implicitly includes the idea of opportunity cost between trying to develop a footprint in foreign markets and the expansion in their home market for such professional and firms.

Integrating the two ideas of increasing skills and education, a professional service that is more complex (requiring higher levels of knowledge and/or higher level of contextual knowledge) is relative more important within the value-chain of professional services. Figure 1 below provides a graphical representation of such a value chain environment.

Table 3: Professional Complexity in Professional Services

Job Type	Specialized Professional Skills Necessary	Industry Specialization Necessary	Local Knowledge Necessary
TYPE 4	Yes	Yes	Yes
TYPE 3	Yes	Yes	No
TYPE 2	No	No	Yes
TYPE 1	No	No	No

Developed by the author

Table 3 defines professional complexity on the basis of the type of specialization and skills required. Jobs can require specialized professional skills such as knowledge of accounting principles or electronic circuits. Certain jobs might require experience in a particular industry. For example, accounting principles particular to the natural resource industry or electronics related to the auto industry. Many jobs also require local knowledge, i.e. knowledge of local laws, systems, and processes. This is especially true of jobs that have some sought of regulatory interface. For example, certain jobs might require knowledge of accounting laws of Japan or the knowledge of electronic circuitry design that will get approved by Korean municipal building laws.

Type 1 jobs in table 3 represent those tasks that are extremely generic in nature, and are typically repetitive. These tasks require no specialized skills, industry knowledge, or local knowledge. Type 2 jobs are those that while being generic in nature and not requiring specialized skills or industry experience might require knowledge of local laws or processes. Type 3 jobs represent those tasks that require specialized skills as well as some industry experience, but do not require knowledge of local laws and processes. Type 4 jobs are those tasks that require specialized skills, industry experience, as well as local knowledge. Type 1 to Type 4 therefore represent the levels of increasing complexity in a value chain of professional services, with Type 1 jobs being the least complex, and Type 4 the most. Figure 1 below graphically presents this value-chain.

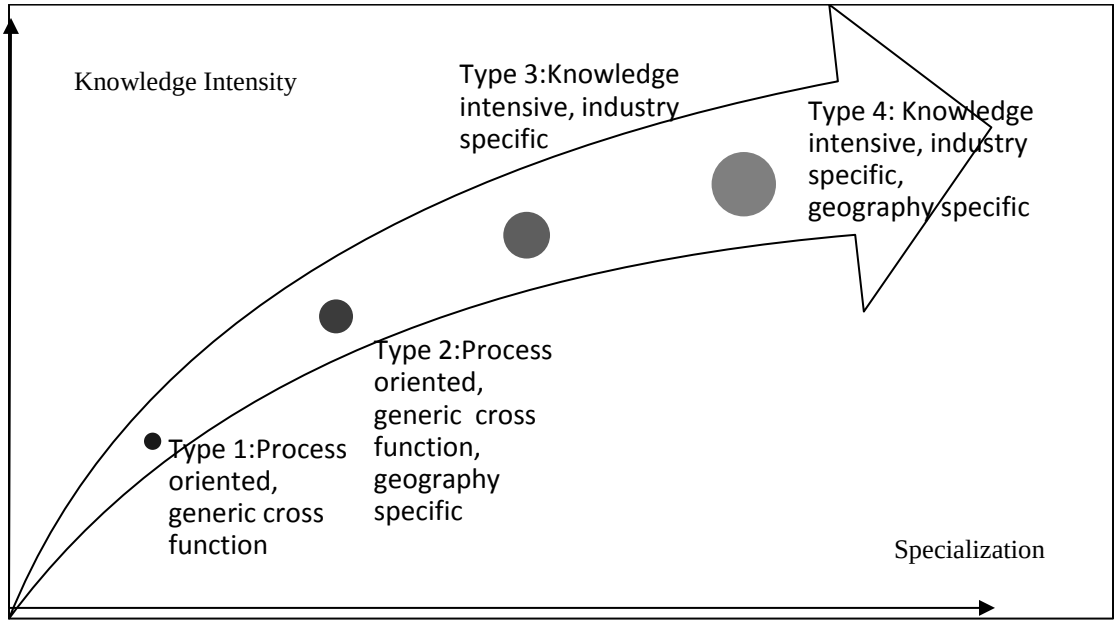

Figure 1: Increasing Professional Complexity and Value Chain in Professional Services

Type 1 jobs or tasks can easily be performed by foreign professionals, and can indeed be performed anywhere thus making such tasks perfect candidates for offshoring. Type 2 tasks are more difficult to for foreign professionals to perform as they require local knowledge and familiarity with local norms and conditions. But this does not mean that

these tasks cannot be done by foreign professionals. If the cost savings (or efficiency gains) from getting these tasks done by foreign professionals are significant, then local firms might choose to procure them for foreign services providers. The need for knowledge of local norms and rules is also no barrier to offshoring, as foreign professionals (and firms) will invest in acquisition of such know-how if it is worth their while.

Type 3 jobs are also easy to procure from foreign professionals, as they represent tasks that require specialized skills and qualifications, and do not require any local knowledge or licensed statutory ability. Essentially, a professional having the requisite high skills and qualification can performs these tasks anywhere, and thus these tasks can also be offshored. However, since these tasks are also non-routine in nature, they might require significant amount of interface with clients and ability to understand specific needs in the market the service is being delivered. This means that foreign professionals would need local interface, either by directly being present in the local market itself through commercial presence (Mode 3), or by having the ability to travel in and out of the local market (Mode 4).

Type 4 tasks at the apex of the value chain are jobs that combine high qualifications and skills with a high degree of requirement for local contextual knowledge and familiarity with local laws and norms. These tasks include what can be described as 'licensed statutory functions'. Licensed statutory function is the ability of a professional to certify compliance with local laws, regulations and norms which is recognized by the local

competent authority. Good examples are the power of audit granted to chartered accountants (or certified public accountants), the powers of recognized architects to sign on building plans to meet municipal norms, or of chartered engineers to certify plant and machinery safety. Another example is the ability of those lawyers who are members of the local bar to appear in local courts to plead a case.

As indicated earlier, the acquisition of licensed statutory ability is a major barrier for foreign professionals for two reasons. First, they might not be allowed by rules to do so, or even if permitted, the norms for qualification might be such that it makes it very difficult for foreigners to meet them. Second, the effort, time, cost and difficulty involved in acquiring such licensed statutory abilities might be high enough to dissuade foreign professionals. This would especially be the case when the opportunity cost of acquiring the requisite statutory powers is higher than the expected gains.

Since Type 4 tasks typically involve issues related to local compliance, they also demand some form of local presence (either direct commercial presence of the mode 3 variety, or ability to travel to the local market on demand or mode 4). Thus, even if Type 4 tasks are offshored, significant investment into having a local interface would have to be made by the foreign professional or firms employing foreign professionals.

Having established the importance of trade policy, especially with reference to depth of agreement and institutional design of trade agreements, to trade in professional services within a context of an hierarchy of tasks traded across borders, section VI that follows

discusses the specific research objective of this chapter, and the methodological approach undertaken for the analysis.

2.7. Research Objective and Methodology

2.7.1. Research Objective and Hypothesis

On the basis of the discussion in sections 1 to 6, this chapter analyzes three specific issues related to trade policy outcomes with respect to trade regimes and their impact on trade in professional services; The first issue is the exact nature of the value-chain hierarchy of 'tasks' within professional services. The second issue is whether there is evidence of greater liberalization of trade in such tasks by partner countries through the preferential agreement relative to the scheduled multilateral trade regime commitments. Finally, such preferential agreements have led to effective preferential liberalization, i.e. whether the liberalization achieved is greater than what is already on offer to on a multilateral basis in the autonomous regime of the partner country. In other words, compare preferential regime with the actual market conditions for trade on the ground which tends to be more liberal than the committed level of liberalization in multilateral GATS commitments

The three issues above define the research objective of chapter 3 that follows. With reference to the above three issues, the following important observations need to be analyzed. This analysis is not a statistical investigation or proof of a hypothesis, but a qualitative investigation of institutional measures incorporated in trade agreements and their interpretation.

- The value-chain hierarchy of tasks includes functions that are both specific to the professional services as well as functions that are generic analytical and administrative functions. Thus, trade in different types of tasks is governed by different sectoral classifications in terms of trade agreement commitments and by extension different sets of autonomous regimes
- Preferential agreements do not add much value in terms of incremental market access or regulatory integration with partner countries with respect to professional services. In that context they fall short of the general expectations of greater levels of market access and institutional integration. However, there are some examples of greater level of market access being locked into the trade regime through such agreements relative to partner countries multilateral GATS commitments
- Preferential agreements fall short of locking in existing level of market access already available to all trading partners through the autonomous regime of the partner countries governing the trade in specific tasks. It also fails to achieve institutional clarity to ensure trade facilitation by explicitly integrating institutional elements (i.e. regulatory regimes) in the autonomous regime of partner countries that are currently quite liberal for many types of tasks

The discussion on the methodological approach for analyzing India's preferential trade agreements follows.

2.7.2. Methodology

Value-Chain of Tasks in Professional Services: Classification Through Task Attributes

As was pointed out earlier, in order to investigate the impact of preferential agreements on traded tasks, it is first important to establish what these tasks are. The literature typically distinguishes between tasks based on attributes that make a particular task easier to be delivered from a remote location and those that are not.

Bardhan and Kroll (2003) develop a set of attributes that define tasks or jobs that are best suited for offshore delivery. The authors then create a sub-set of jobs from the US Bureau of Labor Statistics (BLS) definitions to create a list of such jobs. The attributes amenable to services jobs offshoring identified by Bardhan and Kroll are:

1. No face-to-face customer servicing requirement
2. High information content
3. Work process can be digitized and is internet enabled
4. High wage differential with similar occupation in destination country
5. Low setup barriers
6. Low social networking requirement

As discussed earlier, Liu et al. (2011) has used the routine-ness of jobs, the levels of complexity of tasks and extent of interactiveness and cultural proximity needed from them as the characteristics to determine what jobs can be offshored. Liu et al. (2011) uses the BLS US Occupation Information Network (O*NET) to capture measures of routineness, complexity, and interactiveness. An approach similar to Liu et al. (2011) is used for this chapter. However, there are important differences. A hierarchy of tasks related to the four professions, i.e. accounting, engineering, architecture, and legal services in the BLS database is developed based on three factors, i.e. skill intensity, routineness, and the importance of regulatory requirement.

It is important to briefly discuss the reasoning behind including the last factor related to regulatory requirement. This factor is a proxy to capture what can be defined as 'contextual knowledge' that is critical to the effective delivery of the professional services. Contextual knowledge is different from education and work experience in the sense that they refer to the acquisition of knowledge and network relationships for particular geography, sector, and client group (or combinations of these).

The skill intensity score is combination of measures of educational attainment, and level of prior preparation required to carry out particular tasks. Data is taken from US Occupation Network (O*Net)[8]. Education attainment is based on the percentage of professionals in a particular occupation who have a) do not have a high school degree b) finished high school, c) got some level of college education, d) have obtained a associate

[8] Available at http://www.bls.gov/oco/oco1002.htm#arch.

degree e) finished college f) got a master degree and g) got a post-graduate or professional degree beyond college.

Equation 1

provides the average number of years of education attained by a professional in that particular profession.

In order to measure routine-ness of an occupation, this chapter uses the importance of inductive reasoning in a task from the BLS US Occupation Information Network (O*NET). The importance of inductive reasoning, defined as the ability to combine pieces of information to form general rules or conclusions is a good proxy for understanding the need for non-routine, non-process oriented analysis in a specific task or job. The scores for this category are taken directly from the BLS O*NET database.

BLS O*NET database tabulates the importance of evaluating information to determine compliance with standards for different jobs. This is a very good proxy for the importance of knowledge of local laws, regulations and norms for that specific job. This is especially important for professional services, where the position of a particular tasks in the value-chain hierarchy is defined by the ability to provide services with significant regulatory and compliance related expertise.

A comprehensive hierarchy of tasks (i.e. occupations) is developed in chapter 3 using the combined scores of the three attributes discussed above that places these tasks within a value-chain hierarchy for these four professional services.

Qualitative Analysis of Commitments in Trade Agreements

The trade policy literature has several examples analyzing the commitments made in trade agreements. The most common method is to create frequency ratios. Hoekman

(1996) uses information available in GATS schedules of commitments to construct frequency ratios to measure the extent of liberalization. The ratio was constructed by designating particular sectors and sub-sectors are fully or partially restricted as per the commitments scheduled by particular countries. The approach is to code for presence of absence of certain measures in trade agreements for individual services sectors and sub-sectors. For example, the agreements can be coded for the presence or absence of MFN, national treatment, non-establishment, and movement of natural persons clauses. Such approach has been taken by Mattoo and Sauve (2008), Roy et al. (2007) and Baccini et al. (2011).

Another approach is to create restrictiveness indexes for particular services sectors. This can be done by assigning scores for different types of restrictions that apply to services, and then using this scoring mechanism assign scores to different services sectors and sub-sectors according to the restrictions listed in its schedule. Such a system can also be used to create restrictiveness indexes for domestic regulations as well. Nguyen-Hong (2000) constructed restrictiveness indexes for the four professional services (accounting, engineering, architecture, and legal) for 34 countries based on available information on domestic regulation gleaned from WTO, OECD, APEC and other sources. OECD's Professional Services Regulations Database carries out a similar exercise.

While the frequency ratio or the coding approaches are good ways to capture trade commitments, and compare between multilateral and preferential agreements, it does not lend itself to deeper analysis of domestic regulation, and does not help in capturing some

of the elements of deeper integration as represented by regulatory harmonization disciplines. The restrictiveness index is a better tool as it allows analysis based on actual restriction measures, and thus lends itself to comparison across multilateral, preferential, and actual autonomous domestic regulations on the ground.

This chapter extends the restrictiveness approach beyond sectors to look at the treatment of individual tasks within a hierarchy or value-chain in professional services, thus tabulating what type of tasks within a particular profession is allowed to be traded in what form. In order to do that, it first provides a qualitative and descriptive analysis based on partner country's scheduled commitments at the WTO, in the preferential agreement schedule, and domestic regulation. Domestic regulation information is drawn from the information on APEC, OECD, published national laws, and published norms by the statutory professional association regulating that profession in partner country (e.g. the National Bar Association for legal professions).

The only way to ensure that the actual interpretation of domestic regulations in partner countries is accurate is find out their application in practice. In order to this, discussions were conducted with professional services firms who have operations in the partner countries to understand the regulatory architecture in practice and therefore validate the interpretation of domestic regulations. This involved a very specific detailing of task by task ramifications of domestic regulations on Indian service providers to that partner country based on the information on regulations that have already been gathered.

In order to further ensure that interpretations of the domestic regulations in partner countries was correct, a further level of validation is undertaken by presenting these interpretations of domestic regulations to legal experts that advise professional service firms on foreign regulatory frameworks as they relate to their operations abroad. Since such legal consultants are experts in terms of helping firms deal with partner country regulations what tasks are allowed and the nature of conditions, permissions, licenses, and certifications that apply, their validation as to the correctness of the regulatory interpretation provide a sound basis for the validity of the analysis carried out.

Having provided a detailed descriptive analysis of the impact of trade agreements on specific tasks related to professional services, this chapter will develop an index of liberalization for each of the tasks based on the theoretical basis of the literature discussed above, and using the methodology of a restrictiveness index. The index would be based on scoring according to table 4 below.

Table 4. Comparative Analysis of Multilateral (GATS), Preferential, and Autonomous Regimes

		Multilateral (1 if yes, 0 if no)	Preferential (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task?			
2	Has precision been achieved in making clear that such a task is allowed to be traded?			

3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under?			
4	Is professional equivalency easily possible/is not required?			
5	Has the process for achieving professional equivalency defined/not required?			
6	Commercial presence is not required for cross-border trade?			
7	Has Mode 3 obligation been made in the sector related to the task?			
8	Can foreign entities hold majority stake?			
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders?			
10	Are there no hiring restrictions/restrictions are defined?			
11	Has Mode 4 obligation been made in the sector related to the task?			
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required?			
13	Have specific deadlines been established for MRAs/It is not required?			
14	Is there a prior consultation mechanism?			

Developed by the author

A score of 14 would signify complete liberalization, while lower scores would show restricted access. Since scores would be for multilateral, bilateral and autonomous regimes, it would allow for comparison across regimes, and help establish the specific gains made from India's preferential agreements for professional services on a task by task basis. The queries in table 4 not only explore market access barriers with respect to ability to perform tasks and have commercial presence, but also institutional and regulatory barriers and transparency measures. It is important to put the different queries in table 4 above in context.

Market Access Measures

To establish whether the trade policy regime (TPR) in question (i.e. multilateral or preferential) and the autonomous regime (AR) of the partner country allow cross-border trade to take place, it is important to analyze three aspects that correspond to questions 1, 2, and 6 in table 4.

Question 1 in table 4 investigates whether the TPR and/or the AR of the partner country makes a commitment (or has no regulatory objection to in terms of the AR) to cross-border trade in that specific professional service. Question 2 in table 4 seeks to find if the trade commitment by TPR (or the regulatory framework with the AR) is specific in that it does not prevent the specific task within that professional service from being traded. For example, trade commitments or the AR might allow trade in all types of accounting tasks but not for auditing.

The objective of question 6 is to establish whether the TPR and/or the AR requires a firm to have commercial presence as a pre-requisite to providing such services cross-border (question 6). As pointed out in discussion on trade barriers presented in Table 1 earlier, this is important as a pre-requisite for commercial presence increases the cost of delivery (by requiring investment into partner country as a pre-condition), and makes cross-border trade subject to restrictions that might apply to commercial presence and investment thus reducing flexibility.

To establish whether the trade policy regime (TPR) in question (i.e. multilateral or preferential) and the autonomous regime (AR) of the partner country allow commercial

presence and investment by foreign service firms to take place, it is important to analyze three aspects that correspond the questions 7,8, 9,and 11 in table 4. Question 7 asks whether the TPR and/or the AR of the partner country makes a commitment (or has no regulatory objection to in terms of the AR) to investment by foreign firms in that specific professional service. The objective of question 8 is to establish whether the TPR commitment (or the AR governing investments) has limitations in terms of foreign ownership.

Question 9 investigates whether the TPR commitment (or the AR governing investments) does not limit ownership to certain class of people, i.e. only foreigners who have obtained local licensing or regulatory approval can own shares/be partners in such firms. As discussed earlier, such a limitation can significantly increase the transaction costs of acquisition of partnership to the extent that obtaining such licensing or qualification is a difficult or time-consuming process or both.

It must be pointed out here that three additional issues could also have been addressed in terms of barriers to foreign commercial presence. The first of these is whether the TPR or AR allows greenfield investments or only allows foreign firms/professionals to obtain stake in existing firms. The second issue is whether partnerships are only form of business allowed, or incorporation is allowed. The reason this chapter does not address them is that restrictions on greenfield investments and incorporation, where the do occur is limited to firms that provide particular type of tasks within these professional services that are licensed, and not applicable to management consultancy companies or integrated

engineering firms that can provide a vast range of tasks within the professional services in question. Also, where such restrictions in incorporation occur, they are a reflection of the AR that is in place, and is not a violation of national treatment.

Finally, question 11 investigates the issue of market access for individual professionals through actual movement of the foreign professional to partner country and asks whether the TPR makes a commitment (and/or the AR has no restrictions) on the movement of people for that professional service.

Institutional Measures

Institutional measures in terms of this chapter refers to measures related to licensing requirements, recognition of qualification standards and certifications of Indian professionals by partner country, and mandate for entering into mutual recognition agreements (MRAs). GATS include language in several different clauses that point towards both the necessity for such institutional measures and the possible mechanisms through which these measures can be integrated into the language of trade agreements. Specifically, the GATS and related principles enshrined in the preferential agreements refer to the following:

Article 6.6 of the GATS indicates that partners may negotiate commitments with respect to measures affecting trade in services not subject to scheduling under market access and national treatment (Article 6.6). Such measures refer to qualifications, standards or licensing among others. Thus article 6.6 while allowing for such additional commitments makes no requirement of them. This same principle is carried forward in the preferential

trade policy regimes. Article 6.7 Clause 5 of the GATS ask partner countries to ensure that domestic regulations, including measures relating to qualification requirements and procedures, technical standards and licensing requirements, do not constitute unnecessary barriers to trade in services. This clause further urges the negotiating parties to jointly review the results of the negotiations on disciplines related to these measures with a view to ensure that such regulation are not more burdensome than necessary to ensure the quality of the service. It also urges negotiating parties to ensure that licensing procedures are not in themselves a restriction on the supply of the service.

The same principles are carried forward in the preferential trade regimes under discussion. However, the interpretation of what constitutes unnecessary barriers (after accepting the sovereign right to regulate the security and service quality aspects of services of each partner country), is very broad. Similar broad interpretation is possible for what constitutes 'not more burdensome than necessary'. Question number 4 in table 4 is directly related to the principles articulated in Articles 6.6 and 6.7 Clause 5. Question 4 asks whether there is a need for professional equivalency (including licensing) to deliver a tasks, and in case it is required, the ease (as opposed to just the possibility) of foreign professional attaining equivalency in the partner country.

This measure, as discussed in the section on trade barriers (Section 2.4), can be a critical factor in the delivery of professional services. Non-recognition of partner country professional qualifications could render these professionals incapable of delivering such a service in many cases. The incorporation of such measures within the trade policy regime

is important as it locks in these measures as a part of the trade agreement, and therefore any changes to them can be taken up through the formal channel of negotiations. Further, if trade policy regime clearly indicates that licensing/qualification requirement is not required for certain types of tasks, introduction of such measures by that country at a later date would also allow partner country to take issue to the barriers posed by these changes through the formal channel of trade negotiations.

GATS Article 6.7 Clause 8 requires that in sectors where specific commitments regarding professional services are undertaken, each Party (i.e. partner country) shall provide for adequate procedures to verify the competence of professionals of the other partner country. Similar principles are carried over to the preferential regime. However, no substantive mechanism is suggested or mandated in the language of such preferential agreements that would ensure the same. Question number 5 in table 4 is directly related to the principles articulated in Article 6.7 Clause 8. Question number underlines the need for a clearly defined process of obtaining local licensing or equivalency in the cases they are required. This measure follows directly from the preceding measure underlined in question number 4 related to having a requirement for professional equivalency for foreign professional in order to serve in the partner country market. Having a well-defined process of obtaining licensing or other forms of professional equivalency adds to institutional transparency, and locks in such regulatory processes by making them part of the trade policy regime subject to review and negotiation by the partner country.

With respect to MRAs, GATS Article 6.8.Clause 2 asks trade partners to facilitate MRAs in sectors where trade liberalization commitments have been made by encouraging their respective professional bodies to negotiate and conclude mutual recognition of education, or experience obtained, requirements met, or licenses or certifications granted in that service sector, with a view to the achievement of early outcomes. Similar principles are carried over to the trade policy regimes of the preferential agreements in question. However, it is clear that entering into such MRAs in a time-bound manner is not mandated, and is dependent on best intentions and the institutional capacity to negotiate such MRAs of the partner countries in question. The same principles have carried over into the four preferential agreements. Question 12 is related to the principle of signing MRAs. Question 12 asks whether the preferential agreements clearly outline the need for clearly identifying the tasks where MRAs are needed, and the specific institutions that would need to enter into negotiations for achieving such MRAs.

MRAs are a trade facilitating measure as it does away the need for the foreign professional to put additional effort to achieve equivalency for tasks where it is needed. This is the crux of the deep engagement in trade agreements discussed earlier in section I.II. Deep engagement requires trade agreements to go beyond the rhetoric of institutional integration (i.e. language that encourages or urges such engagement without specific mandates) to clearly identifying areas where such engagement is required and mandating specific institutions to enter into negotiations to achieve the same. Including such measures within the trade agreement makes such MRAs a trade policy obligation, increasing the chances of their success and making progress towards their conclusion

obligatory on the parties. Question 13 in table is related to the same principle, and investigates whether there exist clear deadlines for the conclusion of MRAs, for tasks where such MRAs are required. Only if clear deadlines are mandated, it adds a greater degree of policy priority and urgency to the achievement of such MRAs. Deadlines also ensure that MRAs actually get done instead of getting bogged down due to the vested interests of regulators in both parties.

Transparency Measures

Transparency, defined in terms of being aware of regulatory regimes that governs once economic activities, and having the institutional ability to stay informed about regulatory changes and participate in the dialogue with respect to such changes play an important role in ensuring business certainty and add to a positive business environment. In recognition of this fact, the GATS try to inculcate such transparency measures through Article 6.20. This article states that "Each Party shall publish promptly and, except in emergency situations, at the latest by the time of their entry into force, all relevant measures of general application which pertain to or affect the operation of this Chapter (on trade in services)". Similar language is included to ensure transparency in all of the four agreements being discussed in this chapter.

However, the transparency measures as defined by the language of the GATS are very generic. Three more specific aspects need to be taken into account. First, there needs to be clarity in terms of exactly which regulatory regime in the partner country a particular tasks, or if possible even more specifically a task is subject to. Second, restrictions on

being able to acquire domestic expertise in terms of being able to hire locally trained, qualified, or licensed professionals need to be made transparent. Finally, regulatory measures in services are dynamic, and policy changes can have very significant impact on business. Thus, there needs to be institutional mechanisms in place that ensure prior notice of any regulatory changes, and the ability to participate in dialogue with the regulatory authorities with respect to such proposed changes.

Thus, the analysis of transparency measures in terms of this chapter are restricted to whether three specific measures are available in the GATS, preferential, or autonomous regimes of the partner countries in question. Question 3 in table 4 raises the first issue related to the clarity in terms of which regulatory or licensing regime a particular tasks falls under, or whether there is no requirement for such licensing for this task in question. This is important because if such clarity is achieved within the language of the trade agreement, it will add greater value to any trade commitment made that pertains to that particular task in terms making the business opportunity in the delivery of such tasks transparent to prospective service sector firms and professionals. It will also help prevent arbitrary interpretation by national regulators of specific aspects of service delivery (in terms of tasks being traded) in determining which aspects of the value-chain hierarchy is subject to their jurisdiction and which not. In terms of the autonomous regime, the analysis would involve whether there is clarity in assigning specific tasks to a licensing and regulatory regime.

Question 10 raises the second issue related to transparency measures on whether the existence of restrictions on hiring of local employees by foreign firms is clearly defined in the trade policy regime. Transparency in terms of hiring restrictions in the trade policy regime would allow prospective professional services firms to plan their market entry and cross-border trade strategies. Having such clarity in the trade policy schedules also help in ensuring transparency in any changes to these rules. A trade policy commitment on exactly what kind of local employees can be hired and not also provides greater transparency to what kind of tasks can or cannot be delivered to that market. For example, if hiring restrictions only apply to licensed architects, but not to civil engineers who are also designers, then it allows firms to explore different options in terms of their market entry strategy. Further, having such rules enshrined in the trade policy regime helps in locking-in these measures, and providing a level certainty to the business models that firms and professionals evolve around the trade policy and autonomous regimes in place. In terms of the autonomous regime, the analysis would seek whether hiring restrictions are clearly defined within national regulations.

Question 14 raises a critical element in terms transparency measures. It asks whether there are mechanisms in the language of the agreement that ensure that the partner country will enter into consultation with India prior to making any regulatory changes in the services sector. With respect to the autonomous regime, if membership of local professional association is allowed, and foreign firms are allowed to become members of the national business chamber of the country, this would ensure that a) foreign professionals and firms would get notifications of regulatory changes through these

institutional mechanisms, and b) would make them party to the policy dialogue if the so chose to participate.

As discussed earlier, a clause requiring prior consultation within the language of the agreement itself provides a strong institutional mechanism to ensure that partner country government, and by extension their businesses have a formal channel through which a) they are kept informed of changes, and b) can engage in dialogue with a view to articulating their concerns to the officials of the other country through formally acceptable channels. Similarly, if foreign professionals and firms are allowed membership of the local professional association and relevant business associations or chambers of commerce, this provides an institutional mechanism for prior information and engagement in policy discussions around regulatory changes. This is because governments work closely with such associations in making policy changes in most economies, and create formal public-private forums through which industry concerns on regulatory and policy changes can be aired and such concerns taken into account in the final formulation of policy.

Chapter 3 that follows implement the methodological approaches discussed above and categorizes specific tasks within the broadly defined professional services of accounting, architecture, engineering and legal according to the methodological framework established in this section. Chapter 3 then goes on the analyze the impact of trade policy as represented by India's PTAs on such specific tasks in terms of market access, institutional, and transparency measures as discussed in this chapter.

Chapter 3: Analyzing Professional Services in India's PTAs

3.1. Introduction

This chapter uses the methodology for developing a hierarchy of tasks developed in chapter 2 and applies them to specific tasks or functions within accounting, architecture, engineering, and legal professions. Establishing a hierarchy of tasks puts each of such tasks helps understanding the broader scope of functions that can be traded across borders, and the impact of trade barriers on each of them. This allows a practical understanding of the impact of trade agreements on the actual business of trade on professional services. This chapter provides a discussion on placement of each task within the wider value-chain of delivery for the respective professional services. This discussion is based on the existing academic literature, business literature related to the individual professions and the study of actual business practices relevant to cross-border delivery of such services across borders. By basing the discussion on a hierarchy of tasks established for each of the four professions in the context of trade policy and analyzing the impact of India's four trade agreements on each specific individual task as opposed to broad sectors allows this chapter to provide insight on the impact of trade agreements on actual business practices in much greater detail.

This discussion for the comparative market access related measures for accounting sector follows in section 3.3, for architecture and engineering in section 3.4, and legal services in section 3.5. Tables providing comparative scores in terms of the market access measures for each task based on the methodology of institutional analysis of trade agreements and regulatory regimes that was introduced in Chapter 2.7.2 is followed by a detailed explanation of measures behind these scores that provides a comparative perspective across multilateral, preferential, and actual autonomous national regimes.

Section 3.6 provides a similar comparative task-wise discussion for measures related to the movement of professionals. Section 3.6 puts the trade agreement commitments on movement of professionals in the context of actual visa and work permit related policy in place. This allows a better understanding of the policy objectives and policy requirements in this critical area of professional services trade. Section 3.7 looks at measures related to institutional arrangements, and section e looks at transparency related measures using a similar task by task approach. Such a task by task approach ensures that the discussion highlights the actual relevance of such institutional and transparency measures for specific tasks, and puts it in the context of existing business practices. This makes the analysis on institutional and transparency measures much more relevant to understanding the gap between policy objectives and policy requirements for such measures.

It is important here to reiterate the difference that can exist between autonomous regime (AR) and the commitments that a country makes in a trade agreement in the case of services (i.e. the trade policy regime or TPR). Commitments in trade agreements reflect

binding levels of market access, institutional arrangements and transparency measures made to partner countries (multilaterally to all WTO member countries in the case of GATS commitments, and to preferential partner in the case of preferential agreements). These binding levels of commitment might be less liberal than the actual practice. However, governments might like to retain the independence to reduce the actual autonomous level of market access in actual practice and therefore do not make a binding trade policy commitment that reflects this actual levels of market access (or related institutional or transparency measures). For example, actual practice in a country might be to allow accountants to deliver certain types of tasks cross-border without the need for having any physical commercial presence in that market. However, this practice is not made a binding commitment, and in its schedule this country insists that delivery of such accounting services is subject to physical commercial presence of foreign accounting firms. While business models of services delivery are developed according to the autonomous regime reflecting actual regulatory practice, bindings in terms of trade commitments provide certainty, and allow the development of transparent institutional regimes for the delivery of such services.

3.2. Attributes based Categorization of Tasks within Specific Professions

The Bureau of Labor Statistics (BLS) of the United States government is the only organization that collects systematic data on occupational attributes and their sectoral and

educational aspects[9]. While acknowledging the limitation of using an essentially US database as a basis for analysis, it needs pointing out that occupational attributes in professional services as defined in the previous section are broadly applicable across geographies. The BLS databases are used to create a hierarchy of functions based on the relative differences in skills and educational attainments, routinization, requirement for knowledge of local laws and compliance norms within four main broad professional services occupations; accounting, legal, architecture and engineering.

As it has been pointed out in chapter 2, the use of US Occupation Information Network (O*NET) data to determine service characteristic has precedent in Liu et al. (2011). However, the methodology applied here is different from Liu et al. (2011) measures in that it creates a value chain of specific services tasks within the professional services space based on a combination of characteristics related to skills and levels of routine-ness involved in a task. This methodology also brings in an additional factor, the importance of local context in terms of familiarity with local regulatory processes and frameworks (critical to the value chain in professional services), as opposed to just cultural proximity or linguistic familiarity that was used by Liu et al. (2011). As defined in the methodology section, skill intensity is defined by the equation below (equation 1 introduced in chapter 2.7.2).

Skill intensity in terms of average number of years of education attained by a professional in a particular task ranges from 20.9 years to 13.2 years for the sub-set of tasks in consideration in this chapter. Tasks with average number of years of education above 16 (thus implying that most professionals have at least a college degree) are categorized has highly skilled. Those tasks with average number of years of education higher than or equal to 14 but less than 16 (i.e. on average, some professionals have a college degree, or at least an associate degree or diploma) are considered to be moderately skilled. Tasks with average years of education below 14 are considered to be low skilled as most professionals have little more than a high-school diploma and some associate degree).

Based on the Grossman-Rossi-Hansberg (2008) categorization of routine vs. less routine tasks, and the ease of separating the less routine tasks from sourcing them internationally, we use scores on the importance of inductive reasoning in a particular task taken directly from the O*Net database. The importance of inductive reasoning, defined as the ability to combine pieces of information to form general rules or conclusions is a good proxy for understanding the need for non-routine, non-process oriented analysis in a specific task or job. The O*Net database tabulates the importance of intuitive reasoning on a scale of 1-100. A higher score denotes greater importance of intuitive reasoning for a task. Scores for the importance of inductive reasoning in the set of functions range from 64 to 38 (Table 2 in Annex 1). For the subset of functions under consideration in this essay, scores that are above 60 are considered to be non-routine. Scores between 60 and 50 are considered to be moderately routine. Functions with scores below 50 are considered to be highly routine.

O*Net database tabulates the importance of evaluating information to determine compliance with standards for different jobs. This is a very good proxy for the importance of knowledge of local laws, regulations and norms for that specific job. This is especially important for professional services, where the position of a particular tasks in the value-chain hierarchy is defined by the ability to provide services with significant regulatory and compliance related expertise. Scores for the importance compliance related information in a task or function range from 84 to 33 (Table 3 in Annex 1). For the subset of functions under consideration in this essay, scores that are above 70 are considered to require high-levels of familiarity with compliance related rules and regulations. Scores between 70 and 50 are considered to be moderately requiring such competence. Functions with scores below 50 are considered to be relatively less demanding of such competence.

Based on the categorization of tasks into high, medium, and low for each of the three attributes, they are assigned points. If a task is in the low category for any of the three attributes it is assigned 1 point. If the task is in the medium category for any of three attributes, it is assigned 2 points. If the task is in the high category for skill intensity category and the inductive reasoning category it is assigned 3 points. If the task is in the high category for the compliance function it is assigned 4 points. The table 5 below makes the point assigning scheme clearer.

Table 5. Point Assigning Scheme based on Attribute Categorization

Attributes	Points assigned to a task based on its rank for attributes		
	High	Moderate	Low
Importance of Inductive Reasoning	3	2	1
Importance of Familiarity with compliance related information	4	2	1
Skill Intensity	3	2	1

Based on the points that a task acquires, it will be categorized as a Type 1, Type 3, Type 2, or Type 4 task. If a task is assigned 10 points it signifies that it falls in the high category for all three attributes, which makes it a Type 4 job. 8 points would mean it was in the high category for at least 2 of the attributes and would make it a Type 3 job. If task gets 6 points, it would mean it is the moderate to low category for at least two of the attributes, thus making it a Type 2 job. Tasks with 3 points would have been categorized to be in the low category, and be assigned Type 1 status. Tasks with scores that lie in between these four points would be considered jobs that lie in between types. For example, if a task has 7 points it would be classified as a Type 2-3 job. Table 5 below presents the results of this analysis.

Table 6: Categorization of Task (i.e. Job) Type based on Attributes

Architecture and Engineering Professions	**Skill Intensity**	**Inductive Reasoning**	**Evaluating Information**	**Overall Score**	**Task Type**
Architects	3	3	4	***10***	4
Civil Engineers	3	3	2	***8***	3
Architectural Drafters	2	2	2	***6***	2
Civil Drafters	2	2	2	***6***	2
Commercial and Industrial Designers	2	3	1	***6***	2
Civil Engineering Technicians	1	2	4	***7***	2 to 3
Electronic Drafters	2	2	2	***6***	2
Electrical Drafters	2	2	2	***6***	2
Accounting Professions	**Skill Intensity**	**Inductive Reasoning**	**Evaluating Information**	**Overall Score**	**Task Type**
Auditors	3	3	4	***10***	4
Financial Analysts	3	2	4	***9***	3 to 4
Accountants	2	2	4	***8***	3
Accounting Clerks	1	1	1	***3***	1
Billing, Cost, and Rate Clerks	1	1	2	***4***	1 to 2
Statement Clerks	1	1	1	***3***	1
Payroll and Timekeeping Clerks	1	1	1	***3***	1
Tax Preparers	2	1	2	***5***	1
Bill and Account Collectors	1	2	1	***4***	1
Legal Professions	**Skill Intensity**	**Inductive Reasoning**	**Evaluating Information**	**Overall Score**	**Task Type**
Lawyer	3	3	4	***10***	4
Arbitrators, Mediators, and Conciliator	3	2	1	***6***	3 to 4
Paralegals and Legal Assistants	2	1	2	***5***	3
Title Examiners, Abstractors, and Searchers	2	1	1	***4***	1
Legal Secretary	1	1	2	***4***	1 to 2

Table 6 clearly identifies legal, architects and engineering professions as requiring high skills (with high to medium skill intensity scores). With high to medium range of requirement for inductive reasoning jobs in such professions are in the high-end of the

value-chain. Besides advanced skills and qualification, licensed lawyers, auditors, and architects also require high level of familiarity with local rules, regulations and norms, and thus these functions are categorized as Type 4.

Architectural drafters (and non-licensed architects) and civil engineers combine high skills with significant requirement for regulatory compliance. Similarly financial analysts and accountants need to combine generic technical skills of accounting and finance with specific knowledge of regulatory norms of the local market. Essentially, this represents Type 3 for these functions represents professional roles that are not required to have knowledge of local regulatory compliance, while Type 4 (auditors and architects) for similar tasks represent roles that require such knowledge. Accounting and financial services jobs tend to be more structured with less requirement for inductive reasoning, thus medium to low scores on inductive reasoning should be seen in this context. But this also indicates that accounting professions are easier to offshore given the high-level of routine operations that can be standardized that define its functions.

Tax preparers and billing and cost clerks, while requiring moderate skills and low levels of inductive reasoning, need some familiarity with local rules and norms, and are categorized as Type 1-2. The other jobs in the accounting profession all require low levels of skills and inductive reasoning, and are routine. They also require little familiarity with local rules and norms, and can be categorized as Type 1 jobs. Paralegal in legal services and Designer and Drafter roles in architecture and engineering services

typically require medium level of skills and medium to low familiarity with compliance related issues, and are categorized as Type 2 jobs.

Having defined institutional aspects and barriers in the trade in professional services, and described the nature of professional services as a series of tasks within a value-chain, the following sections (3.3 to 3.6) would take up the four individual professional services in the context of India's PTAs, and present the hypothesis that such FTAs can add much greater value through further liberalizing trade in professional services and much greater institutional engagement.

3.3. Accounting Services

3.3.1. Trade in Accounting Services and Hierarchy of Accounting Related Functions in the Value-Chain

Prior to analyzing the impact of commitments by partner countries in the preferential agreements for accounting services, it is important to first understand the existing value chain in the accounting profession, and the way accounting services are being traded across borders. Accounting services encompass a wide range of activities from the relatively low-end transactional functions related to billing, invoicing to the advanced regulatory and analytical functions such as audit and valuation processes related to mergers and acquisitions. Figure 2 below uses the categorization of tasks and functions for accounting in Table 5 to establish the value-chain in accounting services in terms of a hierarchy of functions.

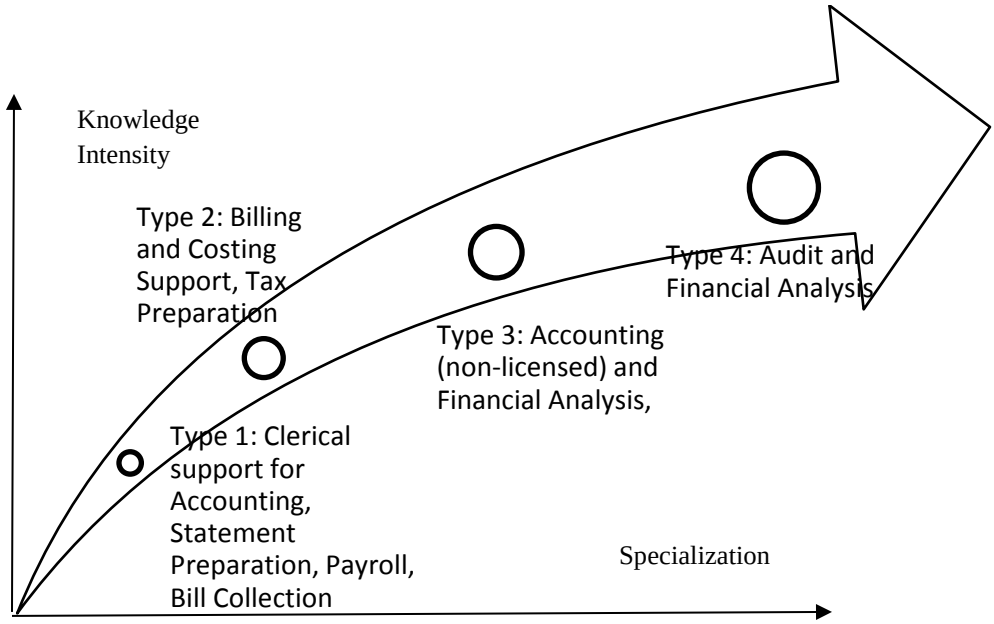

Figure 2: Professional Services Value Chain in Accounting

Lawrence (2000) points out that auditing and analysis (i.e. advanced functions or Type 4 tasks) that require knowledge of local regulatory compliance and might require licensing, account for slightly less than half of the revenue for most large to medium sized accounting firms. The other half is derived from value-added services such as financial and process accounting, valuation and research services (intermediate functions, i.e. Type 3). Such Type 3 tasks might require some knowledge local regulatory compliance but do not necessarily require the service provider to be licensed.

As a NASSCOM (2008) study clearly shows, the transactional accounting functions (Type 1and 2) where previously an integral part of the administrative functions of a

business organization, but are increasingly being outsourced (and in a significant number of cases offshored) to third party service providers. However, such third party service providers are typically not accounting and auditing firms, but specialized business process managers delivering back-office support services. Thus, these services do not fall specifically under the GATS classification for accounting services (862). Firms that deliver outsourced (including offshored) Type 1 and 2 tasks that essentially deal with the transactional elements of accounts processing and management, including tax related administrative and office support functions are management consulting or back-office support firms who would be categorized sectorally under management consulting services (CPC 865) in the GATS nomenclature.

The trade in accounting tasks has a long history. The big international accounting firms had established commercial presence in all major geographies since the 1950s. An important driver of expansion of the commercial presence of large international accounting firms was the growing internationalization of large companies (i.e. the rise of Multi-national Corporations or MNCs) who preferred getting their accounting related activities taken care of by the same firm irrespective of the location of their business unit. But accounting tasks that such big accounting firms carrier out would fall in the category of Type of 4 (audit) and Type 3 (consulting and analysis).

The explosion in accounting services related offshoring got a major boost with the passage of Sarbanes-Oxley (Company Accounting Reform and Investor Protection Act of 2002). As Cervantes (2009) points out, the passage of this act made offshoring of

accounting tasks one drivers of growth of cross-border trade in professional services. Cervantes points to important trends that led to such growth of offshoring of accounting tasks. First, the passage of this act led to coming into force of strict compliance regulations on a firm's internal controls and financial statement reporting. Many firms found themselves understaffed for the additional load, and felt compelled to offshore to geographies were requisite skills to undertake such work was found.

Second, since the passage of this act, small and medium enterprises (SMEs) have dis-proportionately borne the weight of specific compliance costs as compared with larger firms. As Everaert et al. (2006) point out, a resource deficit in terms of both skills and people led to SMEs seeking support for carrying out specific accounting related tasks with professionals abroad. It must be pointed out that the tasks that are being outsourced, both by large firms and SMEs include Type 1 and 2 tasks that are related to reducing internal costs by utilizing the economies of scale of specialized accounting sector BPOs, and Type 3 and 4 tasks related to requirements of regulatory compliance, analysis, and financial reporting. But Type 4 tasks that require licensing are done by independent domestic auditors.

While the trends in offshoring of accounting functions discussed above has so far been largely been limited to industrialized economies, as international regulations related to accounting and related finance and banking functions become more stringent in light of recent regulatory failures in international markets, and there is move towards global harmonization of such compliance requirements, similar trends would be seen in

emerging and newly industrialized economies. This is an important factor in the trade policy context, indicating that a significant portion of the business opportunity in the intermediate and advanced accounting (Type 1, 2 and 3) services can be captured through liberalization in cross-border mode of delivery (Mode 1). However, trade in Type 4 tasks would require bilateral recognition of professional competence that is a pre-requisite for providing services that have a statutory compliance function. It would also require liberalization in movement of professionals (Mode 4) allowing client site visits required for auditing and other statutory functions.

But as pointed out earlier, this involves both trade policy initiatives that clearly define the institutional means for foreign professionals to achieve recognition, as well as trade facilitation which makes the process of such recognition easier. For example, having the professional certification exams for which foreign professionals need to appear for in English and not the local language, and eliminating or reducing any domestic residency requirements (refer to section discussing barriers in professional services).

Even with trade policy and trade facilitation, there would always be a systemic barriers, as discussed earlier in chapter 2 in the sense that foreign professional would have to invest considerable time and effort in making himself familiar with local laws, regulatory procedures, and norms. Adding to this challenge would be the dynamic nature of such laws and norms, requiring the foreign professional to keep learning. Since most legal notifications and observations are likely to be in the local language, this would add to cost of such acquiring expertise

But while there are policy and capacity barriers that prevent Type 4 jobs being offshored, or delivered by foreign professionals, it is important to recognize that a significant portion of preparatory work related to audit and statutory compliance tasks can be delivered remotely across borders. Looking at the delivery of accounting services in the context of a series of tasks that are integrated across borders in an integrated value chain context, the actual final act of legal presentation of the audit/tax preparation/regulatory compliance can be done locally, while the all other tasks can be delivered from offshore, or onshore by foreign professionals[10].

Trade liberalization of commercial presence (Mode 3) is also significant. Commercial presence is required to build credibility in the eyes of partner country clients and facilitates the acquisition of local expertise and skill. Since the costs for foreign nationals to acquire local professional certifications are often high, having no restriction in Mode 3 and in the hiring of certified professionals is critical in enabling an international supply chain in accounting services. For example, a foreign firm might choose to get Type 2 and Type 3 tasks done in a foreign location, and use their commercial presence to integrate these tasks with Type 4 tasks for final delivery. Moreover, having commercial presence helps in meeting residency requirements which is often a pre-requisite for foreign professionals seeking to attain the membership of local professionals associations that have a statutory role like auditing.

[10] Based on author discussion with firms delivering accounting services through offshore models (see Annex 4).

Thus, from trade liberalization perspective, Mode 1, Mode 4, and Mode 3 all assume importance for accounting services. The other important element in the liberalization of accounting services is the ease with which professionals can get recognized, and allowed to provide statutory audit and other regulatory functions in partner country economies. In light of the above factors, one can represent a trajectory of trade liberalization implications that is applicable for the value chain in accounting services as depicted in figure 3 below.

Figure 3: Trade Liberalization Implications for the Value Chain in Accounting Services

The analysis of accounting services related commitments made by India's preferential agreement partners looks at two fundamentals. First, what kind of gains have been made by the services agreement in terms of the existing trade policy status quo (i.e. the gains

over the multilateral commitments on offer), and second what kind of improvement has these agreements achieved over and above the autonomous policy (i.e. the already existing levels of market access and national treatment terms available to foreign supplier of services). The value chain implications of trade liberalization would be based on these two fundamentals, as illustrated by Figure 3 above.

3.3.2. Accounting Services in India's Preferential Agreements

Using the methodology for liberalization index specified in table 3 earlier, table 7 below provides the scores for Type 4, Type 3-2, and Type 1 accounting services tasks. Annex 2 provides the detailed measure by measure score used for constructing the index.

Table 7. Liberalization Index Scores for Accounting Services by Task Type

Type 4	GATS	Preferential	Autonomous
Japan	6	7	10
Korea	6	6	10
Malaysia	9	9	12
Singapore	6	6	13
Type 3-2	**GATS**	**Preferential**	**Autonomous**
Japan	0	10	13
Korea	8	8	13
Malaysia	7	7	12
Singapore	9	9	14
Type 1	**GATS**	**Preferential**	**Autonomous**
Japan	10	11	14
Korea	10	10	14
Malaysia	0	9	12
Singapore	10	10	14

Table 7 indicates that besides a few exceptions (for e.g. Type 3-2 tasks in the case of Japan), India's preferential agreements do not improve market access or transparency over and above the partner countries existing WTO multilateral commitments. Table 7 also indicates that that the autonomous regime (AR), i.e. the existing rules governing the trade and delivery of services by foreign firms or individuals in partner countries are in most cases more liberal and transparent compared to multilateral commitments made in the WTO or in the preferential agreements with India (together, the WTO commitments and preferential agreements represent the partner counties trade policy regime or TPR, i.e. the regime that is defined by the binding level of commitments made on market access , national treatment, and transparency for foreign service providers, and not the according to actual regulatory practice).

This is a very significant observation as it shows that the actual value-added by preferential trade agreement for accounting services tasks in terms of increased levels of binding commitments for market access and transparency in partner country markets is very limited. Tables 8 and 9 below discuss the results seen in table 7 on specific aspects related with market access in the index (as discussed in the methodology section) with contextual detail. The discussion on institutional and transparency aspects will follow in sections 3.7 and 3.8 respectively.

Table 8.Type 4 Tasks-Market Access Measures-Accounting

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	Delivery of Type 4 tasks across all four countries would require the foreign professional to acquire appropriate licensing according to the partner country requirements. Such a requirement in itself presents a major barrier, and is discussed in the section on institutional measures. Malaysia has liberal multilateral regimes allowing market access in Type 4 tasks, including licensed auditing functions without the need for commercial presence subject to licensing measures (discussed below under institutional measures[11]). Singapore TPR with respect to cross-border trade in Type 4 accounting tasks requires the professional to be officially resident in Singapore, and is thus very restrictive. Japan's GATS commitment is more restrictive, and makes cross-border trade of such functions subject to commercial presence, and the preferential agreement offers no improvement. Korea does not make a commitment in cross-border trade of Type 4 functions (specifically auditing) in the preferential agreement maintaining the status-quo of its GATS schedule.
Cross-Border Trade (Mode 1)	
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR governing market access of Type 4 tasks with respect to Malaysia is identical to its trade policy regimes. The AR in Singapore is more liberal than TPR as it allows any professional who has acquired local licensing to provide these services. The AR of Japan and Korea are far more liberal than their TPR. Unlike in its TPR, Type 4 accounting services can be traded cross-border in Japan without the need for commercial presence. Korea actually allows cross-border trade of Type 4 accounting tasks though it has not made TPR commitments, and such trade is not subject to commercial presence.

[11] Auditing services must be authenticated by a licensed auditor in Malaysia.

Summary	Preferential agreements offer no improvement on GATS regime. Preferential agreements do not address the need for making commitments for Type 4 tasks (for Korea), doing away with need for commercial presence for cross-border trade (for Japan), or residency requirements (Singapore). AR related to market access measures for Type 4 tasks are liberal across all 4 partner countries. Given AR is more liberal than TPR with respect to Japan, Korea, and Singapore there is some scope for improvement in the current design of the agreement.
Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	GATS commitments by all four countries allow commercial presence of accounting firms of the Type that would typically provide Type 4 tasks, and allow foreigners to hold majority stake. Japanese and Korean commitments are restrictive in that they only allow professionals with local licensing to become partners (shareholders) in such firms. Given that such licensing norms are quite restrictive (discussed later under institutional parameters) this represents a significant barrier to commercial presence in these two countries. There is no improvement over Mode 3 GATS commitments specific to Type 4 tasks in the preferential agreements with respect to all four partner countries, with the exception of Malaysia which commits to an increased share of foreign ownership (30% under GATS to 49% in preferential agreement).
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	AR with respect to market access in all four partner countries is similar to the TPR.
Summary	Given existing liberal GATS commitments of partner countries specific to market access for the commercial presence of firms typically providing Type 4 accounting services tasks, preferential agreements do not require to add value. Institutional barriers with respect to local licensing requirement in order to qualify as shareholders in the case of Japan and Korea are significant barriers where preferential agreement could add value. In the case of Malaysia, where preferential agreement increases the allowed limit on foreign ownership to 49%, could improve to allow majority stake (51% and above).

Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	Korea is the only partner country that makes a specific commitment for the movement of accounting professionals including those providing Type 4 tasks in GATS. Japan makes a commitment on Mode 4 specific to the accounting sector in the preferential agreement, but does not define profession specific visa rules. Malaysia and Singapore do not make a Mode 4 commitment specific to the accounting sector, or define a clear visa rules specific to accounting professionals as a part of their GATS or preferential agreements. Thus, with the exception of Japan, which improves upon its multilateral GATS commitment for the accounting sector in its agreement with India, preferential agreements with other partner countries under consideration do not offer an improvement over their respective GATS commitments with respect to the regime governing the movement of professionals. Singapore and Korea identify a list of professionals who qualify for horizontal visa commitments[12] and the list includes Type 4 task delivering professionals. However, the actual efficacy of Mode 4 commitments are questionable as they are largely governed by immigration rules, and no changes in process, system, or form have been made under TPR (see discussion on movement of people in section XI).

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

As discussed earlier, most Type 3 accounting services tasks fall under CPC classification 862, while all Type 2 and 1 tasks and some Type 3 tasks can be classified under management consulting services, i.e. CPC classification 865. Specifically all pure accountancy related Type 3 tasks that do not require licensing can be classified as accountancy services, while analytical Type 3 tasks (financial analysis), and all Type 2 and 1 tasks would fall under management consultancy services. The discussion on Type 3,2, and 1 tasks in table 9 below is based on this sectoral specification.

[12] Horizontal commitments on Mode 4 refer to guidelines governing the movement of persons that apply across all GATS defined sectors, and are not specific to one sector. These commitments refer to allowed categories of professionals who are eligible to apply for work visas, and the terms and conditions related to such temporary migration related to work. Since this list is not based on a specifically agreed classification of professional categories, it further limits the efficacy of such a listing.

Table 9. Type 3, 2, and 1 Tasks-Market Access Measures-Accounting

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	Korea, Malaysia, Singapore have made multilateral commitments that specifically allow cross-border trade for Type 3 accounting functions (i.e. accounting functions not requiring licensing), and do not make such trade subject to commercial presence, thus making the need for preferential commitment redundant. The preferential agreement with Japan adds significant value by making specific commitment to allow cross-border trade in Type 3 accounting tasks and does not link such trade to commercial presence. GATS commitments of all countries except Malaysia allow cross-border trade in Type 2 and 1 accounting tasks and do not make such trade subject to commercial presence, thus making the need for preferential commitments redundant. The preferential agreement with Malaysia adds value by ensuring Malaysian commitments that allow cross-border trade in Type 2 and 1 accounting tasks without the pre-condition of commercial presence.
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR of all countries is identical to their TPR.

Summary	GATS regimes being liberal, there is where little scope for preferential regimes to add value. However, preferential regimes could potentially add value by addressing trade barriers related to digital trade and e-commerce, and in doing so also address potential future barriers to such trade. A detailed discussion on this issue follows in the section on institutional measures.

Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	GATS commitments by Korea while allowing foreigners commercial presence and the ability to hold majority stake (in partnership or limited liability partnership), is restrictive as it requires such foreign partners to acquire local professional licensing. Preferential agreement offers no improvement over GATS commitments. Japan's preferential schedule allows commercial presence of accounting firms providing Type 3 tasks (tasks not requiring a license) with no restrictions on Type of ownership (i.e. requirement for local licensing for partners) and limits on foreign ownership. It also allows incorporation of such firms. This is a major improvement over its GATS schedule. Malaysia improves upon its GATS commitment allowing an increased share of foreign ownership (30% under GATS to 49% in preferential agreement). GATS commitment for Singapore has no limitations on foreign participation (except some basic regulatory requirements), thus making the need for preferential commitments redundant in this context. GATS Mode 3 commitment related Type 2 and 1 tasks of partner countries are completely liberal with no limitations on foreign ownership with the exception of Malaysia which does not make any commitments multilaterally. Thus, the preferential agreement with Malaysia adds value by ensuring a liberal regime for commercial presence with no limitations on ownership or control.
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	AR with respect to market access for Mode 3 in all four partner countries is similar to the TPR.

Summary	Preferential agreements with Japan add value by ensuring more liberal commitments on delivery of Type 3 tasks. The agreement with Malaysia while increasing the allowed limit on foreign ownership applicable to firms delivering Type 3 tasks stops short of granting controlling stake. Agreement with Korea offers no improvement, and a liberal GATS commitment by Singapore does not require improvement through preferential agreement. Liberal GATS regimes in all partner countries except Malaysia applicable to firms delivering Type 2 and 1 accounting tasks means preferential agreements are not required to add value. The preferential agreement with Malaysia adds value by allowing liberal Mode 3 market access with no limitations on ownership or control for firms typically delivering Type 2 and 1 accounting services.

Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	Korea is the only partner country that makes a specific commitment to accounting professionals including those providing Type 3 tasks in GATS. Japan makes a commitment on Mode 4 specific to the accounting sector in the preferential agreement, but does not define profession specific visa rules. Malaysia and Singapore do not make a Mode 4 commitment specific to the accounting sector, or define a clear visa rules specific to accounting professionals as a part of their GATS or preferential agreements. Thus, with the exception of Japan, which improves upon its multilateral GATS commitment for the accounting sector in its agreement with India, preferential agreements with other partner countries under consideration do not offer an improvement over their respective GATS commitments with respect to the regime governing the movement of professionals. Singapore and Korea identify a list of professionals who qualify for horizontal visa commitments[13] and the list includes Type 3 task delivering professionals. The lists of categories of professionals used by Korea and Singapore would exclude some Type 2 task delivering professionals and most Type 1 task delivering professionals. However, the actual efficacy of Mode 4 commitments are questionable as they are largely governed by immigration rules, and no changes in process, system, or form have been made under TPR (see discussion on movement of people in section XI).

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

[13] Horizontal commitments on Mode 4 refer to guidelines governing the movement of persons that apply across all GATS defined sectors, and are not specific to one sector. These commitments refer to allowed categories of professionals who are eligible to apply for work visas, and the terms and conditions related to such temporary migration related to work.

3.4. Architectural and Engineering Services

3.4.1. Trade in Architecture and Engineering Services and Hierarchy of Related Functions in the Value-Chain

Architecture and engineering services while including a wide range of specializations can be categorized into three main functions, i.e. designing, drafting, and technical support. Unlike the accounting profession discussed earlier, where there are wide differences in the levels of skill and formal education requirements between different tasks, architecture and engineering professions are all relatively highly skilled functions. The value-chain hierarchy of architecture and engineering tasks is primarily a function of depth of domain knowledge, experience, and familiarity with statutory functions including having the ability through licensing to certify regulatory compliance. Figure 4 below maps the value-chain hierarchy in architecture.

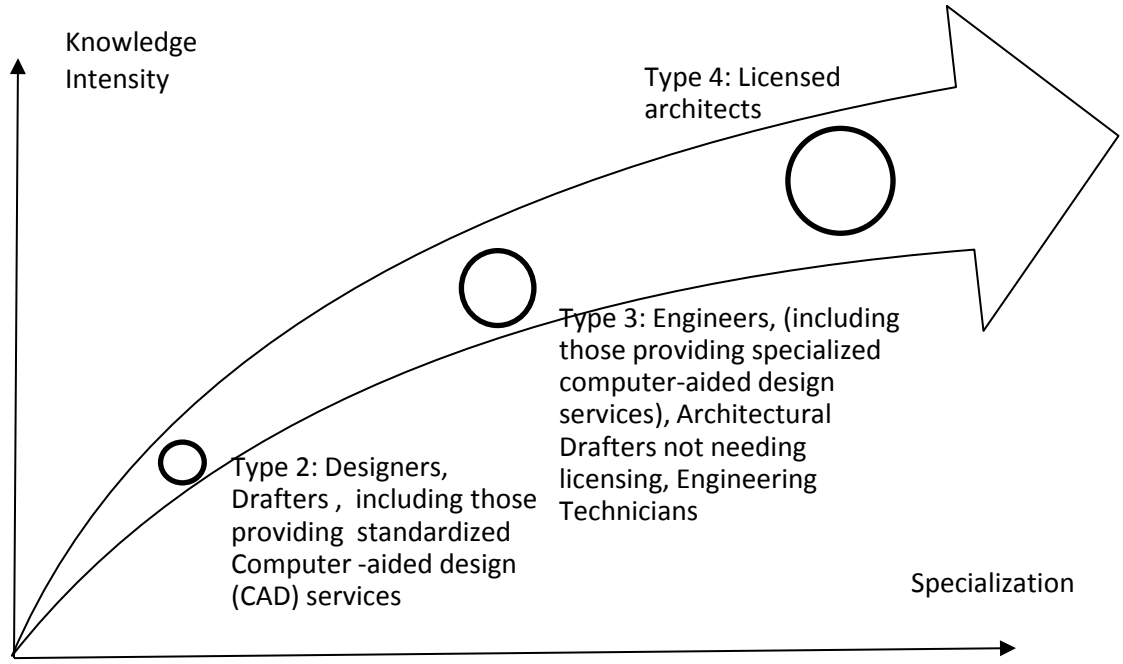

Figure 4: Professional Services Value Chain in Architecture and Engineering

Given the high-skilled nature of even the basic architecture and engineering services, there are no Type 1 tasks. Type 2 architecture functions consist of tasks related to basic drafting and design that typically use standardized software and methodologies for implementation. Type 3 tasks include more skill and training intensive tasks related to design development, conceptualization and implementation, but without having any compliance and regulatory role authorized by licensed statutory ability built into it. All of the Type 3 related functions in combination with the ability to deliver statutory sanctioned regulatory compliance functions required of architects define Type 4 functions.

Engineering functions follow a similar trajectory, with entry and more advanced level drafting, design and technical roles being categorized as Type 2 and Type 3 tasks respectively. In most cases, with the exception of some functions carried out by mechanical and civil engineers, Type 4 tasks that combine advanced knowledge of engineering with statutory functions licensed by the authorities are rare.

Architecture as an industry remains highly fragmented, with a large number of firms and no single firm having a large market share. As the AIA Report (2009) points out, even in more mature markets like the US, where larger firms tend to account for a larger share of total industry revenues, there is no single firm that has significantly large share of the market, and the average size of firms tend to be relatively small. The same is true for a large number of specialized engineering services (except IT). Given the fragmented nature of architecture and engineering services and the high levels of customer specific customization required in these services, the delivery of such services are principally a person to person transaction covered by a private law contract.

It follows that architectural and engineering services are often not regulated by law or reserved to specific practitioners in most countries (WTO 1998). Regulation seems to affect foreign suppliers to a much lower degree in architecture and engineering, compared to accountancy and legal services, with engineering probably being the sector where access for foreign professionals and firms is least difficult. Most countries reported that no legal provisions applied with regard to access to the provision of architectural services or engineering. This is in sharp contrast to accountancy and legal

services for which virtually all countries reported the existence of some regulation on access to the profession (WTO 1998). Further, architecture and engineering related tasks have clearly delineated technical and regulatory compliance aspects, whereas the technical and regulatory compliance aspects of accounting related tasks overlap to a much greater degree.

Thus, theoretically architecture and engineering related tasks are far easier to trade across border using digital means (i.e. Mode 1). However, control of professional standards in the architectural and engineering professions tends to take place more through object-related regulations, norms and standards such as building regulations, safety norms, and recognition of the statutory ability to certify the same. Such object oriented regulation tends to be local and subject to change, and foreign professionals would have to invest very significant amount of time and effort to become and remain proficient in them. Further, while such consumer protection, public health and safety are legitimate concerns for regulating architecture and engineering, such regulation may still constitute barriers to entry in those services, if they are applied in a restrictive manner, making it difficult for foreign professionals to access the market.

Given such difficulties, it is common practice for foreign architectural or engineering firms to contractually affiliate with a domestic registered firm to provide a range of defined professional services to accept and complete a commission in another country. Such a process avoids the necessity for the foreign architect or engineer to become licensed in the country in which the project is located. The process provides the foreign

professional with a partner who is experienced and well versed in the broad scope of the country's building tradition, codes, regulations, permitting, bidding, contracting, construction supervision, etc. Such a partnership allows trade to take place through Mode 1, with designs, blueprints and plans being delivered digitally.

New technologies have facilitated even greater cross-border trade in architecture and engineering services. Beginning in the early 1980s the computer assisted design (CAD) programs radically changed the manner in which architects and engineers were educated and worked. Such computer programs no longer require the architect to draw building design and the construction working drawings by hand. The complete design process can now be done electronically. The building specifications can now also be prepared electronically. These technological changes have played a significant role influencing and facilitating globalization of these services. Such new technologies combined with relatively liberal autonomous regimes allow all Type 2 and Type 3 tasks represented in Figure 4 to be off-shored.

Despite this, trade in architecture and engineering services remains modest. Such relatively low levels of cross-border trade in such can be attributed to two critical factors. First, most specialized architecture and engineering services firms tend to be small and locally focused. Second, the importance of local (in this case individual municipal and industrial safety authorities) regulatory compliance makes it difficult for foreign professionals to offer a single-window service. It must also be pointed out that such services are typically part of a combined service or product offering, and as such even

when these tasks are traded across borders they do not show up in official statistics. For example, large multi-national construction companies would use cross-border architectural or engineering expertise in implementing their projects, but the value of such cross-border trade in such tasks would show up in the balance of payments data under project exports or construction services. To give another example, electronic circuits used by an automotive MNC might have originated in any geography (either through a fully owned subsidiary or a third-party firm), but the value of the transaction does not show up in the balance of payments, either because it was a intra-firm transaction, or given the nature of services data collection in most countries, put under the head of a larger 'Business and other professional services' heading.

Today, emerging systems such as building information modeling (BIM) are now in the early stages of yet another major transformation of how architects will be working in relation to clients, product manufacturers and contractors, both domestically and internationally. Such a system electronically links all of the building project participants in a unified computer system which greatly advances instant communications, expedites decision making and reduces opportunities for project errors and omissions. It results in more cost effective projects which are able to be delivered on schedule. Such developments are rapidly creating a market for experts, especially since the hunt for global knowledge and expertise has become the key driver of economic growth and value-addition. Such international cooperation has been mostly welcomed in the case of pure engineering and design services, but there is less enthusiasm about trade in the architecture and civil engineering related tasks. Greater cooperation between foreign

professionals who act as domain experts, and local counterparts who provide compliance functions has led to legitimate concerns on the part of professional and regulatory bodies on whether the domestic architect or civil engineer is fully engaged in the process and not merely serving as a "plan stamper" on behalf of the foreign architect in order to get the project accepted and approved by local governing authorities.

Given this context it is natural that local authorities have tended to put stringent requirements for qualification as licensed architect within their jurisdiction and acquiring the right to provide statutory compliance related services to clients. To the extent that acquiring these qualifications remains difficult, they remain a barrier to trade in Type 4 tasks. Like in accounting, professional qualification might also be required to become a partner and commercial establishment rights in such firms, and thus create a barrier for investment (i.e. Mode 3) by foreign firms in this sector. Figure 5 puts the trajectory of trade liberalization implications that is applicable for the value chain in architecture and engineering services based on the sector-specific aspects discussed above.

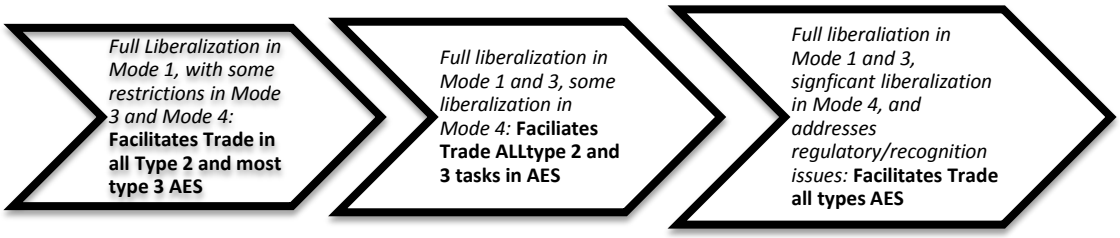

Figure 5: Trade Liberalization Implications for the Value Chain in Architecture and Engineering Services (AES)

3.4.2. Architectural and Engineering Services in India's Preferential Trade Agreements

As in the case of accounting services in the preceding section, an analysis of India's preferential services agreements must look at two fundamentals. First, what kinds of gains have been made by the services agreement in terms of the existing trade policy status quo (i.e. gains made by the preferential agreements over the multilateral commitments on offer). Second, whether or not preferential commitments improve upon (or at least equal) levels of market access and national treatment offered by the existing autonomous regime governing the trade in architecture and engineering services in respective partner countries. The value chain implications of trade liberalization would be based on these two fundamentals. Using the methodology for liberalization index

specified in table 3 earlier, table 10 below provides the scores for Type 4, Type 3-2, and Type 1 architecture and engineering services tasks. Annex 2 provides the detailed measure by measure score used for constructing the index.

Table 10: Liberalization Index Scores for Architecture and Engineering Services by Task Type

Type 4 Architecture Tasks	**GATS**	**Preferential**	**Autonomous**
Japan	8	8.5	11
Korea	8	8	10
Malaysia	9	9	11
Singapore	2	6	12
Type 3-2 Architecture Tasks	**GATS**	**Preferential**	**Autonomous**
Japan	8	9	12
Korea	5	5	11
Malaysia	6	6	9
Singapore	5	6	12
Type 4 Engineering tasks	**GATS**	**Preferential**	**Autonomous**
Japan	7	8	12
Korea	6	6	11
Malaysia	7.5	8	10
Singapore	6	6.5	11.5
Type 3-2 Engineering Tasks	**GATS**	**Preferential**	**Autonomous**
Japan	9	10	12
Korea	6	6	13
Malaysia	7.5	8	12
Singapore	6.5	6.5	14

Table 10 indicates that preferential agreements have not led to greater liberalization in most cases, and that the autonomous regime (AR) is much more liberal than the trade policy regimes (multilateral and preferential). Tables 11, 12 and 13 below discuss the results seen in table 10 on specific aspects related with market access in the index (as discussed in the methodology section) with contextual detail. The discussion on institutional and transparency aspects will follow in sections 3.7 and 3.8 respectively.

Table 11. Type 4 Tasks-Market Access Measures-Architecture

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	All four countries require foreign professionals to acquire local licensing to deliver Type 4 tasks. GATS commitments of Malaysia and Singapore allow cross-border trade in Type 4 tasks in architecture without the need for commercial presence. GATS commitments of Japan and Korea are restrictive in that they make cross-border trade in Type 4 architecture tasks subject to commercial presence, and the preferential agreements do not achieve improvement in this regard. Korea and Singapore do not clearly distinguish between Type 4 and Type 3 tasks in its GATS or preferential schedule. Such ambiguity can lead to future market access challenges making them subject to changing local regulatory regimes (such challenges are discussed in detail in the section on transparency measures).
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR in all four countries is identical to their TPR. However, the AR in Singapore and Korea clearly distinguishes between Type 4 (licensed), and Type 3 and 2 tasks in architecture.

Summary	Market access related measures in preferential agreements offer no improvement on GATS regimes. There is scope for improvement in Japan and Korean preferential offers in that their cross-border market access is subject to commercial presence. But since this measure is an outcome of the AR in Japan and Korea, this would require deeper bilateral institutional engagement (discussion in the section on institutional measures). Lack of clarity in commitments in terms of making a distinction between Type 4 tasks that require some form of licensing, and Type 3, 2 and 1 tasks that do not, would add greater value to the commitments made by Korea and Singapore.
Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	Japan and Korea both have liberal GATS market access commitments that allow foreign firms supplying Type 4 architectural services commercial presence without any limitations on ownership and type of incorporation. Malaysian GATS commitments do not allow foreign firms commercial presence, but allow individual professionals to operate commercially. Preferential agreement does not provide improvement for Type 4 tasks. Singapore's commitments do not make any multilateral commitment for commercial presence of Type 4 tasks. The preferential agreement allows commercial presence for firms providing such services with no limitations on foreign ownership or the form of business (with limited restrictions as pointed out in the AR requirements below), and thus is a big improvement over its GATS schedule.
Commercial Presence (Mode 3)	
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR with respect to market access in Japan, Korea, and Singapore is similar to the TPR. It needs to be noted that Singapore requires the chairman and a simple majority of directors of an architecture firm to have architects who are registered with local professional bodies. While the AR in Malaysia does not allow foreign firms to register as partners of Malaysian firms or to be registered in Malaysia, it allows that individual professionals (even without local licensing) may be involved in Malaysian firms as managers, shareholders or employees. Local licensing requirements in Malaysia are complicated by the fact that each Malaysian state has separate licensing and registration regimes.

Summary	Given that GATS regimes of the partner countries have some restrictions for both Mode 1 and Mode 3, there was scope for preferential agreements to achieve some improvements. Specifically, doing away with the need for commercial presence for cross-border delivery of Type 4 tasks in the case of Japan and Korea, and getting a specific commitment that distinguishes between Type 4 (licensed) and Type 3 and 2 tasks in the case of Singapore would have been significant achievements. In the case of Malaysia, achieving a commitment on liberalizing commercial presence on the lines that is already possible in its AR in an explicit manner would have counted as a major gain for the preferential agreement.
Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	None of the four partner countries make a GATS commitment for Mode 4 for architecture services. Japan is the only country that makes a specific Mode 4 commitment for architectural services in its preferential agreement, but such a commitment is restricted by the pre-requisite of the professional being employed with an entity that has commercial presence in Japan for such temporary movement. As will be discussed in the section 3.6 on movement of people, even in the case where a specific sectoral Mode 4 commitment has been made, the efficacy of such a commitment is in doubt given that no active measures exist for their implementation.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

Table 12 below provides the contextual detail for Type 3 and tasks in architecture and engineering services.

Table 12. Type 3 and 2 Tasks-Market Access Measures-Architecture

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	Tasks categorized as Type 3 and 2 architecture services could be classified under both Architecture services (CPC 8671) and integrated engineering services (CPC 8673). Japan, Singapore, and Malaysia have liberal GATS commitment allowing cross-border trade without the need for commercial presence, while Korean GATS commitments are restrictive as it requires the cross-border services exporter to have commercial presence in Korea. Additionally, Korea, Singapore and Malaysia[14] do not clearly distinguish Type 3 tasks as separate from Type 4 (licensed) tasks. Like with Japan, Korea and Singapore have liberal GATS commitments allowing cross-border trade in integrated engineering services (CPC 8673) with no pre-requisite for commercial presence (and these services not subject to licensing). This would mean that functions that can be categorized as Type 2 and 3 tasks can effectively be traded freely across the border.
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR in all four countries is identical to their TPR. However, the AR in Singapore and Korea clearly distinguishes between Type 4 (licensed), and Type 3 and 2 tasks in architecture.

[14] While the Korean and Singaporean schedule makes no mention of what tasks require licensing, Malaysia's schedule indicates that work of foreign architects would need final validation from Malaysian licensed architects. However, the Malaysian schedule language leaves it unclear whether or not such validation requirement is limited to type tasks that have statutory requirements subject to licensing, or to all types of architecture related work including type 3 and 2 tasks.

Summary	Market access related measures in Preferential agreements offer no improvement on GATS regimes. There is scope for improvement in the Korean preferential offers for architecture services (CPC 8671) that their cross-border market access is subject to commercial presence. But since this measure is an outcome of the AR in Korea, would require deeper bilateral institutional engagement (discussion in the section on institutional measures). The inclusion of the distinction between Type 4 and Type 3 and 2 tasks in the AR of Korea and Singapore in the language of the TPR would ensure clarity of market access and the rules and regulation governing the different Types of tasks in architecture that might be trade cross-border.
Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	Japan and Korea both have liberal GATS market access commitments that allow foreign firms supplying Type 3 and 2 architectural services commercial presence without any limitations on ownership and type of incorporation. This applicable to both architecture services (CPC 8671) and integrated engineering services (CPC 8673). Malaysian GATS commitments do not allow foreign firms commercial presence, but allows individual professionals to operate commercially for architecture services. However, its preferential schedule makes a distinction between Type 4 and Type 3 and 2 tasks in architecture with respect to commercial presence and allow foreign professionals (licensed in their home countries) up to 30% stake in Malaysian firms offering such services. Singapore does not make any multilateral commitment for commercial presence of Type 3 and 2 tasks. The preferential agreement allows commercial presence for firms providing such services with no limitations on foreign ownership or the form of business (with limited restrictions as pointed out in the AR requirements below), and thus is a big improvement over its GATS schedule.

Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR with respect to market access in Japan, Korea, and Singapore is similar to the TPR. It needs to be noted that Singapore requires the chairman and a simple majority of directors of an architecture firm to be licensed architects who are registered with local professional bodies. If architects offer Type 3 and 2 services as an integrated engineering services firm (CPC 8673), the AR has several specifications.[15] While the AR in Malaysia does not allow foreign firms to register as partners of Malaysian firms or to be registered in Malaysia, it allows that individual professionals (even without local licensing) may be involved in Malaysian firms as managers, shareholders or employees. Local licensing requirements in Malaysia are complicated by the fact that each Malaysian state has separate licensing and registration regime.
Commercial Presence (Mode 3)	
Summary	Given that GATS regimes of the partner countries have some restrictions for both Mode 1 and Mode 3, there was scope for preferential agreements to achieve some improvements. Specifically, doing away with the need for commercial presence for cross-border delivery of Type 4 tasks in the case of Japan and Korea, and getting a specific commitment that distinguishes between Type 4 (licensed) and Type 3 and 2 tasks in the case of Singapore would have been significant achievements. In the case of Malaysia, achieving a commitment on liberalizing commercial presence on the lines that is already possible in its AR in an explicit manner would have counted as a major gain for the preferential agreement.
Movement of Professional (Mode 4)	

[15] The Professional Engineers Board issues licenses to four forms of professional organizations, namely limited corporations, unlimited corporations, multi-disciplinary partnerships and limited liability partnerships. Different requirements apply in each case: 1) A corporation must have an architectural manager whom is a registered architect and who has a practicing certificate; 2) An unlimited corporation is required to have all directors as registered architects or allied professionals; 3) A partnership may only have registered architects and allied professionals, who each has in force a practicing certificate, having a beneficial interest in the capital assets and profits of the partnership; 4) A limited liability partnership must have at least one partner who is a registered architect who has in force a practicing certificate.

WTO vs. Preferential Regime	None of the four partner countries make a GATS commitment for mode 4 for architecture services (CPC 8671) or integrated engineering services (8673). Japan is the only country that makes a specific Mode 4 commitment for architectural services in its preferential regime, but such a commitment is restricted by the pre-requisite of being associated with an entity with commercial presence in Japan for such temporary movement of persons. However, there is no such restriction on Mode 4 commitments for integrated engineering services (8673). As will be discussed in the section on movement of people, even in the case where a specific sectoral Mode 4 commitment has been made, the efficacy of such a commitment is in doubt given that no active measures exist for their implementation.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

As is evident in from the value-chain hierarchy in figure 4 based on table 6, engineering tasks are categorized as Type 3 and 2 (the rare exceptions are tasks where an engineer with local certification is required to validate the work that has been done in terms of statutory requirements and compliance, in which case such a specific function could be considered to be a Type 4 task). Licensing is not a common feature of the engineering profession and none of the partner countries[16] except Malaysia require licensing for engineers[17] as a general rule. Thus the discussion on the contextual details of the

[16] See Annex 3 for sources relevant to the autonomous regulations applicable to the four partner countries.
[17] Malaysia, Foreign engineers must be licensed by the Malaysian Board of Engineers (BEM) (and only for specific projects) and sponsored by a Malaysian company carrying out the project. In general, a foreign engineer must be registered as a professional engineer in his or her home country, have a minimum of physical presence in Malaysia of at least 180 days in a calendar year. More specifically, the foreign engineer must be registered as a Graduate Engineer with BEM; have satisfied the 3 year training requirements of BEM; have passed the Professional Assessment Examination (PAE) of BEM or be elected as a Corporate Member of the IEM; and have been residing in Malaysia for a period of not less than six months immediately prior to the date of the application.

comparative analysis of engineering tasks in table 12 below is relevant to all Type 3 and 2 tasks.

Table 13: Type 4, 3, and 2 Tasks-Market Access Measures-Engineering

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	Tasks categorized as Type 3 and 2 architecture services could be classified under both engineering services (CPC 8672) and integrated engineering services (CPC 8673). Japan's GATS commitments are liberal and allow cross-border trade in all Types of engineering tasks without the need for commercial presence. Korean GATS commitments for engineering and integrated engineering services while allowing for cross-border trade require commercial presence thus restricting such cross-border trade. The preferential agreement does not improve upon this GATS commitment. Malaysian GATS commitment for both engineering and integrated engineering services allows cross-border without the need for commercial presence, but requires Type 4 engineering tasks to have local validation from a Malaysian registered professional. While the preferential regime does away with this requirement, the AR that governs such tasks still requires such validation in certain cases related to civil and mechanical engineering. Singapore's GATS commitments allow cross-border trade in engineering and integrated engineering services but requires the engineer to be resident in Singapore, making market access effectively very restrictive. The preferential agreement clarifies that temporary physical presence for the delivery of such tasks otherwise delivered cross-border is required only in the case of Type 4 tasks that require some form of local validation. Importantly, Singapore does not require the foreign professional to be licensed in Singapore.
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR in all four countries is identical to their TPR. The AR in Singapore while not requiring professional engineers delivering Type 4 tasks related to civil and mechanical engineering functions that require local validation to have local licensing, does require them to have adequate proof of professional competence.

Summary	Market access related measures in Preferential agreements largely offer no improvement on GATS regimes with the exception of Singapore. In the case of Singapore, there is improvement in the form of the clarification that local presence is a pre-requisite only for tasks that require local validation, thus ensuring that Type 3 and 2 engineering tasks can be traded cross-border without restriction. Theoretically, the Malaysian preferential regime achieves a significant gain by doing away with the requirement for local validation by Malaysian registered architects for engineering tasks. However, the commitment is still subject to Malaysia's AR that continues to require such validation for certain Type 4 tasks.
Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	Japan, Korea, and Singapore have liberal GATS market access commitments that allow foreign firms supplying Type 3 and2 architectural services commercial presence without any limitations on ownership and Type of incorporation. In the case of Japan and Korea, this is applicable to both engineering (CPC 8672) and integrated engineering services (8673). Singapore GATS commitments are limited to engineering services. However, since Type 3 and Type 2 tasks in engineering can be categorized as to fall within the definition of both classifications (i.e. CPC 8672 and 8673), one can assume the commitments on engineering services to be the de-facto regime. Singapore's preferential regime allows cross-border trade without any restrictions for both engineering and integrated engineering services. Malaysian GATS commitments are restrictive as they do not allow foreign firms commercial presence for engineering services, but allows individual professionals to offer services in Malaysia. The country allows foreign ownership of upto 30% for firms offering integrated engineering services, but only for the duration of time when such a foreign firm is implementing a pre-approved project. Since all Types of tasks in engineering services can be provided by integrated engineering services (as mentioned earlier), one can take the GATS regime for integrated engineering services as the de-facto regime.[18] However, its preferential schedule allows commercial presence for engineering services (8672) and allows upto 30% stake in Malaysian firms offering such services, and is thus an improvement on its GATS commitment.

[18] Based on author discussions with relevant firms (see Annex 4).

Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR with respect to market access in Japan, Korea, and Singapore is similar to the TPR. The AR in Malaysia specifies that foreign engineers may not operate independently of Malaysian partners or serve as directors or shareholders of an engineering consulting company. Foreign engineering companies may collaborate with a Malaysian firm but only the Malaysian company may submit plans for domestic approval.
Summary	Given the liberal GATS regimes for Japan, Korea, and Singapore, the need preferential regime is made redundant. There is a lot of scope for improvement in the case of Malaysia that would allow Indian firms to invest in Malaysia with no restrictions on ownership and control. However, this would require significant alteration of the existing AR in Malaysia, and thus requires deeper institutional engagement. Moreover, the AR also reflects preferential treatment to locally owned companies in the form 'Bumiputera' policy of Malaysia that remains politically sensitive.
Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	None of the four partner countries make a GATS commitment for Mode 4 for architecture services (CPC 8671) or integrated engineering services (8673). Japan is the only country that makes a specific Mode 4 commitment for engineering services in its preferential regime. As will be discussed in the section on movement of people, even in the case where a specific sectoral Mode 4 commitment has been made, the efficacy of such a commitment is in doubt given that no active measures exist for their implementation.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

3.5. Legal Services

3.5.1. Trade in Legal Services and Hierarchy of Related Functions in the Value-Chain

As with accounting, architecture and engineering services discussed in preceding sections, it is important to analyze the value-chain of legal services to understand the impact of internationalization of legal service tasks and the effect of trade agreements on them. Figure 6 presents the value chain of legal services tasks. While the value-chain established in table 5 for legal services tasks indicates only tasks categorized as Type 4, Type 2, and Type 1, and additional set of Type 3 tasks are added based on the nature of outsourced legal services industry[19].

[19] Based on discussions with Legal Services and Legal Process Outsourcing firms, See Annex 4 for details.

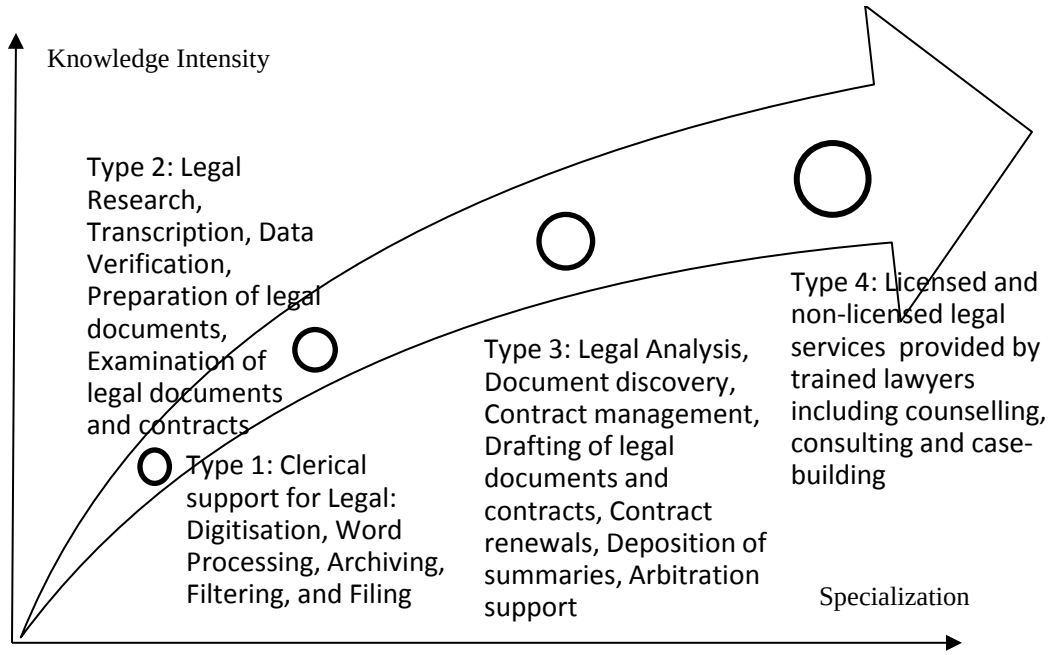

Figure 6: Professional Services Value Chain in Legal Services

Like accounting, and unlike architecture and engineering, legal services related functions covers the entire hierarchy of Types of tasks. Type 1 tasks are those that are generic back-office functions relating to clerical and IT support to legal services. As such they do not require deep knowledge of law, and are quite similar to back-office functions that are generic to other information and knowledge oriented services. Type 2 tasks require generic knowledge of law, even if it does not demand deep knowledge and familiarity with the law of partner country to which such services are being exported. This makes such tasks ideal candidates for offshoring to countries with a large supply of/cheaper availability of legally trained professionals who are familiar with legal concepts and terminology, without the need for being specialized in specific legal systems or forms of

law[20]. Type 1 and 2 tasks in legal services do not fall under pure legal services in terms of classification, and firms who deliver such services are typically those that provide management consulting services including back-office support and administration (CPC 8650)[21].

Type 3 tasks require advanced knowledge of law, and familiarity and experience of legal processes, norms and contracts. Performing such tasks would require some familiarity with local laws and legal traditions, but might not require specialized knowledge of such laws and formal training in them. These tasks relate to providing expert legal analysis, doing advanced research, and a lot of the out-of-court legal work[22]. As *Economist* (2010) points out, since a substantial amount of legal work, especially commercial legal work, is done out-of-court these services are being rapidly internationalized.

Type 4 tasks in legal services, like in accounting, are categorized into two, i.e. those that incorporate statutory functions (needs to be licensed by local authorities), and those that do not. In either case, familiarity with local laws and local legal traditions is essential to providing these tasks. Statutory Type 4 tasks include appearance in court (typically sanctioned by the local bar), statutory functions related to formation of contract, validation and notary related functions, and ability to represent as a official legal counsel to various regulatory authorities on behalf of the client in local jurisdictions.

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[20] Ibid.

[21] Many Indian and global back-office and management services BPOs are offering such services. Good examples are TCS (TCS Legal Management Solution Division), Wipro BPO, and UnitedLex, which is registered as an IT enabled services company in India. Author discussions with National Association of Software Services Companies (NASSCOM), the apex IT and BPO industry chamber in India indicated that several other major BPO firms such as HCL, EXL, and Mphasis have plans to deliver type 1 and 2 legal services by mid 2012.

[22] Based on discussions with Legal Services and Legal Process Outsourcing firms, See Annex 4 for details.

Non-statutory Type 4 tasks include the ability to provide high-end legal advice and consulting, as well as out of court arbitration services to clients within the local jurisdiction. Type 4 tasks can also include assisting or even leading the client's local legal team with legal expertise and case building (while the locally licensed lawyer does the actual appearance in local courts or in front of regulatory bodies). It also involves providing high-end legal services related to due-diligence procedures on contracting and other legal documentation, including for those aspects of law that are highly internationalized (for e.g. intellectual property rights, taxation, trade law). Finally, Type 4 tasks include advisory services related to lobbying with government on behalf of corporate clients.

Like in accounting, the start to internationalization of legal services has been a function of the internationalization of firms. As firms went global, they wanted to continue to use the high-end legal services they sourced in their countries of origin, or procure such services from firms that best understood international complexities that they had to face. Essentially this was a demand for Type 3 and 4 legal tasks. Demand for Type 3 and 4 legal services has been further enhanced in recent years due to increased internationalization of emerging country firms, both in terms of production and outward investments, as well as sourcing of funds from global markets and increasing joint-ventures and mergers between emerging country and industrialized country firms.

More and more SMEs are also becoming global, and thus demanding high-end legal services that might not necessarily be found in their countries of origin. Thus, such client

demand for lawyers to address transactional needs which cross borders and the preference for sourcing such services through a single integrated firm that offers Type 4 and Type 3 tasks are pushing up the demand for specialized legal services and leading to increased trade. This Type of trade has been mostly through Mode 3 (commercial presence of legal consultancy firms), and Mode 4 (the international legal expert has travelled to the client location). However cross-border trade, where such services are delivered remotely through digital means and video-conferencing, is becoming increasingly popular. This has also led to the development of the Legal Process Outsourcing (LPO) industry.

The LPO phenomenon was an outcome of the increasing costs of human resources delivering lower-end tasks in legal services (i.e. Type 1 and 2 tasks) in industrialized economies, especially in the US and the UK. Firms in these countries started to look for cheaper human resources outside their geographies who could perform such functions at a lower cost. This led to offshoring of such legal services related tasks. As the name suggests, LPO started with the outsourcing (and also offshoring) of processes, i.e. standardized tasks of the Type 1 and 2.

However, as the LPO industry matured, demand for higher end legal services, i.e. Type 3 tasks, also started taking off due to the need for skilled human resources across a wide spectrum of legal functions that saw exponential growth starting late 1990s. Just like Sarbanes-Oaxley legislation in the US, and general tightening of tax and financial regulations saw an increase in accounting and finance related offshoring to meet rapidly increasing demand for skills, coming into force of global intellectual property rights

(IPR) regimes, new environmental and product standards, and the need for due-diligence in increasingly larger numbers of international contracts and transactions saw a huge increase in the demand for advanced legal skills. Such demand could only be met through the global sourcing of such talent. Since the Indian LPO sector is largely representative of the global service delivery model, it is relevant to look at some important features this sector represents. Figure 7 below provides a breakdown of nature of tasks being undertaken by India based LPO operations.

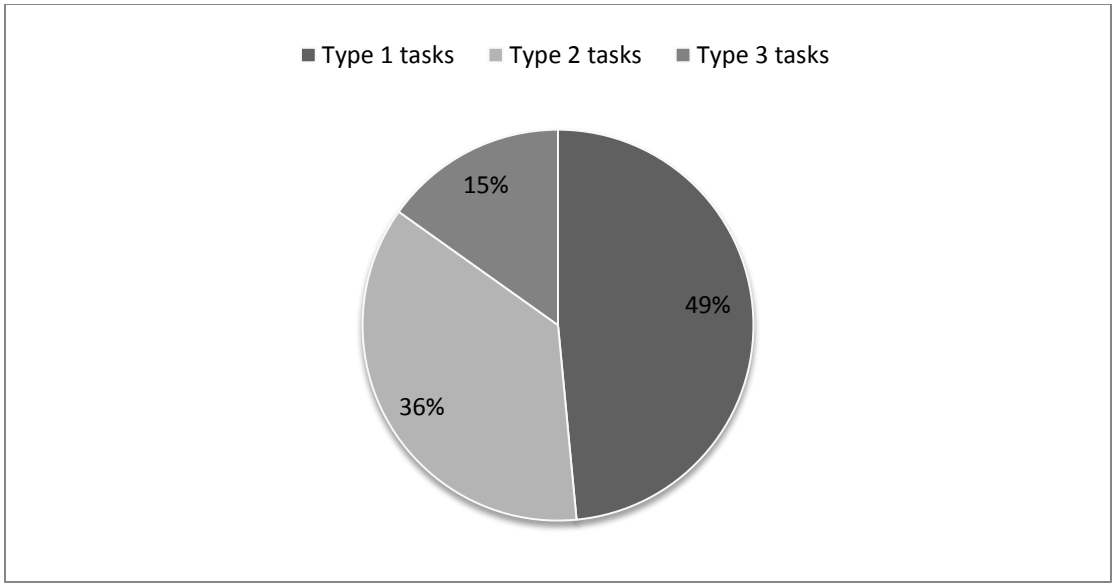

Figure 7: LPO Operations in India-Nature of Services Delivered by Tasks Type

Source: Discussions with LPO firms (see Annex 4 for details) and numbers extrapolated from LPO and the Great Recession, Evalueserve Whitepaper, 2011.

As figure 7 shows, Type 1 tasks that are really generic back-office tasks customized for the legal sector dominate Mode 1 export of legal services. However Type 2 tasks that require generic knowledge of law and legal systems (as opposed to specific legal knowledge pertaining to the export market) represent more than a third of the functions delivered by LPO firms. Finally, Type 3 tasks that require knowledge of specific legal regimes (i.e. intellectual property, finance, arbitration norms, contract and torts etc) and geography specific legal systems are an important sixth of the tasks delivered by such firms. While Type 3 tasks are represents just 15% of the human resources of LPO firms, they represent much higher proportion in terms revenue. Figures vary between 25% to over 40% of revenues from such activities. While this mix is changing due to the growing

demand for specific skills as they relate to specialized legal forms, and the increasing trend of favoring arbitration and contracting based on internationally accepted norms in the corporate world, the distribution of tasks have implications for trade policy objectives in legal services.

Organization of LPO sector is similar to that of accounting and consists of Indian law firms with specialized LPO services solely based in India (providing services through Mode 1) and Indian law firms with branches abroad (providing services through Mode 1, Mode 3, and Mode 4). It also includes captive legal departments of MNC firms that have been offshored and located in India (providing services through Mode 1 and Mode 4) and specialized third-party LPO firms that might be Indian owned, foreign owned, or joint-ventures between Indian and foreign partners (providing services through Mode 1). There are also a very few independent professionals providing consulting work (Mode 1 and Mode 4).[23]

Type 2 and 1 legal services are mostly dominated by specialized third-party LPO firms (i.e. firms who classify themselves as BPOs providing back-office support and administration (CPC 8650) and some Indian and foreign law firms that have diversified into LPOs based solely in India. Captive centers of MNCs are a distant third. There are very few Indian law firms with operations abroad and independent Indian professionals providing legal services abroad. Thus as NASSCOM (2011) points out, Mode 1 is the preferred choice of export. Given these specifics of the Indian legal services industry,

[23] Jindal, Rahul (2009), LPO Industry in India, blog on Indian LPO Industry (http://legallyours.blogspot.in/2009/04/lpo-industry-in-india.html).

figure 8 below represents the trajectory of trade liberalization implications that is applicable for the value chain in legal services.

Figure 8: Trade Liberalization Implications for the Value Chain in Legal Services

3.5.2. Legal Services in India's Preferential Agreements

As in the case of accounting and architecture services in the preceding sections, an analysis of India's preferential services agreements must look at two fundamentals. First, what kind of gains has been made by the preferential agreements in terms of the existing trade policy status quo (i.e. the gains over the multilateral commitments on offer). Second, the improvement over and above the autonomous policy (i.e. gains, or at the least equivalence with the actual market access and national treatment terms already available to foreign supplier of services in partner countries. The value chain implications of trade liberalization would be based on these two fundamentals. Using the methodology for liberalization index specified in table 3 earlier, table 14 below provides the scores for

Type 4 and Type 1 legal service tasks. Annex 2 provides the detailed measure by measure score used for constructing the index.

Table 14: Liberalization Index Scores for Legal Services by Task Type

Type 4	**GATS**	**Preferential**	**Autonomous**
Japan	4	6	11
Korea	0	7	9
Malaysia	3.5	3.5	7
Singapore	0	0	11
Type 2-1	**GATS**	**Preferential**	**Autonomous**
Japan	10	11	14
Korea	10	10	14
Malaysia	0	9	12
Singapore	10	10	14

Like in case for accounting, architecture and engineering services, table 14 indicates that preferential agreements have not led to greater liberalization in most cases, and that the autonomous regime (AR) is much more liberal than the trade policy regimes (multilateral and preferential). Tables 15 and 16 below discuss the results seen in table 13 on specific aspects related with market access in the index (as discussed in the methodology section) with contextual detail. The discussion on institutional and transparency aspects will follow in sections 3.7 and 3.8 respectively.

Table 15. Type 4 Tasks-Market Access Measures-Legal Services

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	While Japan's GATS commitments allows cross-border trade in Type 4 legal services tasks subject to local licensing, it requires local commercial presence of either the professional (in the form of a local registered individual legal practice) or of the firm the foreign professional is associated with. There is no improvement on such a restrictive cross-border regime in the preferential agreement. Malaysian GATS commitments for cross-border trade in Type 4 services are limited to international law and the law of the country in which the foreign legal professional is registered as a member of the bar. There is no requirement for either commercial presence or local licensing. There is no improvement of Malaysia's GATS commitment in the preferential regime. Korea does not make any commitment on legal services in its GATS schedule. In its preferential regime, Korea allows cross-border trade in Type 4 services limited to international law and the law of the country in which the foreign legal professional is registered as a member of the bar. There is no requirement for either commercial presence or local licensing. This is a clear improvement over its multilateral regime. Singapore makes no commitment on legal services in either its GATS or its preferential regime.
Cross-Border Trade (Mode 1)	
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR in all partner countries with the exception of Singapore remains unclear on whether or not cross-border delivery of counseling or consulting Type 4 activities not requiring membership of local bar or local certification and qualification pertaining to domestic law are allowed. While Singapore does not make any commitments on legal services in either GATS of preferential regimes, its AR allows cross-border trade in legal services (with the exception of those requiring local bar-membership, licensing and certification) without the need for commercial presence. Thus, Singapore's AR is much more liberal than its TPR. The AR in Japan allows cross-border trade in Type 4 activities dealing with laws other than that of Japan, there is no requirement for local commercial presence as mandated in the TPR, and thus the AR is more liberal than TPR. The AR in Korea and Malaysia for cross-border trade pertaining to foreign laws is identical to their TPR.

Summary	Neither the GATS nor the preferential regimes of partner countries makes a clear distinction between those Type 4 tasks pertaining to domestic law that require local bar membership, certification, and qualification, and those that do not require these things. As discussed earlier, lot of the internationally traded Type 4 legal services actually pertain to counseling and consulting services on domestic as well as international law that do not require the legal professional to have such local membership or certification in practical terms (i.e. they way they are trade in actual practice)[24]. This is reflection of the lack of clarity in the AR of most countries. The fact that Korea actually makes a scheduled commitment on legal services in the preferential regime whereas none exists in their GATS schedules is an improvement. The AR in Singapore and Japan allows trade in a majority of Type 4 tasks without the need for commercial presence, and is therefore a huge improvement on TPR. Thus, there is scope for improvement in the preferential TPRs with respect to these two countries.

[24] Prabhat Shroff, Principal at Shroff and Company, Calcutta.

Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	Japan's GATS regime does not allow commercial presence for Type 4 tasks, though independent foreign professionals can commercially offer services in Japan subject to local certification and qualification (by having a local registered individual business practice). The preferential regime offers an improvement in that it allows commercial presence and puts no limitations on foreign ownership. However, only partnerships are allowed and all partners in such a firm need to acquire local certification and bar membership. Not having made a GATS commitment on legal services, Korea's preferential schedule makes a partial commitment by allowing commercial presence for companies providing Type 4 legal services pertaining to foreign laws (i.e. other than Korean laws). Such firms, defined as Foreign Legal Corporations (FLCO) are not subject to any restrictions on foreign ownership, can be incorporated, and have no requirement for principals requiring local bar membership or licensing. Malaysian GATS commitments restrict commercial presence of foreign legal firms supplying Type 4 legal services to the territory of Labuan, and such firms are only allowed to provide consultancy services on foreign laws (i.e. laws of jurisdictions other than Malaysia) to firms based in the territory of Labuan. Malaysian preferential regime does not improve upon such restrictive measures. Singapore does not make GATS or preferential commitments on legal services.

Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR in Japan is somewhat more liberal than the TPR. It allows foreign legal firms to enter into locally incorporated joint venture called a foreign law joint enterprise with a Japanese qualified lawyer Registered foreign lawyers, known as "Gaikoku-Ho-Jimu-Bengoshi", cannot establish a legal professional corporation. They can establish a presence individually or jointly with a Japanese qualified lawyer. However, there are no restrictions on foreigners who have acquired Japanese legal qualification and bar membership from becoming partners in Japanese legal corporations. The AR in Korea is similar to the TPR. The AR in Malaysia is slightly more liberal compared to the TPR as it allows a foreign law firms to hold a minority stake in Malaysian law firms (upto a limit of 30%). Given that Singapore makes no trade policy commitments on Type 4 legal tasks, it has a very liberal AR with respect to Type 4 legal services. Foreign firms providing Type 4 services pertaining to foreign (i.e. jurisdictions other than Singapore) laws are allowed commercial presence without any restrictions on ownership or requirement of local bar membership of licensing. In the case of Type 4 services pertaining to Singaporean law, foreign law firms and Singapore law firms are allowed to form an Enhanced Joint Law Ventures (EJLVs). Foreign ownership of a EJLV is restricted to 49%. Under EJLVs the foreign law firms are able to hire Singapore-qualified lawyers to advice on Singapore law, provided the limit of up to one Singapore lawyer for every one foreign lawyer is adhered to, and that the Singapore lawyers have more than three years' experience.
Commercial Presence (Mode 3)	
Summary	Japan and Korea offer some improvement on their GATS regime through their preferential commitments. However, given that the AR, especially in the case of Singapore is much more liberal, there is room for greater improvement in the respective preferential TPRs of all four partner countries.

Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	None of the four partner countries make a GATS commitment for Mode 4 for legal services. Japan is the only country that makes a specific Mode 4 commitment for legal services in its preferential agreement, but such a commitment is restricted by the pre-requisite of being associated with an entity with commercial presence in Japan for such temporary movement of persons. As will be discussed in the section on movement of people, even in the case where a specific sectoral Mode 4 commitment has been made, the efficacy of such a commitment is in doubt given that no active measures exist for their implementation.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

3.5.3. Type 3 Legal Services: Need for Clarity in AR through greater engagement in TPR

Type 3 legal services refers to a wide range of activities that require knowledge of the laws of the jurisdiction where clients are located (in terms of this essay, the four partner countries), but does not necessarily require local qualification, certification, and bar membership due the nature of such tasks (i.e. they do not have direct interface with local regulatory and legal authorities and provide no statutorily defined functions that require licensing). As specified in figure 8 above, such Type 3 tasks are related to provision of legal analysis, document discovery, drafting of legal documents and contracts, contract renewals, deposition of summaries, and arbitration support.

While the nature of Type 4 legal tasks makes it clearly fall under the classification of pure legal services (CPC 861), the nature of Type 3 tasks is more indeterminate. Type 3 tasks, while definitely in the nature of support services provided to legal professionals

that can be classified under management and consulting services (CPC 865), are not purely generic back-office services and require familiarity with the laws of the jurisdiction for which the services are being delivered. Further, as they serve as inputs to documents and services that have an interface with local regulatory and legal institutions and serve statutorily defined functions, they can be considered as legal services in themselves. Unlike in accounting, where there is a clear distinction between Type 4 audit and Type 3 accounting functions, such clarity is not available in the case of Type 4 and Type 3 legal services.

As pointed out in the earlier discussion, neither the TPR nor the AR of any of the countries under discussion make a clearly defined distinction of Type 3 and Type 4 tasks. Thus it is not possible to provide an analytical discussion based on the provisions of TPR or AR on cross-border and commercial presence related trade regimes for Type 3 legal services. However, many LPO firms are providing such services (through cross-border delivery) to several jurisdictions (mostly US, UK, Canada, Singapore, and Hong Kong)[25]. Thus, clearly there is a case to be made for proper classification, definition, and establishment of rules (i.e. TPR and AR) with respect to such Type 3 services that would in essence formalize industry practice, and prevent future protectionism due to lack of clarity.

[25] Discussion with Legal services and LPO firms (Refer to Annex 4 for details).

3.5.4. Type 2 and 3 Tasks: Market Access Measures

As mentioned earlier, the generic nature of Type 2 and tasks allows them to be classified as management consulting services (CPC 8650). This is reinforced by the fact that many of the LPO firms that provide such services are firms providing consultancy and back-office support services across a range of sectors and are not specialized legal services firms[26]. Legal services firms that provide such services also provide such services separately from their legal operations, and their associated LPOs are independent corporate entities are not registered as legal firms[27]. Table 16 below provides the contextual detail in terms of TPR and AR with reference to such tasks.

Table 16. Type 2 and 1 Tasks-Market Access Measures-Legal Services

Cross-Border Trade (Mode 1)	
WTO vs. Preferential Regime	GATS commitments of all countries except Malaysia allow cross-border trade in Type 2 and1 legal services tasks (categorized as management consulting services or CPC 8650) and do not make such trade subject to commercial presence, thus making the need for preferential commitments redundant. The preferential agreement with Malaysia makes a commitment allowing cross-border trade in Type 2 and 1 legal tasks without the pre-condition of commercial presence, and is thus a great improvement over its multilateral regime.
Cross-Border Trade (Mode 1)	
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	The AR of all countries is identical to their TPR

[26] Ibid.
[27] Ibid.

Summary	GATS regimes being liberal, there is where little scope for preferential regimes to add value. However, preferential regimes could potentially add value by addressing trade barriers related to digital trade and e-commerce, and in doing so also address potential future barriers to such trade. A detailed discussion on this issue follows in section 3.7 on institutional measures.
Commercial Presence (Mode 3)	
WTO vs. Preferential Regime	GATS Mode 3 commitment related to Type 2 and 1 legal services tasks of partner countries are completely liberal with no limitations on foreign ownership with the exception of Malaysia which does not make any commitments multilaterally. Thus, the preferential agreement with Malaysia adds value by ensuring a liberal regime for commercial presence with no limitations on ownership or control.
Autonomous Regime (AR) vs. Trade Policy Regime (TPR)	AR with respect to market access for Mode 3 in all four partner countries is similar to the TPR.
Summary	Liberal GATS regimes in all partner countries except Malaysia applicable to firms delivering Type 2 and 1 legal tasks means preferential agreements are not required to add value. The preferential agreement with Malaysia adds value by allowing liberal Mode 3 market access with no limitations on ownership or control for firms typically delivering Type 2 and 1 legal services.

Movement of Professional (Mode 4)	
WTO vs. Preferential Regime	While none of the four partner countries have GATS commitments, all four partner countries make Mode 4 commitments for management consultancy services (CPC 8650) in their preferential regimes with the exception of Malaysia. Singapore and Korea identify a list of professionals who qualify for horizontal visa commitments[28]. However, these lists of categories of professionals used by Korea and Singapore would exclude some Type 2 task delivering professionals and most Type 1 task delivering professionals in legal services. As will be discussed in the section on movement of people, even in the case where a specific sectoral Mode 4 commitment has been made, the efficacy of such a commitment is in doubt given that no active measures exist for their implementation.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

While the last three sections presented the detailed comparative analysis of in terms of market access liberalization and the existing autonomous regimes for the four professional services, section 3.6 that follows takes a critical look at the impact of movement of people, or Mode 4 related liberalization in trade regimes.

3.6. Liberalization of the Movement of People: Analyzing the Effective Depth of Commitments

As was pointed out in the discussion in the preceding sections on sector and task-specific market access, while the text of India's preferential agreements has made commitments in the context of the movement of professionals for a number of services, in reality all

[28] Horizontal commitments on Mode 4 refer to guidelines governing the movement of persons that apply across all GATS defined sectors, and are not specific to one sector. These commitments refer to allowed categories of professionals who are eligible to apply for work visas, and the terms and conditions related to such temporary migration related to work.

that it does is reaffirm the existing autonomous regimes extant in partner countries. In addition, it adds little value in terms of visa facilitation that would lead to lesser transaction costs for Indians applying for such visas. Examples of such visa facilitation include reduced documentation or reduced fees. A few critical points need to be made in this context.

First, none of India's existing preferential agreements discussed has led to the creation of a special preferential visa category through which Indian professionals can apply for movement and short and intermediate term work permits in the partner country. In other words, no new visa category specific to India and Indian professionals has been created through these agreements enabling Indian professionals to get preferential treatment. Indian professionals continue to apply for professional and work visas under the same regime that existed before these agreements came into force.

While agreements did not offer anything beyond existing autonomous regime in terms of visa, and work permits, it could have potentially developed trade facilitating measures related to the movement of people, i.e. reduce the paper-work requirements, wait-times, and other regulatory requirements for Indian professionals applying for a visa. However, there is no difference between visa application procedures and requirements for Indian professionals and professionals from other countries. The preferential trade agreements under discussion could have also offered preferential exemption of visa processing and other fees. While not much of a gain in terms of actually allowing preferential access to

labor markets in the partner country, it does reduce the transaction cost of access to that labor market. India's agreements do not offer any gains on this score.

Finally, the visa application web portal maintained by the partner country embassy/consulates in India could indicate that the FTA allows Indian professionals access to labor markets. While this would be a reiteration of the autonomous regime, it would indicate that such an access is guaranteed for Indian professionals irrespective of any changes in policy (i.e. the concept of locking in to the relatively liberal autonomous regime). Such an indication would serve as information arbitrage, and show the long-term viability of partner country labor markets for Indian professionals. However, no such indication is available in such portals. Table 17 below provides an analysis of actual regime in place with respect to visa application process post the time the preferential agreements have come into force. Such a on the ground validation based on feedback from experts[29] helps understand the difference between expectations of improved regimes emerging from preferential commitments and actual results on the ground.

[29] Based on discussions with Cox and Kings, which is a leading provider of visa processing services to many Indian corporations including firms such as Infosys, Deloitte, Wipro, HCL, and TCS that are frequent applicant for work and professional visas.

Table 17. Evidence of Visa Facilitation on the Ground in India Post Preferential Regimes Coming into Force

CATEGORY OF FACILITATION	Japan	Korea	Malaysia	Singapore
1.The Agreement created a special visa category	No*	No*	No*	No*
2. Procedural Change in Visa Application Process	No*	No*	No*	No*
- Visa application form is different for India[30]	No	No	No	No
- Visa takes shorter time to process than before	Yes[31]	No*	No*	No*
- Indian professionals need to submit lesser number of documents compared to applicants from countries that do not have a preferential agreement[32]	No	No	No	No
- Indian professionals are given preferential treatment over nationals from countries that do not have preferential treatment	No*	No*	No*	No*
3. Visa fees are reduced for Indian applicants[33]	No	No	No	No
4. Period of visa validity has been extended for Indian applicants	No*	No*	No*	No*

*Based on a discussion on visa related procedures with Cox and Kings , a firm providing visa application support services to large number of corporate clients in India, including firms such as Infosys, Accenture, Deloitte, Wipro, HCL, and TCS that apply for visas for professionals related to accounting, architecture, and engineering services.

[30] Based on comparative analysis of visa forms downloaded from embassy websites of partner countries in India, and from their embassy websites in non-partner third countries. The analysis involved downloading relevant visa application form from respective websites and comparing them. See flow-chart on analysis methodology in Annex 5.

[31] Based on response from Cox and Kings. However, the reason behind increased efficiency could not be ascribed to the preferential agreement by Cox and Kings, and is more likely to be a procedural improvement.

[32] Based on comparative analysis of documentation requirements listed in the embassy websites of partner countries in India, and from their embassy websites in non-partner third countries required for applying for the relevant visa. See flow-chart on analysis methodology in Annex 5.

[33] Based on comparative analysis of listed visa fees for relevant visas in the embassy websites of partner countries in India, and from their embassy websites in non-partner third countries. See flow-chart on analysis methodology in Annex 5.

3.7. Institutional Measures: Comparative Analysis of Multilateral and Preferential TPR and AR in Partner Countries

Institutional measures that are relevant to trade in professional services can categorized into two. The first deal with the institutional measures discussed in Chapter 2 section 7.2.2 around the elements needed to develop the index described in table 3. These institutional measures are related domestic regulations on licensing, qualifications and the procedures for foreign professionals to attain equivalence or get recognition through MRAs.

A second set of institutional measures are related to newly emerging regulations on offshoring of services, data privacy and digital data transmission laws. These elements are not a part of the four preferential agreements discussed in this dissertation. However preferential agreements such as the US-Korea FTA have includes measures relating to such institutional factors. Such newly laws and regulations could potentially have a critical impact on the cross-border trade of professional services. A discussion on such measures and the autonomous regime in place currently in partner countries with respect to these laws and regulations follows after the discussion on licensing, qualification, and MRA related aspects.

3.7.1. Institutional Measures on Licensing and Qualifications

A comparative analysis of the institutional measures in GATS, preferential, and autonomous measures with respect to the partner countries is summarized in table 18 and table 19 below.

Table 18: Institutional Measures Related to Licensing and Qualifications

The analysis of institutional measures in Table 17 relates to query no.4 and 5 in Table 4. The essential points of analysis that arises from queries 4 and 5 are: a) The need for professional equivalency (including licensing) to deliver a tasks, and in case it is required, the ease (as opposed to just the possibility) of foreign professional attaining equivalency in the partner country b) The need for a clearly defined process of obtaining local licensing or equivalency in the cases they are required	
Japan	<u>Accountancy Services</u> Japan clearly identifies the need for professional equivalency (licensing) in the case of Type 4 accounting tasks in its multilateral TPR, and allows such equivalency. The process of attaining such equivalency has not been defined in the TPR and is extremely difficult[34]. There is no clarity in terms of Type 3 accounting tasks within either the GATS or preferential TPR. Type 2 and 1 tasks that are generic also do not have clarity in terms of qualification requirements or need for equivalency enshrined in the TPR. The assumption is that having national treatment makes them subject to general rules governing management consultancy services under which such tasks can be classified under, and thus they do not have any requirement for equivalency. The AR clarifies that Type 3, 2, and 1 accounting services currently do not have specific qualification requirements. <u>Architecture and Engineering Services</u> The need for equivalency for Type 4 architecture tasks is identified in the multilateral TPR, and it indicates that foreigners can attain such equivalency. While the process has not been defined in the TPR, it is relatively easy. Qualification requirements and therefore the need for equivalency in Type 3 and 2 are not enshrined in the TPRs. The AR clarifies that Type 3 and 2 architectural services currently do not have any qualification requirements. The TPRs do not provide any clarity on the need for qualifications and equivalence for all Types of engineering services jobs. The AR

Japan	clarifies that Type 4 tasks requires a recognized engineering degree subject to verification by local authorities. The AR is also unclear with respect to Type 3 and 2 engineering tasks. <u>Legal Services</u> The multilateral TPR clearly indicates the need for equivalence for Type 4 legal services tasks, and indicates that such equivalence is allowed. However, the process of attaining such equivalence has not been defined in the TPR and it is difficult. There is no clarity in the TPR for Type 3 tasks, and also for Type 2 and 1 tasks that are generic. The qualification requirements or need for equivalency enshrined for such tasks is not enshrined in the TPR. The assumption is that having national treatment makes them subject to general rules governing management consultancy services under which such tasks can be classified under, and thus they do not have any requirement for equivalency. The AR for Type 3 legal tasks remains unclear, while the AR clarifies that Type 2 and 1 legal services do not have specific qualification requirements.
Korea	<u>Accountancy Services</u> Korea clearly identifies the need for professional equivalency (licensing) in the case of Type 4 accounting tasks in its multilateral TPR, and allows such equivalency. The process of attaining such equivalency has also been defined in the TPR and is relatively easy. The multilateral TPR clarifies that Type 3 tasks do not require equivalency, and acknowledges qualifications of foreign professionals qualified as public accountants under their home country's laws. However, many Type 3 tasks are generally done by professionals who are not qualified as public accountants, and the TPR remains unclear on this, as does Korea’s AR. Type 2 and 1 accounting tasks that are generic do not have clarity in terms of qualification requirements or need for equivalency enshrined in the TPR. The assumption is that having national treatment makes them subject to general rules governing management consultancy services under which such tasks can be classified under, and thus they do not have any requirement for equivalency. <u>Architecture and Engineering Services</u> Korean multilateral TPR clearly specifies qualification requirements for Type 4 architecture tasks and it allows for such equivalency. The process of attaining equivalency is enshrined within the TPR and is a relatively easy process. Qualification

Korea	requirements and therefore the need for equivalency in Type 3 and 2 are not enshrined in the TPRs. The AR clarifies that Type 3 and 2 architectural services currently do not have any qualification requirements. <u>Legal Services</u> Korea does not make any multilateral commitments in legal services. Korea's preferential TPR clearly specifies qualifications requirements, allows for equivalence, and clearly establishes the process for attaining such equivalence with respect to Type 4 legal services tasks. However, the process of equivalence is extremely difficult. There is no clarity in the TPR for Type 3 tasks, and also for Type 2 and 1 tasks that are generic. The qualification requirements or need for equivalency enshrined for such tasks is not enshrined in the TPR. The assumption is that having national treatment makes them subject to general rules governing management consultancy services under which such tasks can be classified under, and thus they do not have any requirement for equivalency. The AR for Type 3 legal tasks remains unclear, while the AR clarifies that Type 2 and 1 legal services do not have specific qualification requirements.
Malaysia	<u>Accountancy Services, Architecture, and Engineering Services</u> Malaysia clearly identifies the need for professional equivalency (licensing) in the case of Type 4 tasks in accounting, architecture, and engineering services in its multilateral TPR, and allows such equivalency. The process of attaining such equivalency has also been defined in the TPR and is relatively easy. <u>Legal Services</u> Malaysian TPR does specify qualification and equivalence related norms for any legal tasks. The AR clarifies that Type 4 legal tasks are subject to licensing that requires Malaysian citizenship. Thus equivalence is not possible. There is no clarity in the TPR for Type 3 legal services tasks, and also for Type 2 and 1 tasks that are generic. The qualification requirements or need for equivalency for such tasks is not enshrined in the TPR. The assumption is that having national treatment makes them subject to general rules governing management consultancy services under which such tasks can be classified under, and thus they do not have any requirement for equivalency. The AR for Type 3 legal tasks remains unclear, while the AR

	clarifies that Type 2 and 1 legal services do not have specific qualification requirements.
Singapore	Accountancy, Architecture, Engineering, and Legal Services The multilateral and preferential TPR of Singapore does not provide a clear picture with respect to qualification and equivalence requirements, and the process related to them in general. The AR of Singapore on the other hand is extremely transparent. It specifies the qualification requirements for all Type 4 tasks, allows for equivalence, and establishes the process for attaining equivalence. The process for attaining equivalence for foreign professionals is relatively easy for all Type 4 tasks. The AR clarifies that there are no qualification requirements and therefore need for equivalence with respect to Type 3,2, and 1 tasks in accounting, Type 3 an 2 tasks in engineering, and Type 2 and 1 tasks in legal services currently. The AR on Type 3 legal services remains unclear.
Summary	While the need, ability, and process of equivalence related to qualification and licensing has been identified in the TPRs for most of the Type 4 tasks in the four professional services, the process of attaining equivalence remains difficult. This clearly brings in the need for MRAs which is the topic of discussion that follows. It also needs to be noted that the need, ability, and process of equivalence related to qualification and licensing has not been enshrined in the TPRs for any of the Type 3,2, and 1 tasks for any of the four professional services. While the AR clarifies that there are no current requirements for specific qualifications and equivalence for most services with respect to such types of tasks, a TPR clarification will ensure the continuation of such a liberal regime and provide transparency. Since making such TPR commitment requires no additional policy effort by partner countries, but only the enshrining of current AR, this could be considered as a priority for the next review of preferential agreements. Adding clarity for Type 3 accounting and legal tasks in terms of qualification, licensing and related equivalence requirements should also be a goal for preferential agreements to aspire to.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country,

Table 19: Institutional Measures Related to Mutual Recognition Agreements

The analysis of institutional measures in Table 18 relates to query no.12 and 13 in Table 4. The essential points of analysis that arises from queries 12 and 13 are: a) The need for clearly identifying the tasks where MRAs are needed, and the specific institutions that would need to enter into negotiations for achieving such MRAs b) The need for having clear deadlines for the conclusion of MRAs, for tasks where such MRAs are required
MRAs would be typically applicable to tasks that require licensing i.e. Type 4 tasks, and potentially tasks that require significant amount of skills i.e. Type 3 tasks. None of the four agreements mandate specific MRAs (i.e. specific to professions and task types). They simply recognize the need for MRAs and makes a general point about entering into MRAs where required.
Summary With the exception of Type 4 accounting services, where the AR of Malaysia automatically recognize Indian qualifications (thereby doing away with the need for an MRA), and the AR of Singapore accepts foreign qualifications with just basic verification (no need for additional certification or examination), need for MRAs to facilitate trade exists, and its achievement would be a move towards deeper integration. However, there is no example of specific MRA that mandates specific institutions for negotiating such agreements. It follows that there are no deadlines either. The preferential TPRs at best 'encourage and look to' negotiating such agreements without any reference to specific institutions, deadlines, or scope of coverage. Thus, the preferential TPRs do not achieve deep integration in institutional terms as per expectations.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

3.7.2. Existing and Emerging Institutional Challenges to Cross-Border Trade in Services: Restrictions on Cross-border Movement of Digital Data

Besides the above mentioned institutional measures in professional services, there are already some serious emerging challenges to cross-border trade in such services. A big one is that of the relationship between data protection norms and outsourcing work in accounting, legal, architecture and engineering services. Already the outsourcing of accounting is subject to strict and prohibitive data protection agreements required by national governments. A few examples are the EU Data Protection Directive of 1995 and the Gramm–Leach Bliley Act of 1999. As Cervantes (2009) points out, The American Institute of Certified Public Accountants (AICPA) has issued guidance dealing with outsourcing and the relationship between clients and third party service providers. Guidance with regard to these topics has concerned issues ranging from computer processing of client returns to ethics rules on conducting outsourcing business with third party service providers. There is a strong possibility that such private standards become wide-spread and become part of national legislation regulating the cross-border trade in professional services tasks. Some existing examples of regulations that act as an impediment to offshore outsourcing of data impacting the trade in services, especially Type 1 and 2 accounting services and legal services (but might be relevant to Type 2 and 3 architecture and engineering services as well) is summarized below:

<u>Restrictions specific to offshoring</u>

a) Limitation on offshoring allowing only ‘core functions’ to be outsourced (and by definition offshored)

Regulatory ambiguity on what constitutes a ‘core’ function can result in protectionist interpretation and prevent cross-border trade in professional services tasks. Type 3 and Type 2 tasks in accounting, legal, architecture, engineering services are most likely to be impacted as such tasks can easily considered to be ‘core’ functions of accounting, legal, architecture, and engineering firms respectively.

b) General limitations on transfer of data abroad, permissions being given on a case by case basis

General limitations on transfer of digital data requiring case by case approval can potentially lead to arbitrary decision making by regulators leading to protectionism. Lack of specified measures and transparency due to such a case by case approach creates policy uncertainty which is bad for establishing long-term business relationships crucial to developing cross-border production chains of specific tasks in professional services. Such measures can impact the offshoring of all types of tasks, but especially accounting and legal services tasks which are sectors that are more likely to handle sensitive data (financial and personal) and are typically highly regulated

Restrictions Arising From Data Protection and Data Privacy Regulations

a) Requirement of individual client permission for transfer of personal data

The definition of what constitutes personal information can be very broad and subject to interpretation. Obtaining and maintaining a database of written consent for every client for every transaction adds to operating costs, especially given that a single data element might be used for different types of data processing and analysis. Maximum impact of such measures are likely to be felt by Type 3,2 and 1 accounting and legal services tasks as they typically require the data processing and analysis of large number of transactions many of which can be considered to be of personal nature

b) Requirement for duplication of offshored data in onshore storage facilities

This measure adds to transaction costs of offshoring as this requires additional investment in both physical infrastructures of data servers, as well as costs of deploying additional personnel for maintenance and security of such databases. Such a measure can emerge as an impediment to all types of tasks across services

c) Stringent audit measures on data security and data transfer protocols related to offshored services

Such audit measures can amount to interference in the management of offshore outsourcing business processes. If audits requirements are frequent, then the cost of implementing such audits adds to transaction costs. Such a measure can also emerge as an impediment to the offshoring of all types of tasks across services. While not all of the above restrictions are found within the national legislations of the partner countries,

existing regulations in these countries provide examples of such restrictions. Table 20 below provides the details on such regulations.

Table 20. Current Laws and Regulatory Regime related to Cross-Border Movement of Data and Offshoring.

Partner Country	**Impediment and Relevant Law**
Japan	*Type of Restriction:* Requirement of individual client permission for transfer of personal data. *Relevant Law:* The Personal Information Protection Act (PIPA). *Regulatory Requirement:* Under PIPA, corporate entities or natural persons (data handling entities) that have held or otherwise handled personal information relating to more than 5,000 individuals over the preceding six-month period are subject to certain restrictions, including: 1) The purpose and scope of any proposed use of personal information must be disclosed to the individual (client). 2) Personal information cannot be used in a manner that exceeds the scope of the specified purpose without the prior written consent of the client.

Korea	*Type of Restrictions:* Limitation on offshoring allowing only 'core functions' to be outsourced *Relevant Laws*: Regulatory Principles on Back-office function Outsourcing and Regulations on Business Delegation and Financial Institutions. *Regulatory Requirement:* Sharing of information between onshore and offshore affiliates is extremely restricted. While regulations do not allow 'core' business functions to be delegated to offshore affiliates, there is no definition on guideline on what constitutes a 'core' function and this is open to interpretation of the regulators. Such ambiguity could lead to protectionist implementation of such a law. *Type of Restrictions*: Requirement of individual client permission for transfer of personal data. *Relevant Laws*: Real Name Act, Credit Information Act, and Personal Information Protection Act. *Regulatory Requirement:* Requirement of maintaining written consent of individual clients for offshoring data that contains personal information. Definition of what constitutes personal information is very broad and subject to interpretation. Obtaining and maintaining a database of written consent for every client for every transaction adds to operating costs, especially given that a single data element might be used for different types of data processing and analysis.
Malaysia	*Type of Restriction:* General limitations on transfer of data abroad. *Relevant Law:* Malaysian Personal Data Protection Act (MPDPA). *Regulatory Requirement:* The Act prohibits transfer of data abroad unless it is transferred to such countries as specified by the government and recommended by the Personal Data Protection Commissioner. However, grounds on which such recommendations can be made or has to be made does not find a mention in the Act, making the implementation of this act ambiguous, and potentially trade restricting.

3.8. Transparency Measures: Comparative Analysis of Multilateral and Preferential TPR and AR in Partner Countries

Transparency measures are defined in discussion in Chapter 2 section 7.2.2 around the elements needed to develop the index described in table 4. These transparency measures are related the level of clarity with respect to the domestic regulations that govern a

particular sector, and specifically with clarity on any restrictions on hiring. Table 21, 22, and 23 below summarizes the findings of the comparative analysis.

Table 21. Transparency Measures related to Applicable Regulatory Regimes

The analysis of transparency measures in Table 21 relates to query no.3 in Table 4. The essential points of analysis that arises from query no. 3 is whether clarity in terms of which regulatory or licensing regime a particular tasks falls under, or whether there is no requirement for such licensing for this task in question

Japan	In the case of both accounting and legal services, the two most regulated of the four professional services in question, the licensing requirement and regulatory regime governing Type 4 tasks is clearly delineated in the multilateral TPR. However, the challenge is with Type 3 tasks for both these professional services. In the case of accounting, the TPR does not provide additional information on any alternative regulatory or licensing requirements for such tasks. However, the AR clearly indicates that while such services do not require licensing, they are governed by the regulations that pertain to the accounting profession. Type 2 and Type 1 tasks in accounting are generic in nature and fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. There is no clear TPR or AR for Type 3 legal tasks (see earlier discussion on market access measures in section 3.5). Thus, there is also no transparency in terms of regulatory coverage and licensing requirements for such tasks. Like Type 1 and 2 accounting tasks, Type 1 and 2 legal tasks fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. The language of the multilateral TPR clearly specifies the regulatory regime and licensing requirements for all types of tasks in architecture. However, neither the multilateral nor the preferential TPRs offer any indication on the regulatory and licensing regimes applicable to engineering services tasks. The AR for engineering services tasks indicates that there are no licensing requirements, though all such tasks are governed by the need for recognized qualification and the general professional code applicable to engineering profession.

Korea	Like Japan, in the case of both accounting and legal services, the two most regulated of the four professional services in question, the licensing requirement and regulatory regime governing Type 4 tasks is clearly delineated in the TPRs. The preferential TPR adds value, as the multilateral TPR does not make any commitment, and thus does not provide any transparency on legal services. In the case of accounting, the TPR does not provide additional information on any alternative regulatory or licensing requirements for Type 3 tasks. However, the AR clearly indicates that while such services do not require licensing, they are governed by the regulations that pertain to the accounting profession. Type 1and 2 tasks in accounting are generic in nature and fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. There is no clear TPR or AR for Type 3 legal tasks (see earlier discussion on market access measures in section 3.5). Thus, there is also no transparency in terms of regulatory coverage and licensing requirements for such tasks. Like Type 1 accounting tasks, Type 2 and 1 legal tasks fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. Like Japan, the language of the multilateral TPR clearly specifies the regulatory regime and licensing requirements for Type 1 tasks in architecture. Unlike Japan, Korea does not have transparency in terms of regulatory coverage for Type 3 and 2 architecture tasks in either its TPRs or in the AR. Neither the multilateral nor the preferential TPRS offer any indication on the regulatory and licensing regimes applicable to engineering services tasks. The AR for engineering services tasks indicates that there are no licensing requirements, though all such tasks are governed by the need for recognized qualification and the general professional code applicable to engineering profession.

Malaysia	The licensing requirement and regulatory regime governing Type 4 tasks in accounting is clearly delineated in the TPRs. In the case of accounting, the TPR does not provide additional information on any alternative regulatory or licensing requirements for Type 3 tasks. However, the AR clearly indicates that while such services do not require licensing, they are governed by the regulations that pertain to the accounting profession. Type 2 and 1 tasks in accounting are generic in nature and fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. Type 4 tasks in legal services have not clear mention of the licensing and regulatory coverage in the TPR. However, the AR indicates clear requirement for licensing and the regulatory regime for such tasks. Like in the case of all partner countries, there is no clear TPR or AR for Type 3 legal tasks (see earlier discussion on market access measures in section 3.5). Thus, there is also no transparency in terms of regulatory coverage and licensing requirements for such tasks. Like Type 2 and 1 accounting tasks, Type 2 and 1 legal tasks fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. The language of the multilateral TPR clearly specifies the regulatory regime and licensing requirements for Type 4 tasks in architecture. Like Korea, Malaysia does not have transparency in terms of regulatory coverage for Type 3 and 2 architecture tasks in either its TPRs or in the AR. Neither the multilateral nor the preferential TPRS offer any indication on the regulatory and licensing regimes applicable to engineering services tasks. The AR for engineering services tasks indicates that there are no licensing requirements, though all such tasks are governed by the need for recognized qualification and the general professional code applicable to engineering profession.

Singapore	The licensing requirement and regulatory regime governing Type 4 tasks in accounting is clearly delineated in the TPRs. Like in the case for the other three partner countries, the TPR does not provide additional information on any alternative regulatory or licensing requirements for Type 3 accounting tasks. However, the AR clearly indicates that while such services do not require licensing, they are governed by the regulations that pertain to the accounting profession. Type 2 and 1 tasks in accounting are generic in nature and fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. Since Singapore does not make any multilateral or preferential commitments on legal services, there is no mention of the licensing and regulatory coverage with respect to such services in the TPR. However, the AR indicates clear requirement for licensing and the regulatory regime for Type 4 tasks. Like in the case of all partner countries, there is no clear AR for Type 3 legal tasks (see earlier discussion on market access measures). Thus, there is also no transparency in terms of regulatory coverage and licensing requirements for such tasks. Like Type 2 and 1 accounting tasks, Type 2 and 1 legal tasks fall under the classification of management consultancy services. The national treatment commitment in TPR indicates that such tasks are governed by the rules that apply to management consultancy firms and require no specific professional licensing. Unlike the other partner countries, the language of the multilateral TPR does not clearly specify the regulatory regime and licensing requirements for Type 4 tasks in architecture. Like Korea and Malaysia, Singapore does not have transparency in terms of regulatory coverage for Type 3 and 2 architecture tasks in either its TPRs or in the AR. Neither the multilateral nor the preferential TPRS offer any indication on the regulatory and licensing regimes applicable to engineering services tasks. The AR for engineering services tasks indicates that there are no licensing requirements, though all such tasks are governed by the need for recognized qualification and the general professional code applicable to engineering profession.

Summary	All partner countries provide proper indication of the regulatory regime governing Type 4 type tasks in accounting, architecture, and legal services in their TPRs (exceptions being Singapore for legal and architecture and Malaysia for legal services). However, the AR of all countries clearly indicates the regulatory regime Type 2 and 1 accounting and legal tasks. The regulatory regime for Type 3 tasks in accounting and legal services remains unclear even in the AR of the partner countries, and this could prove to be a source of dispute in terms of the governance of such tasks when being delivered from abroad or by foreign professionals. There is no clarity on the regulatory regime covering Type 3 and 2 tasks for architecture, except in Japan. The TPRs do not make any mention of the regulatory regime relevant to engineering services, however the ARs clearly indicate a very liberal regulatory regime in all four partner countries.

Table 22. Transparency Measures related to Hiring Restrictions

The analysis of transparency measures in Table 22 relates to query no.10 in Table 4. The essential point of analysis that arises from query no. 10 is whether restrictions on hiring of local employees by foreign firms are clearly defined in the trade policy regime.
Only Japan and Korea explicitly mention the absence (in the case of Type 4 legal services for Japan) or presence (in the case Type 4 legal services for Korea) of hiring restrictions in their TPRs. There are no explicit mentions of hiring restrictions with reference to other types of tasks in the TPR. None of the other partner countries have any mention of hiring restrictions in their TPRs. The AR of all four partner countries are similar to their TPR in that with the exception of locally licensed legal professionals in Korea, there are no restrictions on hiring. The absence of any hiring restrictions as per their respective AR, in combination with the grant of national treatment (i.e. foreign entities would have same rights as domestic entities) can be interpreted as effectively transparent measure.

Summary The example of both Japan and Korean schedules, where despite national treatment being granted, explicit mention is made of hiring restrictions, points to the fact that inclusion of such greater level of detail in scheduling TPR is desirable. Explicit mention of any restriction on foreign entity imposed by domestic law adds value by 1) providing clarity in terms of the conditions under which foreign firms are required to do business, and 2) in the cases where no restrictions exists, to provide some institutional mechanism to address future restrictions given that partners have additionally committed to having no restrictions earlier

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

Table 23. Transparency Measures related to Prior Consultation Mechanism

The analysis of transparency measures in Table 23 relates to query no.14 in Table 4. The essential point of analysis that arises from query no. 14 a prior consultation mechanism exists in the agreement
None of the four partner countries commit to any prior consultation mechanisms in general, or specific to sectors in the preferential TPR. In terms of the AR, foreign service professionals and firms delivering all types of tasks for all the four professional services can become members of the local professional association and relevant business associations and chambers of commerce with one exception. The exception relates to membership of the bar (Type 4 legal services) in the case of Malaysia. Bar membership, while restrictive in both Korea and Japan in that they have special categories for foreign lawyers, do not prevent foreign legal professionals from membership (though in the case of Korea such membership is under special category for foreign lawyers).
Summary Lack of prior consultation mechanism in the preferential TPR is definitely a matter of concern. While there is a provision of periodic reviews in all the four preferential agreements, such reviews do not provide the institutional depth that a specific prior consultation mechanism does. Specifically, a periodic review does not mandate the partner country to report any relevant regulatory change and seek opinions on them from Indian government, and by extension from Indian stakeholders. Inclusion of prior consultation clause can therefore be a big improvement in the transparency measures of the exiting preferential agreements.

Source: WTO Services Database for Multilateral Measures, Ministry of Commerce and Industry, Government of India for Preferential Measures, See Annex 3 for specific sources on Autonomous Measures for each partner country.

3.9. Conclusions

Delivery of professional services includes the integration of a continuum of different tasks. The value-chain analysis in chapter 2 section 6 based on the attributes of specific tasks in professional services show that accounting, architecture, engineering, and legal professions includes tasks that specifically require domain knowledge related to that profession and technical expertise, and also includes tasks that are more generic in nature requiring very little domain knowledge and technical expertise.

This analysis also shows that such tasks can be also be classified as those types that require deep knowledge of local regulations and compliance related measures, and in some case even required to be licensed by local authorities for competence, and those that have lesser degrees of need for familiarity with regulatory and compliance issues. The tasks requiring greater technical expertise and licensing sit at the apex of the value-chain in professional services, while generic tasks that require little or no technical knowledge of familiarity with regulatory aspects of service delivery and performance sit at the bottom. Thus, there is need for taking a nuanced task specific approach to the impact of trade policy and relevant autonomous regimes (i.e. national laws and regulations) that govern trade and delivery of such services by foreign firms or individual professionals.

In Chapter 3, sections 5 to 7, such a task-specific approach is adopted for a comparative analysis of multilateral, preferential, and autonomous regimes applicable to Indian professional services exporters to the four partner countries. As hypothesized, the preferential agreements do not add significant incremental value over existing multilateral commitments for market access for most tasks in professional services value-chain. There are some exceptions, especially related to cases where multilateral commitments do not exist, that preferential commitments add value by ensuring a commitment to keep partner country markets open. There also some examples of the preferential regime bringing greater level of clarity on the applicable trade commitment for a specific task within a professional service by distinguishing between the trade policy regime applicable to licensed and non-licensed tasks with respect to that professional service.

However, as hypothesized the level of market access afforded by the preferential regime still falls short of the existing autonomous trade regime in place in the partner countries. The inability of the preferential agreements to lock-in the existing level of market openness through a trade commitment is illuminating, and clearly shows that there is further room for intervention for trade negotiators to aspire to higher levels of ambition. The discussion in Chapter 3 section 6 clearly shows that one of the most important aspects related to trade in professional services, (i.e. movement of people) continues to have significant barriers despite the preferential agreements having achieved relatively greater levels of commitment for liberal regimes applicable to such movement.

The procedural barriers faced by professionals applying for temporary work visa and permits have not been addressed by such trade agreements. The preferential agreements do not create a special category of visas for Indian professionals, benefitting from being citizens of a preferential partner. Neither do they make specific commitments towards reducing the transaction costs of movement. Indian professionals have the same documentation, due-process, application process, and fee structure related to obtaining work visas and permits as professionals from any other country.

In Chapter 3, sections 7 and 8, analyzes aspects related to deep integration in preferential agreements with respect to institutional and transparency measures. The comparative analysis of such institutional and transparency related aspects show that contrary to general expectations, but as per the hypothesis developed in chapters 2 and 3, preferential agreements do not add incremental value in these areas. None of the four agreements make any tangible progress towards inclusion of specific instruments that would facilitate easier licensing for professionals or initiate specific and time-bound MRAs leading to equivalence and recognition of Indian professions.

They also make no progress in including language in the agreements that would specify the educational or skill related qualifications and regimes that would grant partner country professionals' recognition and equivalence in tasks that are not licensed (i.e. Type 3, 2, and 1 tasks). Having a transparent regime defining the elements that would grant recognition to the skills and educational degrees across different types of tasks would ensure greater transparency and prevent future protectionism through the use of

regulatory instruments on qualification and equivalency norms for such Type 3, 2, and 1 tasks that currently require no licensing and do not have any qualification or recognition requirements.

This is especially important given that the autonomous regimes in place in the partner countries with reference to intuitional measures, especially for Type 3, 2 and 1 tasks that do not require licensing are very liberal allowing a wide acceptance of international qualifications, and are quite transparent. Locking in the current level of liberal requirements and transparency would have definitely added value to these agreements. However, this would require the inclusion of greater levels of detail in terms of the actual tasks that are traded under the existing broader classification related to these professional services. This is also another area of intervention that could lead to greater depth in such agreements.

Finally, there are newly emerging regulatory measures related to cross-border transfer of digital data, data privacy, and data security that have serious implications for the growth and development of cross-border trade in professional services. Institutional measures to tackle such regulations that might prevent cross-border trade need to be considered and made an intrinsic part of preferential regimes. Unlike some other trade agreements like the US-Korea FTA that actually engages with these issues and develop trade policy measures related to them, India's preferential agreements have not addressed these issues. This is another area where Indian negotiators will have to show greater levels of engagement in future rounds of policy discussions with preferential partners.

Chapter 4: Technical Barriers to Trade in Preferential Trade Agreements

4.1 Introduction

Non-Tariff Measures (NTMs) in general, and Technical Barriers to Trade (TBTs) specifically, add considerably to cross-border trade costs. In their studies identifying different components of cross-border trade costs, Anderson and Wincoop (2004) point out that tariff barriers are now low in most countries and on average less than 5 percent for rich countries, and with a few exceptions are on average between 10 percent and 20 percent for developing countries. On the other hand the estimate of policy barriers that includes non-tariff barriers like TBTs for industrialized countries is about 8 percent on average. The authors show that such cross-border trade costs remain high even for relatively well integrated economies like the US and Canada accounting for up to 70% of the total value of goods that crosses borders.

Given this high incidence of trade costs that are un-related to tariff related costs of cross-border supply of goods, NTMs which include TBTs have been an important concern of trade policy for some time. Commenting on pervasiveness of NTMs, Winters (1987) wrote that "Just as all the world is against sin, so all the world is against non-tariff barriers to international trade, similarly, just as the world has yet to discover a way of eliminating sin, it has a long way to go on removing NTBs" (pg. 465). The policy environment has not changed in the two and half decades since that comment was made.

As Carrere and De Melo (2011) point out, with the reduction of tariff barriers, NTMs and behind the border instruments have increased in importance. Binding commitments on tariffs due to multilateral and preferential negotiations have reduced the flexibility governments had in terms of being able to use tariff measures to protection domestic industry. Thus, TBT measures have emerged as an important tool for trade policy. Referring specifically to product standards and their impact on trade, Maur and Shepherd (2011) point to the increasing importance being paid to product standards emerging as barriers to trade in the context of both multilateral and preferential trade regimes.

Graz (2004) argues that the trade discussion has moved from tariff to non-tariff issues and the challenges facing multilateral negotiations in the World Trade Organization stem from an important shift in the trade agenda from tariff reduction to the harmonization of domestic regulations considered as NTMs. From this perspective, the lack of harmonization of domestic regulations severely restricts the capacity of the WTO to fulfill its objective of global trade liberalization. This inability in part explains the declining interest in multilateral negotiations and an increasing number of plurilateral, regional, and bilateral approaches that are considered to be more efficient in handling contentious issues related to regulatory harmonization.

One of the key challenges in the pursuit of institutional solutions to NTMs through trade agreements is that there is still no precise definition of what constitutes a NTM or for that matter a TBT. There is considerable debate even in the trade literature in defining what exactly constitutes an NTM. Lloyd (1974) defined NTBs has a set of government policies

that directly or indirectly restrain imports. This is too wide a description and would cover large number policies that might be legitimate policy measures to safeguard domestic consumers or producers. This remains a central challenge in the discussion of NTBs and is especially relevant for TBTs that are designed with the stated goal of safeguarding the health and safety of consumers.

As Santana and Jackson (2012) point out, WTO agreements do not define the term 'non-tariff barrier'. One cannot simply define all regulatory measures that impact cross-border trade as 'barriers' as some of the regulatory objectives of such measures might be perfectly legitimate. A more detailed discussion of the literature on the legitimacy of technical standards and their impact follows later. However, it is important to note that there is no precise definition available in the literature as to what transforms non-tariff regulatory measure into an NTB. As Santana and Jackson (2012) emphasize that by simply interpreting barriers as measures that restrict access or put the imported product at a disadvantage could lead to the impression that the term 'NTB' is always a synonym of 'non-tariff restriction'.

One could consider the government's intent behind a particular non-tariff regulatory measure as an indicator of whether such a measure qualifies as a NTB or not by identifying whether or not such a measure was introduced to protect local markets and have strong support of certain domestic pressure groups. However, Lang (2011) has observed that categorizing the intent behind government regulations are a difficult exercise and the motivation behind such actions are often not evident. As will be

discussed later in greater detail, analyzing the legitimacy of measures linked to issues like technical standards with the objective of protection of human health or environment is further complicated by the fact that what constitutes appropriate levels of protection are often open to interpretation and subjective to value-judgments of individual countries, groups or institutions.

Another way of interpreting NTBs and more specifically TBTs is provided by Swinnen and Vandermoortele (2012). The authors argue that a standard can be interpreted as a prohibition to use a cheaper technology or mode of production. The authors use the example of a prohibition on the use of child labor (a cheaper mode than relative to the use of formally organized adult labor), or a technology that has not yet been used but that could potentially lower costs (e.g. genetic modification technology). Most studies in the literature, for example Leland (1979), Valetti (2000), and Meyer et al. (2010) assume that standards raise domestic production costs. The production costs of foreign producers exporting to the standard imposing country are also assumed to rise if the standard is also imposed and enforced on imported goods. As will be discussed later, there is a strong support in the literature for the fact that the cost imposed on foreign suppliers to meet such standards is often relatively higher than for domestic suppliers, thereby resulting in effective discrimination against foreign suppliers.

Wilson (2009) argues that TBTs are can be the result of deviation from international standards based on accepted principles of science, or they can the outcome of design and implementation that ensures discrimination against foreign suppliers, or they can be the

result of procedures that force foreign suppliers to duplicate product testing and certification. A more general definition of NTBs was developed by Deardorff and Stern (1998) including for TBTs. According to Deardorff and Stern, TBTs can be said to include six types of measures

- Health and sanitary regulations
- Quality standards
- Safety and industrial standards
- Packaging and labeling regulations
- Advertising and media regulations

The key to understanding how NTBs, and more specifically TBTs impact trade, is what Deardorff and Stern (1998) define as resource costs. These resource costs are related to the cost of meeting compliance with such TBTs. The cost of compliance include direct costs related to investing in testing, certification, and monitoring mechanisms required to meet such TBTs. It also includes indirect costs of monitoring, understanding, and preparing for such standards. Maur and Shepherd (2011) point out that, even when national product standards are legitimate, the multiplicity of standards in itself represents an additional cost for exporters, and thus any initiative for greater harmonization can potentially lead to such costs decreasing.

Carrere and De Melo (2011) identify three ways in which NTBs can affect various stakeholders in the economic system. The first effect is that of regulatory protection that provides rents to domestic producers. The second effect is the supply-shift which reflects

the increased costs (incurred by complying with the standard) for mostly foreign but sometimes even domestic suppliers. The third is the demand-shift effect which takes into account that the regulation may enhance demand with new information or by reducing an externality.

There is significant debate about the actual impact of TBTs, and not all authors agree that TBTs only have negative impact on trade. As will be discussed in section 4.2, there is also considerable discussion on the political economy of NTBs and TBTs in particular, including how such political economic objectives impact trade policy around TBTs and the extent of trade distortion or facilitation that result from such political economic decisions. Another crucial aspect of the discussion on TBTs revolves around the specific impact of such TBTs on different sectors or on particular types of supply-chains. Sections 4.3 to 4.4 that follow take up the discussion on these aspects of TBTs and their impact on trade policy.

4.2 Technical Standards as Societal Preference and Impact on Trade

Many authors have argued that the objectives of free trade across borders and the need for transparent regulation cannot be divorced from the larger societal aims of keeping consumers healthy and safe and ensuring that minimum externality is caused to the environment. Calvin and Krisoff (1998) and Picciotto (2003), whose ideas are discussed in greater detail in this section, are good examples of such a nuanced argument. Other socio-economic objectives such as ensuring basic labor standards and non-violation of human and even animal rights and safety can also be considered to be important goals for

the larger society and therefore legitimate reasons behind regulation of trade. This concern about ensuring that the large aims of society are not compromised by increasing trade liberalization also encompasses the basic idea of sovereignty. Nation-states and by definition the citizens of specific nation-states have the sovereign right to regulate their societies and by extension their societal objectives independent of any external intervention. In an increasingly globally integrated economy, the need for cooperation across borders requires societies to negotiate and compromise on their larger social objectives which can arguably reduce overall social welfare.

Whether a technical standard emerges purely as a barrier without any welfare gains to larger society is contextual. As Calvin and Krisoff (1998) explain, while a technical barrier can function solely as a means to provide economic rents to domestic producers, as does a tariff, unlike a tariff, a technical barrier may increase national social welfare if it rectifies a failure of the market to incorporate important product externalities in the product price. These authors argue that this particular attribute of technical barriers can be important to consumers and producers. For example, if a country is free of a damaging pest, imports from a country with that pest may be regulated on the grounds that the market price does not reflect the potential costs to society of reduced yields or export opportunities, increased production expenses, or eradication programs.

However, if the sole intent of a technical barrier is to protect domestic producers from import competition, relaxing the technical barrier would improve consumer welfare, reduce producer welfare, and yield a net gain in social welfare. Calvin and Krisoff (1998)

argue that, if a technical barrier protects an industry from the costs associated with the introduction of an environmental hazard, relaxing the technical barrier would further reduce producer welfare. If the environmental hazard has a serious impact on yield or production costs in the new environment, the additional reduction in producer welfare could be so significant as to eliminate any consumer welfare gains and justify the technical barrier on economic as well as scientific grounds. Alternatively, if producer losses are relatively small, removing the technical barrier could still increase net welfare, and the TBT would not be justified on an economic basis.

However, economic justification is not the only criteria for societies to impose standards. Larger social objectives are also triggers for societies, in their role as consumers, to impose certain requirements of the products which they would choose to consume. This makes standards and the choices around them more a matter of societal preference rather than pure economic justification, though economic justification may play a major role in influencing those societal choices.

Picciotto (2003) stresses on the fact that the debate on NTBs, and specifically TBTs, reflect the essential tension between liberalization of markets, while recognizing the need for re-regulation of the economy based on growing concerns around consumer safety, environmental protection, sustainability, adequate safeguards of labor, and adequate production information being made available to consumers. The free trade perspective rests on the idea that optimal economic welfare would result from exchange under conditions of equality of competition. This understanding of free trade is enshrined in all

trade agreements (multilaterally in the WTO, and in preferential agreements) in the form of the principles of non-discrimination or equal treatment to goods and services of the partner countries. As defined by Horn and Mavroidis (2009), non-discrimination obligation undertaken by WTO member countries commits them to avoid discrimination among products based solely on the basis of their origin. This obligation flows from two specific clauses in the WTO agreement. The first is the Most Favored Nation (MFN) clause (enshrined in Article 1 of the General Agreement of Trade and Tariff or GATT). This requires member countries to give equal treatment to all imported products irrespective of their country of origin as long as they can be considered ‘alike. The second is the National Treatment (NT) clause (enshrined in Article III of the GATT) that requires member countries to treat imported foreign products no less favorable (i.e. not to discriminate between) than domestic products.

But Picciotto (2003) also argues that this principle of equal treatment cannot be separated from substantive areas of regulation in the economy that are often based on value-judgments. Since equal treatment requires evaluation of whether two products can be considered ‘alike’, this process itself is dependent on the perceptions regarding the efficacy of product standards and other rules under which such products are produced in different countries. It also depends on different social and political-standards that are applied in different countries. For example, the extent of labeling underlying the need for providing adequate product information to consumers) in one country can differ from another country based on social and political value-judgments in the two respective

countries with respect to what is considered to be adequate level of information needed by consumers.

Barrett and Young (2001) argue that the wide variety in standards can be explained by three different motivations. The first is being consumer heterogeneity that gives social value to variety. The second is stochastic technology quality that creates disincentives for stakeholders from accepting only one specific standard of uncertain quality. The third factor lies in asymmetric firm behavior based upon varied information sets that cause one firm to be confident it will win a contest of competing standards. More importantly, the authors show that different standards can exist even without value judgments by firms or consumers. They contend that international standards incompatibility will generally be a rational choice for firms and governments simply because product differences already exist.

Barret and Young (2001) argue that the incidence of redesign costs or the importance of network effects (that requires supplier firms to accept the standard accepted by a majority of buyers) creates market conditions that significantly reduce the incentive to create a global standard if the established technology in the dominant market (for the firm) happens to be different from the standard being proposed. This leads to strong competition between products and will generally reduce trade flows. This ensures that incumbent firms using a different technology have an incentive to deviate from an international standard. It also creates disincentives for a government concerned for the

welfare of its citizens to enforce the international standard and such a government may even consider deviation from the international standard through use of TBTs.

Sturm (2006) focuses on the fact that NTBs, and TBTs in particular, can often stem from genuine uncertainty about safety and scientific evidence can often throw very little light on this. The author argues that there is usually some genuine uncertainty about the nature of threat presented by various negative externalities that technical standards set out to protect consumers against and the environmental or safety benefits of the disputed regulation. Scientific consensus can rarely offer near certainty about the likely damage a product could cause, in particular in the early phase after initial allegations of harm. This in itself creates a great deal of difficulty for policy-makers to make clear and well informed choices. Since the general public will on average be even less informed compared to policy-makers and experts on such issues, societal choices on such matters also tend to be subject to problems caused by asymmetric information.

The tension between the emergence of technical standards as a response to market failure versus such standards creating barriers to trade characterize much of their economic analysis. Sheldon (2012) explores this tension between international trade and standards based on resolution of a negative externality. The author argues that imposition of higher standards meant to address negative externality can potentially lead to investment into technologies that are compliant with the higher standards and result in increasing the overall welfare gains from trade. Building on Sheldon (2012), one can argue that, in the presence of clearly defined externalities that are non-negotiable, transparent compliance

requirements to deal with such externalities, and ease of technology transfer in terms of both access to such technology and costs of acquisition would definitely lead to effective harmonization of standards. In other words, if the regulations are clearly defined and the transaction costs of compliance are low, the likelihood of a larger number of players participating in such a market increases. Thus, the tension between standards as a response to market failure and standards as barriers are a result of high transaction costs arising out of lack of transparency and access to solutions (technological or institutional) that allow compliance.

The importance of low transactions costs of compliance in ensuring that standards meet their regulatory objective without creating barriers to economic participation is highlighted by Boom (1995). The author develops a duopoly model with vertical product differentiation, where each firm is localized in one country. Each firm can produce a single quality, for which reason the quality standard imposed by any one country alters the decisions of both firms. It is assumed that quality increases the utility of consumption. The author shows that if a country raises its minimum quality standards then consumers benefit by an increase in quality and a reduction in prices, provided both firms continue supplying both markets. Thus the economically efficient outcome from the imposition of standards require that all participants (i.e. firms) are able to keep supplying to the market and are not restricted in doing so by standards acting as TBTs. The entire range of policy options available to policy-makers to achieve larger societal goals through the imposition of standards and their outcome on economic efficiency is also a matter of choice.

Graz (2004) argues that integrated global markets need to take into account the social value attributed to the effect of trade and incorporate a critical investigation of trade regulation and its impact upon society as a whole. It is this need for finding the balance between market rules and state intervention in trade regulation that is a matter of ongoing social and political debates, ultimately affecting the very legitimacy of states. Such an understanding of transnational economic exchange provides a way to conceptualize the political economy of global trade that allows an understanding of the tension created by the three primary objectives of the international system since 1945, i.e. the differentiation between the political and economic spheres, the functional articulation between domestic and global realms, and the embeddedness of the economy within the broader concerns of society.

4.3 Political Economy of Standards and the Evolution of TBTs

The evolution of product standards do not happen in a vacuum independent of the political-economic forces of decision making within different countries. Specific interest groups such as consumers, entrepreneurs, and technocrats have stakes in this process. Consumers typically focus on ensuring safety and quality of products, while entrepreneurs might be motivated both by business interest and by protectionism. Business interest might lead entrepreneurs to push for better quality through a process of compulsory adoption of better standards, thereby ensuring that the entire industry has to adhere to such standards, and there is no deviation due opportunistic behavior. Entrepreneurs can also act out of protectionist motives seeking to impose standards that

impede imports. Technocrats can be motivated by several political economic motivations. The following portion of this section explores some of the key aspects of the political economy of standards.

4.3.1. Interest Group Behavior and TBTs

The literature on trade distorting effects of NTBs including TBTs have provided a rich discussion on why governments might try to use such measures in a protectionist manner. Grossman and Helpman (1994) provide a model through which domestic interest groups bid for protection through NTBs. The structure of protection depends on the elasticity of import demand and the ratio of imports to domestic output. While the first factor captures the extent to which trade barriers distort welfare, the second factor indicates the political importance of the domestic economy. Lee and Swagel (2000) use a cross-country analysis to examine the determinants of trade barriers find that industries that are politically important receive protection in the form of NTBs and that such barriers were more significant as trade barriers than tariffs for manufactures.

Mansfield and Busch (1995) find that deteriorating macroeconomic conditions that give rise to demands for protection by pressure groups lead to more NTBs, especially when countries are sufficiently large to give policymakers incentives to impose protection, and when domestic institutions enhance the ability of public officials to act on these incentives. Statistical results based on a sample of advanced industrial countries during the 1980s support the argument that the incidence of nontariff barriers tends to be greatest when the preferences of pressure groups and policymakers converge. Similar conclusions

are reached by Limao and Tovar (2009). Analyzing trade policy outcomes in Turkey, the authors find that tighter tariff constraints in trade agreements increase the likelihood and restrictiveness of NTBs, and that special interest groups have an important role to play in such policy outcomes. Kim and Reinert (2007) find that Argentina aggressively used safeguard measures for textiles which were in part motivated by the devaluation of the Brazilian currency and the related balance of payments and political problems in Argentina in the same period.

Drope (2007) point out that emerging economies with large domestic industrial sectors are increasingly resorting to the use of NTBs. The domestic industrial sectors in these countries are a result of strong government support over the years, and have close relationship with the state. Thus, in an environment where flexibility in tariff protection is decreasing due to international commitments, NTBs offer an attractive option to these countries. While Drope focused on the use of anti-dumping and safeguard measures, similar arguments would be true for technical barriers to trade as well.

Using 1970 trade data, Ray (1981) finds evidence that NTB have supplemented tariff protection in the US, and that like tariff protection NTBs are also biased towards industries in which the US has an apparent comparative disadvantage. An important insight from the author's findings is that, while tariff protection is biased towards industries that are typically low-skilled and are not capital intensive, and have no relationship with the levels of product heterogeneity and industry concentration, NTB protection is typically biased towards industries that are capital and skill intensive and

produce a fairly homogenous product. Ray (1981) also finds a strong negative relationship between NTB protection and levels of industry concentration.

4.3.2. Political Economy Impacts of the Technical Nature of TBTs and Resultant Information Asymmetry

Winters (1987) points out that lack of transparency and high levels of discretion make NTBs far more uncertain a barrier for exporters to overcome relative to tariff barriers. Such levels of uncertainty make NTBs a bigger impediment to international specialization. While Calvin and Kristoff (1998) have argued that technical standards can be justified in some cases, in their analysis of Japan's trade policies they conclude that, on average, such standards in Japan are even more important than tariffs in deterring trade.

The technical nature of TBTs lends itself to greater manipulation by vested interests since such private or government interested parties are much more likely to be conversant with the exact nature of technical requirements and the impact of related regulation. Park (2011) argues that, unlike explicit tariff barriers, TBTs and their impact on trade are not easy to observe by foreign countries. This makes the impact of TBTs even more challenging in the trade policy scenario. Two countries involved in a dispute on TBTs can have different opinions about the protective effects of a certain policy (due to imperfect information) and each country does not know what is the other country's true opinion (countries may disguise their opinions intentionally due to private information).

The technical nature of TBTs as opposed to tariffs also makes them subject to different decision making processes. Finger et al. (1982) differentiate between what they describe as the high and low tracks of administrative mechanism for trade. Low track of trade is the technical track characterized by decisions according to criteria established by technical rules and are perceived to be above political decision making being subject to technocratic processes. High track on the other hand are perceived to be political decisions (tariff reduction or decision to impose anti-dumping). These authors point out that a technical track is cheaper to operate than a political process. Discretion is vested on a technocratic bureaucracy and not politicians, reducing the political costs of protectionism. Since protection involves large transfers of income from consumers to producers, this is seen as a very attractive feature of the low (i.e. technical track) administrative mechanism of trade. Legal or technical criteria spare politicians the trouble of having to explain why certain interest group preferences were prioritized over others. By providing solid technical or legal reasons for the decision they allow the government to point out that no other decision was possible. However, it needs to be pointed out that in the international system that is defined by technocratic rules even low track administrative mechanism of trade can lead to disputes.

Cable (1996) identifies standards as an area of conflict as standards are as much about perceptions of governments and public of one country about the general quality management and regulatory regimes of a trade partner as they are about the actual scientific basis and assessments. Thus, ‘cultural’ (i.e. perception) based opinions about standards are as important to the trade agenda and such perception based opinions are

subject to manipulation by vested interests and therefore the relative political economic clout of various such vested interests within a country or society.

Swinnen and Vandermoortele (2012) assert that an interest group's higher effectiveness leads to a higher standard if and only if this interest group gains from a higher standard, and vice versa. These authors contend that an exogenous change in consumers' preferences for standards affects the politically optimal standard. Higher consumer preferences lead to higher contributions in favor of public standards and thus a higher standard, and vice versa. A higher implementation cost for domestic producers leads to lower standards as producers contribute less. A higher implementation cost for foreign producers may increase or decrease the politically optimal standard, depending on other factors. The resulting larger price effect results in lower consumer benefits and contributions.

However the arguments by Swinnen and Vandermoortele (2012) pre-suppose that consumers are ex ante uncertain about the product's characteristic which is a standard assumption in the trade literature. The related assumption is that standards reduce asymmetric information between consumers and producers, and create a higher willingness to pay for and consumption of that product. However, the critical underlying assumption is that consumer behavior is linked to the existence and information about national standards. However, this is true only in the case where national standards have been established in a manner that consumers are aware of and care about such standards. It is also important to recognize that the acceptance and awareness of standards are

subjective in that they depend on how such awareness is spread and what consumers choose to believe are necessary standards. Thus, the very process of standard setting and spreading awareness of standard becomes subject to political economic objectives.

Fisher and Serra (2000) argue that, when seeking to impose standards, domestic firms would lobby for the lowest standard that would exclude the foreign firm. This is because the concept of national treatment would require domestic firms also to meet with any technical standard, and this would involve fixed costs for the domestic firm. The level of minimum standard will also depend on the relative importance of the domestic market to the foreign exporter. If the domestic market is a large share in the basket of exports for the foreign producers, they will be willing to invest in the fixed costs required to meet the standards imposed by the country. Thus, in such a case governments would impose increasingly complicated standards that require very significant investment to meet with compliance of such standards. However, similar costs would have to be then borne by domestic firms, and in such situations they might actually prefer no standards being imposed at all.

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4.4 Impact of Technical Standards and Relative Abilities of Compliance

The ability of different firms or particular countries to comply with technical standards differs across geographies and across scale. This means that a particular standard

imposed by an importing country might pose little or no difficulty for a large exporting firm or a firm based in a country with strong regulatory institutions, but the same standard might prevent a smaller firm or firms from countries with weaker institutional mechanisms from exporting given the high costs of compliance. This difference in abilities to meet standards in a competitive manner means that whether or not a technical standard effectively acts as a TBT depends on scale, geography, and institutions of the exporting firm.

Developing countries are especially at risk from the rising of incidence of TBTs, specifically technical regulations. Essaji (2008) contends that the trade impeding effects of technical regulations are especially worrisome for developing countries as they frequently lack the human and capital resources necessary to satisfy technical measures, and thus are more likely to be excluded from markets by technical measures. The author's analysis suggests that technical regulations substantially impinge on poor countries' exports and their weaker capacities to satisfy technical regulations lead them to specialize away from industries with heavier regulatory burdens.

Levchenko (2007) explores the link between institutional capacity and competitiveness defined as relative ability to export by meeting regulatory challenges of cross border trade. The author proposes a simple model of international trade in which institutional differences are modeled within the framework of incomplete contracts and shows that doing so reverses many of the conclusions obtained by equating institutions with productivity. Levchenko's (2007) argument that institutional differences are a source of

comparative advantage imply, among other things, that the less developed country may not gain from trade and factor prices may actually diverge as a result of trade.

The author makes the assumption that developed industrialized country institutions are better. Thus, in the context of the author's model, only developed countries will produce the institutionally dependent good under trade. This implies that more stringent or technically complex standards would lead to firms exporting out of developed countries dominating the global market. It would also imply that, even if developing countries enjoyed a comparative advantage based on factor endowments, their relatively weaker institutions would prevent them from competing with developed country firms in both third country markets as well as in the home market of such developed country firms. Levchenko (2007) work strengthens the argument that standards, even if scientifically conceived, will put a higher burden on developing country firms. However, as will be discussed in section 4.5, such institutional disadvantage can be partially offset by bilateral cooperation in areas such as allowing and accepting test results and bilateral agreements on conformity assessment.

Kim and Reinert (2009) explore the hypothesis that developing countries cope better with stringent developed country standards in food and agricultural products when they have a stronger institutional capacity. They measure four aspects of institutional capacity, i.e. information, conformity, enforcement, and international standard-setting. The authors develop a gravity model of trade in food and agricultural products, more specifically cereals and cereal products, and preserved or prepared nuts including groundnuts. Their

econometric results show that informational capacity and conformity capacity have strong and significant effects on developing country exports, but the effects of enforcement and international standard-setting are less clear. Therefore the author's find some evidence to support their hypothesis that developing countries are better able to deal with stringent standards in food and agricultural products when they have a stronger institutional capacity.

Institutional capacity in terms of having strong national standards can also prove to be an important facilitator of export capacity and determine whether standards imposed by importing country become effective barriers or not. Moenius (2006) argues that the very existence of national standards for a particular product might develop capacity in dealing with technical standards imposed on that same product elsewhere in other markets. The author stresses the fact that these national standards do not need to be harmonized with the international standards or even the specific technical standard imposed by the target import market. While national standards that are not harmonized may impose adaptation costs on would-be exporters, the very existence of these standards provides the exporter with valuable information to make such adaptations. In the absence of these national standards this information could be costly to gather. Moenius (2006) concludes that standards reduce transaction costs even if they impose adaptation costs, and the positive effect of the former seems to outweigh the latter.

However, Sturm (2006) contends that, even though the product regulation is usually applied in a non-discriminatory way to both domestic firms (i.e. firms based in the

importing country) and foreign firms exporting to the domestic market, the immediate cost impact of the regulation is usually non-uniform, with higher costs falling on foreign firms exporting to the domestic market. A new product standard imposed in the domestic market (importing country) also tends to change the relative cost structures of foreign firms exporting to the domestic market and domestic firms in favor of domestic firms, which is the very basis of the trade barrier argument. Thus, while the existence of national standards in their home markets provide some institutional advantage to would-be exporters in terms of having better capacity to adapt to different standards applicable to the same product, in relative terms they might still be at a disadvantage vis-à-vis their competitors based in the importing country.

Institutional capacity is also a major factor in the design on trade policies and export promotion to the extent they have to deal with TBTs. Santana and Jackson (2012) make the point that there is no multilateral instrument that would allow a global overview of all perceived 'barriers' affecting world trade nor the manner in which they evolve over time. This situation creates uncertainty on what are the emerging problems or trends that may need to be tackled by the multilateral trading system. This is not necessarily a problem for those countries, typically the more advanced economies, with sufficient analytical capacity to identify problems of interest to their constituencies, but it may pose a serious constraint to those countries that are unable to do so, in particular the least-developed countries. Such countries would not be able to engage multilaterally or bilaterally in negotiations that require institutional capacity to deal with barriers that are complicated and technical in nature given their lack of information and technical capacity.

Anderson and Wincoop (2004) make an important point that regulatory related barriers, especially technical barriers also vary significantly across goods. While they are concentrated in particular sectors, in many sectors they are close to zero. Such differences can lead to sectoral distortions in trade, with exporters focusing their entrepreneurship efforts only on those sectors which have less technical compliance requirements. This differential impact on different types of product and institutional differences in capacity to deal with technical standards among countries and firms combine to have a significant effect on the way in which production networks involving the cross-border exchange of several parts and components develop.

Swinnen and Vandermoortele (2012) contend that standards imposed at one stage in the supply chain often impact on various other stages and therefore several supply chain participants may be affected, directly or indirectly. Some agents may be affected simultaneously as consumers, producers, or even taxpayers. Consequently, a multitude of economic agents, both domestic and foreign, may have opposing or coinciding interests with respect to standards and will therefore have an incentive to try to influence government decisions on standards.

Developing on this idea posited by Swinnen and Vandermoortele (2012), one can argue that there is a greater need for common harmonized standards in a fragmented production chain across countries with different regulatory regimes. Since such production networks are usually managed by Multi-National Corporations (MNCs), the standards that are imposed on such production networks typically reflect the preferences of MNC actors

who are in turn influenced by the technical requirements in their largest consumer markets. As Baldwin (2000) points out, if the standard-imposing country is a large economy that imports a significant share of that product's world market, its standard may have an impact on the world price and affect other countries' terms of trade. This in turn creates a political-economic incentive for MNCs to intervene in the standard-setting process of the most important consumer markets, and depending on how the market is structured might lead to conflict among important MNCs actors in an oligopolistic market as each actor(s) try to protect segments of the global market with the use of technical barriers.

4.5. Technical Barriers to Trade and Preferential Agreements

As has been discussed earlier, there is growing concern over the use of domestic product regulations as technical barriers to trade on the one hand and the need to keep the sovereign right of nation states to use regulation as the best see fit to protect the legitimate interests of their citizens. The WTO, reflecting the preferences of its member countries, has sought to balance these two concerns through the inclusion of principles that act as a guide to countries rather than trying to compromise the domestic regulatory autonomy on the other. As McDonald (2005) points out The Technical Barriers to Trade Agreement (TBTA) within the WTO framework is intended to balance competing interests. The author draws attention to the fact that the TBTA is focused on acknowledging but not on intervening in the members' regulatory control over traded goods. Thus, the effectiveness of the TBTA is limited by the exclusion of many modern

domestic regulations from the scope of the TBTA. The multilateral nature of the TBTA also prevents it from developing more detailed or specific disciplines on technical standards which can only be addressed at the regional or bilateral level.

Thus, regional and preferential agreements emerge as important forums where greater resolution of the challenge posed by proliferation of domestic technical standards can be addressed. As has been pointed out in the introduction to this dissertation in chapter 1, trade negotiations that successfully deal with behind the border (BTB) regulatory barriers have been seen as a key indicator of the commitment to trade liberalization and integration between two partner countries. As Carrere and De Melo (2011) points out, the terminology BTB measure was first used to distinguish between 'deep' and 'shallow' integration in regional and preferential agreements. Deep integration is said to occur when integration extends beyond the removal of protection (i.e. integrating factor markets) and includes combining regulatory institutions, harmonizing standards and cooperating intensively on trade facilitation.

As Chen and Mattoo (2008) point out, PTAs offer two different types of mechanisms on TBTs. These two mechanisms are harmonization and mutual recognition. Harmonization refers to parties to the agreement agreeing to adopt one common standard to replace their initially different standards. Mutual recognition refers to parties to the agreement agreeing to recognize each other’s standards or technical regulations. This can happen either through the parties accepting the equivalence of outcomes in each other’s product standards, and/or an outright recognition of the certification issued by the other party. A

third mechanism for cooperation on technical standards is related to transparency measures that require partner countries to notify each other when new technical requirements are promulgated or old ones are modified.

Chen and Mattoo (2008) argue that the resulting integration of markets due to harmonization implies that all firms selling to countries who are party to a preferential trade agreement can enjoy improved economies of scale. However, the harmonized standard could be more stringent than some of the initial standards and thereby increase in the cost of compliance for all. In the case where the harmonized standard represents a more stringent requirement imposed by one of the contracting parties, it increases cost of compliance for firms in the other parties to the agreement, not just in terms of their export interests, but also in terms of their production for the domestic market. In the case of mutual recognition, the fall in compliance costs is essentially trade creating for firms in countries participating in such preferential agreements.

In their empirical analysis of the EUs bilateral efforts at harmonization and mutual recognition with non-EU partner countries, Chen and Mattoo (2008) find that such agreements increase the trade between participating countries but not necessarily with the rest of the world. Harmonization of standards may reduce the exports of excluded countries, especially in markets that have raised the stringency of standards. Mutual recognition agreements are more uniformly trade promoting unless they contain restrictive rules of origin.

However, despite the positive impact on trade through cooperation on TBTs, very few agreements have actually pursued meaningful engagement on this topic. In their comprehensive analysis of TBT measures in preferential agreements Baccini et al. (2011) find that only 60% of agreements include TBT and 67% include SPS measures. Lesser (2007) is another source of detailed analysis of TBT related provisions in regional and preferential agreements. The author's analysis shows that a large majority of reviewed regional and preferential agreements do not include provisions that are more stringent than the multilateral TBTA. However several agreements do include WTO plus (i.e. provisions that go beyond the multilateral regime) characteristics.

More specifically, some agreements include provisions related to the acceptance of technical regulations as equivalent and the mutual recognition of conformity assessment procedures and bodies. Such provisions include a requirement for partner countries to give an explanation for non-equivalence or non-recognition to the other partner. Lesser (2007) points out that some developed country partner have gone a step beyond and have concluded mutual recognition arrangements for conformity assessment results for specific sectors, such as telecom, electrical, electronic and medical equipment. The sub-sections that follow provide assessments of how widespread are the different mechanisms of bilateral cooperation on technical standards across preferential and regional agreements that have been reviewed in the literature.

4.5.1. TBT Provisions in PTAs: Existence of a Section on TBTs and Reference to Some Form of Cooperation

The most basic approach in negotiating TBTs in regional and preferential agreements is to acknowledge their existence and establish some means of dialogue and information exchange, while committing to the partner countries to adherence to best practices in the formulation and implementation of technical standards on products. Just the existence of an independent section on TBTs and references to developing a framework on cooperation does not amount to a WTO plus commitment on TBTs that can be defined as achieving deep integration. In a comprehensive study of 70 regional and preferential agreements, Budetta and Piermartini (2009) find that a large majority (i.e. 58 of them) contain some reference to TBTs and product standards.

In discussing WTO plus commitments on TBTs, Maur and Shepherd (2011) point out that there are different models of seeking mutual recognition. The preferential agreements involving the US have followed a model that favors recognition of conformity assessment conducted by designated parties in partner countries as equivalent. Such agreements also require that the refusal to grant such recognition has to be justified by the partner country. The preferential agreements involving the EU have tended to follow an approach that favors MRAs on conformity. This means that specific bilateral MRAs on different types of standards are negotiated over time by partners. A disadvantage of this approach is that, despite agreements calling for the expedited conclusion of such MRAs, actual progress is often slow or non-existent. However, mere reference is no indicator of the actual provisions and therefore the depth of such agreements with reference to TBTs. Budetta and Piermartini (2009) find that only 29 agreements include provisions for harmonization of standards, and only 15 have provisions on mutual recognition.

As pointed out earlier, prior notification is an important transparency measure that requires parties to an agreement to notify partners about any new standards or of modifications to existing standards and conformity procedures. In some instances, such prior notification clauses can also incorporate disciplines that require giving adequate opportunity to other parties to comment on the new rules and modification. In terms of achieving greater transparency of standards, Budetta and Piermartini (2009) find that only 21 agreements impose a requirement of prior notification on the parties.

The other important achievement of preferential agreements with reference to standards is related to developing institutional mechanisms on TBTs in the form of specialized committees or working groups that can work towards greater institutional integration. Such committees and working groups can have a mandate for bilateral consultation, joint development of new standards, monitoring, and implementation. The mandate can also include dispute resolution. Budetta and Piermartini (2009) find that 36 agreements of the 70 preferential agreements investigated have provisions related to TBT working groups or parties, while only 29 have dispute settlement mechanisms. The mere existence of institutional mechanisms are not a proof of intentions on greater institutional integration, the actual mandates would have to be looked at in depth. Table 24 below provides an overview of Budetta and Piermartini (2009) comparison of measures related to TBTs.

Table 24. Comparison of TBT related Measures in PTAs

Total Number of Agreements Analyzed	***70***
Measure	**Number of Agreements Measure is Present**
Some Reference to TBTs	58
Provision for TBT Working Groups	36
Dispute Settlement	29
Prior Notification	21
Provision for MRAs	15
Harmonization of Standards	29

Source: Budetta and Piermartini (2009)

Lesser (2007) points out that the majority of reviewed preferential and regional agreements call for the establishment of a joint institutional mechanism (i.e. a committee of body) to monitor the implementation of the TBT provisions, suggest policy for future improvements, and ensure expeditious exchange of information between partner countries. The author makes the observation that there is a wide variation in the nature of such bilateral arrangements. Some of the bilateral working groups or bodies established through such mechanisms tend to be sector-specific. The author uses the example of the Chile-Canada agreement for such sector specific bilateral working groups on technical standards. Most agreements establish what can only be described as contact points that have been identified in each partner country. Lesser (2007) also points out that a majority of reviewed agreements contain provisions for the resolution of TBT-related disputes. However, most of these dispute resolution mechanisms call for consultations in case of disagreement, which in itself does not add very much to the existing provisions available

in the multilateral TBTA. Only a few agreements include a commitment to take recourse to regional technical sub-groups or ad-hoc working groups that can provide non-binding recommendations. Another interesting feature that comes out of Lesser's (2007) analysis is that 40% of all reviewed agreements include provisions for technical assistance, where more developed partners commit to support less developed partner countries in TBT related capacity building measures.

4.5.2. TBT Provisions in PTAs: Harmonization of Standards and Conformity Assessment

Another important approach to addressing issues related to TBTs within the framework of PTAs is the harmonization of technical regulations, standards and conformity assessment procedures among partner countries. A related approach to harmonization is the acceptance of technical regulations of other partners as equivalent when these differ in terms of technical specifications. This approach is less common. Lesser's (2007) assessment shows that almost half of all reviewed PTAs call for or encourage a harmonization of technical regulations, standards and conformity assessment procedures. However, most of these do not provide a detailed roadmap or set deadlines within which such harmonization can take place. Lesser (2007) points out that a vast majority of such PTAs promote the use of international standards and guides for setting technical regulations, conformity assessment procedures and standards. However, encouraging or calling for greater harmonization is also a part of the TBTA agenda, and as such does not represent a substantial improvement over multilateral disciplines, i.e. it does not represent

a WTO plus or deeper agreement. But Lesser (2007) does point to some concrete examples where actual harmonization has taken place through PTAs. Specifically, agreements involving the EU have seen some success in the achievement of harmonization through the PTAs, examples being the EU-Mediterranean Partnership (EUROMED) and EU-Chile FTA.

Very few PTAs require or even encourage members to consider the technical regulations and standards of other partners as equivalent. Lesser (2007) points out that in approximately 40% of those PTAs where partners are required to consider each other's technical regulations as equivalent partners are also required to give an explanation when not applying the principle of equivalence to the technical regulations of the partner country. This requirement is a good example of a 'deep' agreement that has WTO+ provisions with respect to PTAs going beyond multilateral disciplines as represented by the TBTA. A good example of an agreement with such provisions is the Central America-Dominican Republic-US Free Trade Agreement (CAFTA-DR).

4.5.3. TBT Provisions in PTAs: Mutual Recognition Agreements (MRAs)

As pointed out by Lessor (2007), MRAs are one of the most preferred mechanisms used in PTAs in dealing with issues related to TBTs. The reason for this is that MRAs of conformity assessment results are often considered to be less costly than harmonization of regulations, standards and conformity assessment procedures. Baller (2007) identifies three different types of such MRAs that are used in PTAs. The first type of MRAs can be defined as full harmonization of conformity assessment resulting in partner countries

establishing common procedures and criteria for assessment of specific products thereby ensuring that the methodology of conformity assessment in partner countries are identical or very similar. A good example of such a mechanism can be found in the way EU member states harmonized their conformity assessment systems over time. The second type of MRAs can defined as equivalence of compliance, i.e. acceptance of conformity assessment results issued by recognized authorities in the partner country. A good example of such a mechanism is found in the Trans-Tasmanian Agreement between Australia and New Zealand. The third type of MRAs can defined as full recognition of conformity assessment which implies that the exporting partner country would test and certify products according to the standards and requirements of the importing partner country, and such certification would be accepted in the importing partner country.

Lesser (2007) finds that while almost 70% of PTAs reviewed in his analysis encourage partner countries to recognize the results of their conformity assessment procedures, only about a 25% of review PTAs go beyond merely encouraging partners, i.e. beyond the principles already enshrined in the multilateral TBTA. In the cases where such MRA disciplines in PTAs actually go beyond existing multilateral disciplines it does so in two ways. The more common mechanism is by specifying that in cases where a partner country does not accept the results of a conformity assessment procedure conducted in the territory of the other partner it shall explain the reasons for this non-acceptance. The second less common mechanism is to require partner countries to mutually recognize conformity assessment bodies in each other's territories and grant them national treatment, i.e. grant them recognition on terms no less favorable than those it accords to

conformity assessment bodies in its territory. In some rare cases, it also requires partner countries to provide an explanation if they refuse to accredit, approve, license or recognize a conformity assessment body in the other partner country. Good examples of such mechanisms can be found in the US-Chile FTA.

4.5.4. TBT Provisions in PTAs: Transparency Requirements

Lessor (2007) and Maur and Shepherd (2011) both point to the widespread use of transparency measures in PTAs as a means to dealing with TBT related issues. Lesser (2007) finds that a majority of PTAs have enshrined some form of transparency measure on TBTs. These provisions typically urge partner countries to notify each other about new technical regulations and conformity assessment procedures or modification to existing regulations and procedures when these differ from international standards or are likely to affect trade. However, only a very few PTAs have WTO plus provisions on transparency measures that require partner countries to give other partners a time period for comments longer than 60 days prior to the adoption or modification of a technical regulation or conformity assessment procedure.

4.5.5. Impact of TBT Related Measures in RTAs

There is some evidence that measures in PTAs related to MRAs and harmonization with reference to TBTs that go beyond the mere guidelines that are enshrined in the multilateral framework as represented by the TBTA are trade facilitating. Vancauteren

and Weiserbs (2005) studied the impact of harmonization of standards and conformity assessment on intra-EU trade. They find that that harmonization of EU regulations has played a strongly positive and statistically significant role in explaining growth of intra-EU trade in manufacturing. Baller (2007) and Chen and Mattoo (2008) also find evidence of positive impact of MRAs on partner country trade.

However, despite the evidence of gains, most countries have been reluctant to enter into deep agreements with reference to TBTs. Part of the reason lies in the high transaction costs of negotiating complete agreements and the flexibility offered to governments by entering into trade agreements that are essentially incomplete contracts. Both these points have been discussed in detailed in Chapter 1 of this dissertation. A good example of this is offered by the trade negotiating policy of Japan. As Naiki (2010) points out, the PTAs entered into by Japan usually do not contain TBT provisions. Even in those cases where basic TBT provisions are included, there is a degree of consistency across the contents. Of the eleven Japanese PTAs analyzed by Naiki (2010) eight contain some TBT provisions while only three require mutual recognition of conformity assessment procedures.

Part of the reason lies in the fact that the most important stakeholder groups in need of such trade facilitating TBT provisions, (i.e. MNCs that manage integrated cross-border production networks) are often the least interested As pointed out by Naiki (2010), governmental mutual recognition arrangements have not attracted much interest among private business parties, especially MNCs. This is because many MNCs have been using

their own privately developed standards and conformity assessment procedures based on certification from non-governmental private certification and assessment bodies and have sought to implement local solutions based on such private third party verification and certification in the countries they operate.

Also, given the fact that such MNCs manage very large volumes of trade across borders and that the variable cost of compliance tends to be low for most technical standards, this results in very low marginal costs of compliance for MNCs and thus it becomes low-priority item in MNC agendas. But the challenge remains that fixed onetime costs (e.g. paying for a visit by partner country officials to factory premises or expensive third party verification) remain very high in many cases, and such high fixed costs prevent smaller firms and entrepreneurs that do not have the deep pockets of MNC companies from even attempting to enter these markets.

4.6. Quantification of TBTs

The literature offers three different approaches to the quantitative analysis of NTBs including TBTs. These approaches are a) frequency and coverage type measures, b) impact analysis measures, and c) the price-comparison measures. Frequency measures refer to measuring the number of notified or otherwise observable NTBs for a given trade regime (bilateral, regional, multilateral) that apply to a country's (or countries') exports. Coverage measures the magnitude of trade it can potentially impact. In other words, it measures the level of imports (or exports) that is impacted by such measures given its incidence on specific tariff-lines or products. Nogues et al. (1986), Bacchetta and Bora

(2002), and Fontagne et al. (2005) are good examples of such approaches. The big disadvantage of such methods is that the notification of a measure related to product standards do not necessarily translate into a barrier, or even represent a significant challenge to market access for businesses on the ground, and tabulating them as such might not give a very accurate picture of incidence on TBTs in the real world. Impact analysis measures refer to use of gravity models into that include NTBs as a factor, and compare actual trade flow and predicted trade flows in the absence of NTBs to derive a measure of how restrictive to trade such NTBs can be. Leamer (1990), Otsuki et al. (2001), and Moenius (2006) are good examples of impact analysis of NTBs using gravity models.

The main challenge with using frequency and coverage type measures or impact analysis is that it required active identification of technical standards and by extension interpretation of these standards or measures as effective barriers to trade. Besides the aforementioned fact that all technical standards do not always translate into barriers, data on such technical standards are very difficult to tabulate and never comprehensive in terms of sectors or countries. As Carrrere and De Melo (2011) point out, there are two main sources of information of aggregate NTBs including TBTs. One is the TRAINS (Trade Analysis and Information System)-WITS (World Integrated Trade Solution) data base which allows the computation of frequency and coverage ratios subject to the caveats that there is significant amount of missing information[35]. There are no data

[35] The TRAINS-WITS database is maintained by the World Bank and provides detailed information on trade flows, imports, tariffs, and NTMs by country (http://wits.worldbank.org/wits/).

available for many countries, and for countries for which data is available, only a few sectors report NTB or TBT measures. Carrere and De Melo (2011) indicate that much of the missing information is difficult to interpret. For example, does lack of a entry at the HS-6 (Harmonized System of Tariff, at the six digit level) tariff line level, while having an entry for HS-4 level tariff line for the same product mean no TBT exists, or does it represent missing data? The other database is the set of World Bank Overall Trade Restrictiveness Indices (OTRI) that also covers a large number of countries[36].

Both these databases use the comprehensive UNCTAD database as an important source of the base data related to NTMs. The NTM related measures in the UNCTAD database were collected around 2000, and viewed as deficient by the authors. The fact that both databases reflect data collected around 2000 and updates are yet to be made available for most countries also means that these databases are dated. In the context of TBTs which reflect an ever-changing range of policies and notifications by governments, such dated data can result in significant misinterpretation of current scenarios.

The third type of analytical methodology related to quantification of NTBs including TBTs are price-comparison measures that try to model the impact of NTBs by comparing domestic prices of imported goods with a reference set of international prices. Prices higher than reference set indicates the presence of NTBs once other factors that explain such differences have been taken into account. Typically, the differences are interpreted

[36] The OTRI database that can be accessed at (http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:22574446~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html).

as ad-valorem equivalent of tariffs. Bradford (2003) and Yue et al. (2006) are good examples of the use of price comparison measures. A big disadvantage of such methods for the purposes of this dissertation is that they cannot capture information on the impact of specific measures, and do not take into account differences in price due to quality differences or long-term preferences arising out of stable contractual relationships.

There are alternative methodologies available in the literature that, while not directly quantifying NTBs or TBTs, analyze the impact of these measures, or of technical standards in general through other proxy indicators that measure institutional capacity to meet NTBs and TBTs. Grajek (2004) use of diffusion of ISO standards among countries as a proxy for ability of these economies to meet with TBTs in their export destinations is a good example of such methodologies. Grajek (2004) estimates a gravity equation for bilateral trade using data on 101 countries over the period 1995-2001. In the regressions using data on all countries, the author finds that the diffusion of ISO 9000 in country A promotes exports from A but reduces imports into A. But in the regressions using data on just the OECD countries, he finds that the diffusion of ISO 9000 in country A promotes both exports from A and imports into A. Grajek (2004) argues that asymmetry between the overall coefficients and the OCED coefficients can be explained by a substitution effect. He argues that ISO 9000 certified firms are more likely to trade with each other more than with other firms, and for that reason the positive impact of ISO 9000 on trade is more pronounced among the OECD countries (which make heavy use of ISO 9000)[37].

[37] A similar approach in terms of using ISO 9000 diffusion as a proxy for capacity to meet technical standards and engage with TBTs is used by Kim and Reinert (2009). The authors use the proportion of

Another popular methodology in the literature is to use industry based surveys. The big advantage of this approach is that it allows a better understanding of which specific TBTs are actually impacting business. In other words, it allows identification in the context of a specific group of business interests (e.g. exporters from India) which technical standard requirements in export partner countries are actually acting as barriers to export (therefore can be categorized as TBTs) and which are not. As Carrere and De Melo (2011) point out the advantage of such survey based analysis is that it tries to measure the real world impact of NTBs and TBTs. However, like all surveys the possibility of capturing such real world impact of NTBs and TBTs is dependent on the quality of response from participants, and is typically biased towards more organized industry sectors that are better at reporting trade barriers in an organized and consistent manner.

In terms of developing a methodology for the analysis of TBTs, Bacchetta and Bora (2002) methodology of capturing the incidence of NTBs by sectors, in combination with techniques of tabulating measures identified in preferential agreements as represented by the work done Budetta and Piermartini (2009) and Baccini et al. (2011), both of which were referred to earlier are most relevant to the analytical framework of this dissertation. This dissertation combines the methodologies of capturing incidence on technical standards by sectors and using feedback from actual regulation of such technical standards at borders from business sources. The methodology section that follows elaborates.

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establishments in each country that have ISO 9000 certification as a measure conformity capacity and use the numbers of SPS and TBT enquiry points along with the existence of a National Plant and Protection Organization as a proxy for the enforcement capacity of a country.

4.7. Research Question and Methodology

4.7.1. Research Question

Chapters 4 and 5 of this dissertation add value by providing a three tiered approach to the analysis of TBT measures in India's trade agreements. First, they explore the relative and absolute levels of depth of TBT related measures in India's preferential agreements with Japan, Malaysia, Korea, and Singapore. Relative depth refers to the comparison with multilateral agreements, and the yardstick available in the Japan-Singapore agreements. Absolute depth refers to the achievement of facilitation in terms of the actual systems in place with reference to the TBT barriers being faced by Indian exporters to these four countries. Of these agreements, only India's agreement with Singapore has been analyzed in the literature to a certain extent, but not at the level of depth in this dissertation. Chapters 4 and 5 of this dissertation also add value by using an economics of contracts approach (discussed in section 4.7.2. discussing design of trade agreements) to evaluate the strength of the institutional arrangements of TBT measures.

Finally, these two chapters explores the exact nature of TBT measures being faced by Indian exports in context of these four countries, not just in terms of notifications, but also in term of the actual measures required on the ground for their compliance, and the degree of difficulty in overcoming them. This analysis captures the actual autonomous trade regime applicable to Indian exports to these four countries, and presents that in context of institutional design of agreements.

The first of the two research questions being investigated in chapters 4 and 5 explores what is the level of depth achieved in India's Preferential Agreements with Japan, Malaysia, Singapore, and Korea in terms of TBT provisions if these trade agreements are analyzed as a contract. In other words, how strong would the provisions on TBT appear in terms completeness of contract. The second research question, and one which is most relevant to the design of agreements and for policy-makers explores what are the key TBTs facing Indian exports by sector, and what is the incidence of TBT measures in the four partner countries under consideration and what mechanisms if any are available in these agreements to address such TBT measures. Essentially the second research question is related the actual ground level impacts of TBT measures for Indian exporters vis-à-vis TBT measures in the four partner countries. These research objectives do not represent a statistical proof of hypothesis, but a quantitative analysis of incidence of TBTs, and a qualitative assessment of institutional measures with respect to TBTs in these PTAs.

4.7.2. Methodology

Tabulation of Measures from agreements

Chapter 5 of this dissertation proposes to use a methodology similar to Budetta and Piermartini (2009) to tabulate the various measures defined in the India's four comprehensive preferential trade agreements with reference to TBTs, and compare them in the context of other trade agreements entered into by the partner countries to assess relative and absolute depth of these agreements. Specifically, the chapter will tabulate the presence of TBT measures, harmonization, MRA measures, dispute settlement,

establishment of joint working groups and their specific mandate, and references to the use of common regional or multilateral standards. It will also tabulate references to specific time-tables or sectoral MRAs or harmonization efforts mentioned in the agreements.

Using a Economics of Contracts approach to evaluate strength of agreements

As pointed out by Coase (1984), transaction cost economics (TCE) has provided much of the literature analyzing the contractual and organizational variety in institutions that enable exchange and production. However, as pointed out by Yarbrough and Yarbrough (1987) not much effort has been put in trying to explain the variety in international trade agreements using the TCE approach. One difficulty has been that a large number of international trade agreements cannot be technically defined as contracts, but take the form of pledges. In terms of TCE, the difference between a pledge and a contract is critical. Pledges are agreements that are not legally binding on the parties, but are a declaration of some agreed principles. Contracts on the other hand are legally binding commitments agreed upon by the parties i.e. these commitments provide for the criterion of governance of the agreement. According to Raustiala (2005) such criterion provides for the legal existence of the agreement in the form of contract. Williamson (1985) establishes the conditions that an agreement requires to fulfill in order to qualify as a contract. According to the author, the agreement must have three critical features to qualify as a contract. These are substance, enforceability due to the existence of credible

mechanisms for the redress of grievances, and conditions to induce reliance among the contracting parties.

An agreement is defined as substantive in international law when that agreement commits the parties to a deviation from the existing status quo. Raustiala (2005) argues that substantiveness of an agreement is influenced by domestic institutions (bureaucracies, laws etc) and domestic balance of power (lobbies and interest groups) operating within the contracting parties. As Williamson (1985) argues, the only reason why two parties enter into a contract is because they perceive incremental gains for themselves in the process. If an agreement is not a departure from the status-quo (i.e. the existing institutions of governance already available) then by logical reasoning, it holds no incremental gains for either party. Therefore a pledge that simply upholds the status quo (in the case of TBTs, simply asserts the principles already existing in the multilateral TBTA), does not qualify as a contract.

The contract must be enforceable, i.e. there must be a credible institutional process that guarantees redress in case of violation of the principles of the contract. The damage measures provided in the contract must be high enough to prevent or at least discourage breach by either party. The 'damage measure' that governs state-sponsored opportunism is related to the idea that nation-states operate with bounded rationality and are therefore cognizant of longer-term gains from contracting. This is perhaps is the weakest feature of international agreements per se, and one that is frequently used by critics of such agreements. This dissertation acknowledges this weakness, but contends that the

relatively successful operation of several bilateral agreements are proof that such 'bounded rationality' exists amongst states in an international system. The enforceability of a contract between states arises from the existence of a credible accountability feature that requires either party to provide a full and transparent reasoning for any departure from the agreement that needs to be justified according to the principles governing the bilateral contract.

In order to qualify as a contract, the agreement must provide for incentives for reliance. In other words, the agreement must provide a strong basis for contracting parties to make investments anticipating gains arising out of successful contractual implementation of the agreement. Since such investments are crucial to the practical implementation of the principles of the contract, they are critical to the viability of the agreement itself. In the case of TBT related agreements such reliance takes the form of the investments that partner countries make in changing their standards seeking greater harmonization, development of new institutions to govern standards, and physical investments in testing and institutional capabilities to make operational conformity assessment procedures that meets the requirements of the other contracting party (i.e. the other partner country). Having created a database of specific measures in each of these agreements, this dissertation proposes to use the TCE approach for assessing contracts outlined to analyze these agreements using the scoring mechanism described below.

- If the agreement is a pledge it gets 1 point, if it is an actual commitment it gets 2.

- If the agreement (either a pledge of best intentions or actual commitment) is substantive, (i.e. it is a departure from the status-quo) it gets 1 point.
- If the international agreement is a commitment whose enforcement mechanism institutionalizes appropriate grievance redress mechanism to contracting partners, it gets another 1 point.
- If the international trade agreement is a commitment that provides incentives for reliance, it gets another 1 point.

Based on the above framework, TBT measures will be assigned scores ranging from 0 to 5, with 5 representing a stronger agreement.

Assessing coverage and vulnerability of TBTs on Indian exports

Having analyzed the depth TBT measures and their institutional foundations, chapter 5 will use methodologies similar to Bacchetta and Bora (2002) to explore the frequency of TBT measures on Indian exports by sector based on TBT measures to notified to the WTO, those identified in a comprehensive database of TBTs identified by US and EU authorities as barriers to their respective exports as collated by Martinez et al. (2009), and available in India's TBT database maintained by Ministry of Commerce, Government of

India. It will also explore the TBT measures notified by the four partner countries by sector, and explore their incidence on Indian exports. Essentially, the following two equations will be implemented:

Equation 1

value of 1 in the case where the number of notifications from partner countries is in excess or equal to 3 for product *i*, and 0 if not. *IEg* is total exports to the partner countries. While the equations 1 and 2 provide TBT coverage ratio in terms of overall exports, it also important to explore the extent of TBT impact on specific sectors. Equation 3 below will be used to measure sectoral TBT coverage ratios.

<u>Equations 3</u>

quality and health issues. While this is not an open source database, it can be used by referencing it as a source with permission from DHL[38].

The DHL database is representative of the autonomous regime that is in place in these countries with reference to TBTs, and measures that actual burden of compliance for Indian exporters to these countries. This analysis helps identify the actual on the ground challenges for exporters, and related policies. The table below captures the nature of information that DHL database provides.

Table 22: Actual Regulatory Burden of Technical Standards

TBT measure in partner country	Documentation required	Is home country certification accepted?	Cost of certification/ documentation	Whether a source of significant delays

[38] DHL Express (DHLE) and DHL Freight Forwarding (DGF) Customs and Regulatory (C&R) teams in respective countries maintain their own private database of clearance procedures related to the various 'at-the-border' compliance requirements related to customs and all other agencies. The DHL database constructed by the author would represent a compilation of the standards related procedures available with the DHL C&R teams in Malaysia, Japan, and Korea. Permission has been given to the author, who is currently an employee of DHL Group for the use of this information for academic research.

Specific measure and sectors impacted.	Nature of documentation - Self-declaration - Lab test (reference is to international standards or other)	If no, independent assessment by recognized private sector third-party accepted	Average cost of compliance	In days required to comply with measure

4.8. Conclusion

The discussion in this chapter brings forward three important features related to the discussion on NTMs and TBTs. First, the distinction between what constitutes a barrier and what represents a legitimate regulatory objective is often unclear, and interpretation is often based upon perceptions rather than facts. Second, PTAs have not played the kind of proactive role in helping reduce or negotiate with such barriers that was expected. This is especially true of PTAs serving as platforms for facilitation in terms of actual simplification of the procedural burdens imposed on exporters by such technical requirements. Third, institutional quality of countries and firms (i.e. capacity of small and medium sized firms vis-à-vis large MNCs) vary significantly, and such procedures and technical requirements can put disproportionate burden on developing countries (including large developing countries like India) and small and medium sized firms in terms of meeting compliance for such technical and other standards.

An investigation of the TBT related clauses in India's comprehensive trade agreements would allow a better understanding of the levels of depth achieved by Indian negotiators in terms of reducing the burden of meeting such technical and other requirements in the four PTA partner countries. The analysis in chapter 5 will provide insight into the actual level of TBTs being faced by Indian exports, and their specific sectoral impacts, thus enabling an assessment of how important such barriers are currently to Indian exporters. By further providing a detailed analysis of the actual compliance costs and complexities involved in addressing such measures as the relate to the four partner countries, chapter 5 will be able to comment on the multilateral, preferential, and the actual 'applied' level of barriers arising out such measures related to health and product standards. Taken together, this comparative analysis would help policy-makers better understand the gap between what has been achieved in India's preferential agreements, what is potentially achievable in such agreements in terms of depth, and whether or not that would be relevant to Indian exporting community's actual requirements with reference to TBTs. Chapter 5 that follows provides the analysis based on the methodology discussed in this chapter, and the results of such analysis and their policy implications.

Chapter 5: Analyzing TBTs in India's PTAs

5.1. Introduction

Having laid out the theoretical basis for TBTs and their impact on trade agreements in Chapter 4, this chapter focuses on tabulating TBTs specific to three partner countries (i.e. Japan, Korea, and Malaysia). The reason for exclusion of Singapore is that it has very few technical barriers, and most Indian exports destined for that country are meant for re-export to other South-East and East Asian countries, and most of Singapore's domestic standards do not apply to such re-export trade.

The process of identifying TBTs for the three partner countries relied on three sources. These were the TBT Information Management System (TBT-IMS) of the WTO[39], the list of specific sectoral concerns for Indian exporters by country tabulated by the Ministry of Commerce and Industry, Government of India[40], and the database accompanying the United States International Trade Commission (USITC) report by Martinez et al. (2009). Needless to say that there was replication of some of the TBT measures identified in these three databases. Thus, the procedure followed was to use the TBT-IMS database which tabulates all TBT notifications in the WTO on which concerns have been raised in the TBT committee of the WTO by member countries as the main source of data. The

[39]Can be accessed at http://tbtims.wto.org/web/pages/search/stc/Search.aspx.
[40] Can be accessed at http://commerce.nic.in/trade/NTB_productwise.pdf.

Ministry of Commerce database, which is based on tabulation of measures reported to the Ministry of Commerce by Indian exporters, and the Martinez et al. (2009) database that draws from EU and US based country-wise concerns on trade barriers[41], were used to identify any additional TBT concerns for each of these three countries that were missed in the TBT-IMS database.

Using this procedure, 37 number of TBT measures were identified. The TBT-IMS database was the source of 26 of these measures, while the Ministry of Commerce database provided information on 6 additional measures that had not been covered in TBT-IMS, and Martinez et al. (2009) was the source of 5 additional measures. Of these 11 TBT concerns were related to Japan, 24 were related to Korea, and only 2 were related to Malaysia. The identified TBTs were tabulated according to HS code classification at the six-digit level based on the information made available in three databases. Since all the three databases identify TBT based on HS codes, this amounted to a direct replication of the information already available. Annex 6 provides the details of each measure by country and the relevant HS codes they apply to.

The relatively larger number of TBT notifications for Japan and especially Korea does not necessarily point to either Korea or Japan being effectively more protectionist than Malaysia. TBT-IMS database depends on the activity of members flagging TBT related concerns arising out of technical measures undertaken by any particular member country. This creates an automatic bias for countries to become more proactive in flagging

[41] It is a compilation based on the United States Trade Representative (USTR) country-wise trade barriers reports, and European Union's country-wise EU Market Access Barriers reports.

concerns for those countries that are relatively larger markets for their exports rather than reporting on measures for countries that represent less significant markets for their exports. As was pointed out in chapter 4, this reporting bias makes the use of any TBT related database subject to the same bias. The Ministry of Commerce database and the Martinez et al. (2009) database being essentially based on exporter feedback to respective Ministries in their home countries (India in the case of Ministry of Commerce study, US and EU in the case of the Martinez et al. study), this bias is further reinforced. The use of the DHL database[42] on actual border measures is expected to put some check on this bias to the extent of coverage border measures and the actual difficulty in exporting into partner country markets. However, since not all TBTs identified can necessarily be defined as barriers at the border, this would be a limited check.

It is also important to recognize that just because a particular technical requirement or measure adopted by a country has been flagged as a concern by WTO members, or has been reported as a barrier by exporters to that country does not mean that it is a TBT. As was argued in chapter 4, whether or not a technical standard, measure, or requirement qualifies as a TBT is based on a relative assessment and the relative context of those who have to comply with that standard or requirement. For example a particular conformity assessment requirement might be an effective barrier to exporters from country A

[42] DHL Express (DHLE) and DHL Freight Forwarding (DGF) Customs and Regulatory (C&R) teams in respective countries maintain their own private database of clearance procedures related to the various 'at-the-border' compliance requirements related to customs and all other agencies. The DHL database constructed by the author would represent a compilation of the standards related procedures available with the DHL C&R teams in Malaysia, Japan, and Korea. Permission has been given to the author, who is currently an employee of DHL Group for the use of this information for academic research.

because country lacks labs with the level of sophistication required to undertake such conformity assessment tests. But the same requirement does not present any barrier to exporters to country B given their stronger institutional capacity to undertake such tests. To carry this example further, in a large country, exporters in certain regions might have access to more sophisticated labs, while exporters from other region might lack the same facility. In such a case, the requirement presents a barrier only to exporters in the region without the labs. There are also sectoral variations in terms of reported TBTs. Certain sectors like automobiles and pharmaceuticals tend to be highly regulated and thus have a large number of standards and related conformity assessment requirements attached to them. Not surprisingly, these sectors also report a larger number of TBT concerns and notifications flagged for them. Thus, a sectoral break-down of identified TBTs, followed by actual compliance burden and costs imposed by such requirements is essential to develop and understanding of on the ground implications of such TBT notifications and the policy targets related to them. Section 5.4 provides for such a detailed analysis on all the 37 measures identified.

Section 5.2 that follows provides an analysis of India's agreements with the three partner countries based on TCE the underlying theory and methodology for which was discussed in chapter 4 section **7.** Section 5.3 provides the TBT coverage ratios and related analysis of export vulnerability of Indian exports to technical barriers in the three partner countries. Section 5.5 concludes and provides policy recommendations. However, before proceeding to section 5.2, it is important to briefly define the types of TBT measures and their broad implications. Table 25 below provides such a discussion.

Table 25. Types of TBT Measures and Actual Implications for Trade

Type of Measure	Examples	Implications
At the border	Labeling and documentation requirements. Quarantine requirements. Replication of tests.	Can lead to additional costs for documentation and labeling. Can also lead to delays at the port and airport, and higher costs of clearance due to replication of tests and fees to regulators.

Conformity assessment and certification requirements	Replication of tests. Need for factory inspection by partner country regulator. Need to send samples out of country for testing. Need to get certification from third party private testing and certification agencies.	Significant increase in costs of compliance. The cost of getting partner country regulator for factory visit can be very high, as are costs of some tests and certifications. The relative institutional and scientific infrastructure in exporting country can play a major role in determining how big the impact of such costs would be. A country with better regulatory institutions and labs would be able to keep such costs lower by providing exporters with required facilities. Importing countries can also deliberately use such measures as a barrier by not accepting other similar certifications or

Standards that are stricter than international norms	Need for additional tests. Since tests follow norms unique to partner country, exporters unlikely to find a lab that tests and certifies according to these norms in their home country. Often, it is mandatory for testing to be conducted in partner country labs for such tests.	Stricter norms usually translate into more expensive tests. Lack of labs in exporting country would increase the costs of such testing and certification even further. Importing country can also deliberately use such requirements as a barrier, especially if long-standing international norms that are less strict have demonstrated ability to deal with any concerns on standards or quality.

Behind the border measures	Typically related to regulations to demonstrate safety or environmental protection. Involves testing on importing country subjects or under importing country defined conditions (e.g. testing on human subjects who are natives of the importing country for the effects of drug formulation)	Can lead to long delays and significantly increased costs even before exporters can launch their products into the partner country market. Typically, the level of transparency, testing infrastructure, and institutional quality of the importing country plays a role in the extent of costs and delays. Importing country can also deliberately use such requirements as a barrier.

5.2. Assessment of Quality of TBT Provisions in India Agreement Using TCE Framework

The TCE framework for assessing agreements on the basis of their quality as a contract was laid in chapter 4. In this section the existence of the principles of assessing a contract, i.e. evaluating the existence of substantiveness, enforceability due to the existence of credible mechanisms for the redress of grievances, and conditions to induce reliance among the contracting parties in the TBT sections of agreement is put into practice. TBT sections of India's PTAs with the three partner countries are assessed relatively with an agreement that is recognized to have strong TBT obligations, i.e. the Japan-Singapore Economic Partnership Agreement (JSEPA). The JSEPA serves as a good yardstick of a preferential agreement that incorporates substantive WTO-plus commitments. This agreement puts in strong transparency related obligations on partner countries by requiring them to publish all applicable laws, regulations and procedures related to conformity assessment required to meet the technical parameters identified in their respective domestic regulations on technical standards for several identified sectors[43]. By requiring countries to allow participation of their PTA partner country stakeholders in the process of verification and monitoring of conformity assessment bodies in their territory (i.e. allowing partner countries to right to participate in the regulatory oversight of organizations that oversee the implementation of conformity assessment related to standards in their territories through tests, certifications and other

[43] Article 47 of the Japan-Singapore Agreement available at (http://www.mofa.go.jp/region/asia-paci/singapore/jsepa.html).

measures)[44], it ensures further transparency as stakeholders on one partner country can now observe in detail the regulatory and technical infrastructure governing conformity assessment in the other.

The JSEPA also incorporates WTO-plus obligations on the process of conformity assessment and mutual acceptance by partner countries of results and certification provided by conformity assessment bodies of the other. Article 53 provides partner countries the right to designate an organization in their territory as the official conformity assessment institution (i.e. registered conformity assessment body) responsible for conformity assessment with respect to the laws of the other. For example, Japan can designate an organization in Japan that responsible for conducting conformity assessments related to automobile standards required by Korea and issue certificates for the same. Using the same example, Article 53 requires Korea to either accept this Japanese organization identified by the Japanese government as adequately equipped to handle conformity assessment as required by Korean standards, or reject this designation with a detailed explanation as to the reason for doing so. Article 53 also requires that Korea provide a rejection or approval decision in a time bound manner (i.e. within 90 days of the Japanese proposal for designation).

Article 46 of JSEPA requires each partner country to accept the results of conformity assessment (as required by their respective domestic laws related to standards), including certifications and mark of conformity that are conducted by the designated conformity

[44] Article 49 Clause 3 of Japan-Singapore Agreement available at (http://www.mofa.go.jp/region/asia-paci/singapore/jsepa.html).

assessment bodies of the other partner country. This is a strong obligation on mutual acceptance of results provided by each other's conformity assessment institutions, and goes a long way in facilitating the process of compliance related to standards for bilateral exports and reducing the costs of such compliance.

Using the TCE approach related to assessing contracts, the JSEPA will get a total of five points. It would get 1 point for having disciplines that clearly WTO-plus (i.e. substantiveness). It would receive 2 more points for the fact that the obligations undertaken by partner countries in the TBT chapter of the agreement are more than just a pledge of good intentions largely reflecting the principles already underlined in the TBTA. Thus, the reflect obligations that can be enforced (enforceability). Since the JSEPA obliges both countries to provide justification for the rejection of conformity assessment or the designation of a conformity assessment body of the other partner in a comprehensive and time bound manner, this agreement can said to create a mechanism for grievance redress, thus getting another 1 point. The obligations related to mutual acceptance of conformity assessment results provided by designated bodies in the partner country leads to investment in longer term dependence. This because the designated bodies in one partner country would have to put in infrastructure and technical expertise to meet the regulatory requirement related to the assessment procedure required by the other country. This provides another 1 point to this agreement.

Using the yardstick of the JSEPA, and based on the TCE approach to assessing the quality of agreements in terms of a contract, India's PTAs appear relatively much weaker

in terms of including WTO-plus obligations. India's agreement with Japan and Korea do not add significantly to existing TBTA provisions and in that sense cannot be described as WTO-plus. Since it fails the test of substantiveness (i.e. departure from the status-quo already available), both these agreements cannot even be considered to be a contract.

The India-Korea agreement (IKCEPA) puts in a deadline for the start of negotiations for MRAs on conformity assessment procedures specific to telecommunications and electrical and electronic equipment, and a deadline for completion of such negotiations. However, it also provides that "any legitimate delay or failure to reach and conclude agreements or arrangements, including on the basis of science and risk-based assessment, shall not be regarded as a breach of a Party's obligations'. Thus, the deadlines for starting and completion of MRAs on conformity assessment procedures are not sacrosanct, and partner countries can drag their feet in terms of meeting these deadlines based on a wide variety of reasons that can be included within the ambit of 'legitimate delays'. There are no other features in the TBT specific obligations in the IKCEPA that can be considered to be WTO-plus. The IKCEPA does include some WTO-plus feature (substantiveness), which would allow it to get 1 point. However, this agreement does not impose firm, time bound obligations on MRAs on technical standards of conformity assessment procedure

Like the IKCEPA, the only WTO-plus feature in the TBT related obligations in the India-Japan agreement (IJCEPA) relates to a commitment to look into the feasibility of MRAs in some specific sectors, and only if such feasibility is found to exist, to endeavor to complete MRAs in there years. The IJCPEA therefore does not enjoin any firm obligation

on either partner to enter into MRAs and find the means to ensure the implementation of such MRAs in a time bound manner. Thus, since the only WTO-plus feature in the IJCEPA essentially amounts to a pledge, and does not offer any measure to incentivize long-term investments towards meeting each other's regulatory requirements on the part of their regulatory and conformity assessment bodies, this agreement would get a score of zero within the framework of completeness of contracts.

The India-Malaysia agreement (IMCECA) is the only one that has WTO-plus features. The IMCECA incorporates WTO-plus features for recognition of conformity assessment institutions and as well as for technical equivalence of standards. IMCECA obligations require both partner countries to consider requests for acceptance of technical equivalence of standards and for recognition of conformity assessment institutions in their territory by the other partner and give a decision (accepting or rejecting) that request within a 60 day period. It also requires partners to give a detailed reasoning if such requests by the other party are rejected. However, there is no time limit imposed for providing explanations for rejections of request for technical equivalence and recognition of conformity assessment procedures.

Using the TCE assessment of contracts framework, the IMCECA is assigned 1 point for having WTO-plus features (substantiveness). Since the WTO-plus obligations are an actual commitment that requires action by both partners within specified time limits (i.e. requires them to accept or reject requests for recognition of technical equivalence and conformity assessment institutions within 60 days), this agreement is assigned 2 points

(for incorporating commitments that enforceable). Since it also obligates both members to provide an explanation for the reasons for the rejection of a request for recognition of technical equivalence or conformity assessment institutions, the IMCECA is assigned 1 point for providing a mechanism for grievance redress. However, since there no absolute obligation to move towards a system of mutual recognition of technical standards (i.e. acceptance of equivalence) or for recognition of conformity assessment bodies, the IMCECA does not provide strong incentives for conformity assessment institutions and standards setting bodies in one partner country to invest in building capacity to meet the requirements of the other party. Thus, the IMCECA cannot be assigned the point for creating mutual dependence and long-term investment in the relationship and a gets a total of 4 points. Table 26 below presents the results of the analysis in this section.

Table 26. Assessing of Contracts using TCE Framework

Agreement	Points Assigned using the TCE Framework for Assessing Contracts
JSEPA (Japan-Singapore Economic Partership Agreement)	5
IJCEPA (India-Japan Comprehensive Economic Partnership Agreement)	0
IKCEPA (India-Korea Comprehensive	1

Economic Partnership Agreement)	
IMCECA (India-Malaysia Comprehensive Economic Cooperation Agreement)	4

As the discussion on subsequent sections would show, a majority of TBT concerns that Indian exporters are most likely to face relate to Korea and Japan. On the other hand, the agreements with these two countries are also found to be relatively much weaker in institutional quality when compared with the yardstick for an agreement with robust TBT features such as the JSEPA. The fact that Japan has entered into a PTA that incorporates strong TBT obligations, and that the JSEPA was concluded earlier than IJCEPA also point to the fact that a stronger TBT section is both desirable and possible in the IJCEPA (and by extension the IKCEPA).

5.3. TBT Score and Coverage

In order to calculate the scope and coverage of TBT measures identified using TBT-IMS, Ministry of Commerce, and Martinez et al. (2009) databases in terms India's exports, the export data were taken from the Export Import Databank of the Ministry of Commerce, Government of India[45]. The export data used for the analysis was for the period 2011-

[45] Available at (http://commerce.nic.in/eidb/default.asp).

12[46]. The data was collected according the HS classification code at the six digit level for HS chapters 25 to 99 reflecting a total of 4254 individual tariff lines. Chapters 1 to 24 were excluded because they represented primarily agricultural commodities and food items that tend to be more impacted by SPS (sanitary and phyto-sanitary measures) than technical regulations, though there instances when technical regulations pertaining to labeling, packaging and other requirements also apply to products that fall within the ambit of chapters 1-24. Another reason for the exclusion of chapter 1-24 is the fact that most agricultural products have not seen partner countries commit to a tariff reduction schedule and are excluded from the PTA provisions on trade liberalization. HS Chapters 25 to 99 relate to non-agriculture products which is the focus of the analysis on TBTs in this chapter. Table 27 below provides the results of equation 1 introduced in chapter 4.

Table 27. TBT Coverage Ratio for Indian Exports to Partner Countries

Results of Equation 1 (below)	For Japan	0.07
	For Korea	0.23
	For Malaysia	0.03

[46] The Ministry of Commerce reports data according to the Indian financial year, i.e. April to March. Thus data for 2011-12 represents data for April 2011 to March 2012. This is the latest available data for Indian exports to partner countries from a reliable source.

Table 27 shows that notified TBT concerns applicable to Japan are specific to sectors that account 7% for Indian exports to Japan. The TBT concerns applicable to Korea are specific to sectors that account for 23% of India's exports to that country and the TBT concerns applicable to Malaysia are specific to sectors that account for only 3% of India's exports to Malaysia. The fact that almost a quarter of India's current exports to Korea are in those sectors where there are TBT concerns underline the importance of having strong TBT related provisions in the PTA apart from tariff liberalization. While a part of the significantly higher TBT coverage ratio for Korea is a reflection of the bias in reportage, it still remains a good indicator of the overall levels of technical barriers to the Korean market. Table 28 below presents the results of the analysis using equation 2 introduced in chapter 4.

Table 28. High-Vulnerability TBT Coverage Ratio

Results of Equation 2 (below)	For Japan	0.0001
	For Korea	0.019
	For Malaysia	0

Table 28 shows that India's high vulnerability TBT coverage ratio (defined as the proportion of exports in tariff lines subject to 3 or more specific TBT concerns) is negligible in case of exports to Japan and non-existent for Malaysia. In the case of Korea

it amounts to just under 2%, and therefore can be considered to be insignificant. Part of the reason why India's TBT coverage ratios are relatively low in the case of its exports to Japan, Korea, and Malaysia is that most of India's exports to these three partner countries, especially for Japan and Korea are related to raw materials and metal products which are subject to very few standards (the exception being several types of steel products that are subject to stringent technical requirements in Malaysia). However, a low TBT coverage ratio does not mean that there no sector specific concerns. Section 5.4 that follows provides a sector by sector approach to TBT coverage for these three partner countries and discusses the specific measures and related concerns that relate to these sectors.

5.4. Sector-wise TBT Coverage and Analysis of Specific Measures

In order to understand the practical implications of TBT related concerns that form the basis of identified TBT measures which in turn is the basis for the TBT coverage ratios presented in the preceding section, it is important to have a sectoral analysis of such TBT related concerns. The purpose of this section is to first present an overview of the extent to which TBTs are a concern for exports of a particular broad sector to a each of the three partner countries with the help of sectoral TBT coverage ratios (as represented by equation 3 introduced in chapter 4) followed by a discussion of the each of the specific measures. In this discussion of specific measures, use is made of two separate sources of information. The source of information for at-the-border compliance requirements and their cost and other impact on exports is the DHL database that has been introduced in

chapter 4. The source of all certification requirements, conformity assessment requirements, and behind the border measures are the published information available in regulatory agency websites, as well as websites for well-known international testing and certification firms.

This section investigates six broad manufacturing sectors: i.e. chemicals, pharmaceuticals, electrical and electronic products, engineering, textiles and apparel, and automobiles and auto components and parts. More specifically, each of the broad sectors as defined for the purposes of this dissertation includes the following HS chapters in their ambit

- Chemicals-All HS Chapters from 25 to 38, except 30
- Pharmaceuticals-HS Chapter 30
- Electrical and Electronic products- HS Chapter 85
- Engineering- All HS Chapters from 88 to 91, and HS Chapter 84
- Textiles and Apparel- All HS Chapters 50 to 63
- Automobiles and Auto Parts and Components- HS Chapter 87

5.4.1. Chemicals

India's exports of chemicals to each of the three partner countries represent the single biggest component of the total export basket. The main reason for this is that the broad chemicals sector as defined by this dissertation includes basic chemicals raw materials and many basic chemicals that are intermediate inputs to pharmaceuticals and other advanced chemical formulations with wide-spread use in industrial production as well in

consumer goods. Chemicals represents 67.7% of India's total export basket to Japan, 56.8% of India's export basket to Korea, and 41.3% of India's export basket to Malaysia. Table 29 below presents the results of equation 3 as it applies to the chemicals sector. The TBT coverage ratios in terms of India's export to Japan and Malaysia are negligible. However, the TBT coverage ratio for Indian exports to Korea is quite high at 22%.

Table 29. Sectoral TBT Coverage Ratio for Chemicals

Results of Equation 3 (below), for Chemicals	For Japan	0
	For Korea	0.22
	For Malaysia	0.01

While the low TBT coverage in Japan and Malaysia are positive signs it must be remembered that the TBT coverage ratios refer to only existing measures that have been identified as areas of concern by exporters and governments. Nothing prevents the partner countries from imposing new requirements for HS chapters included in the broad definition of the chemicals sector. Table 30 below identifies the different compliance requirements in place at the border, and the requirements for the identified TBT measures using the three databases indicated earlier. While Table 30 summarizes the requirements, a more detailed discussion follows on the more specific details of regulatory requirements on these technical standards and their implications.

Table 30. Actual Regulations and Compliance Requirements for Identified Technical Measures-Chemicals Sector

Japan Technical Standards Requirements for Imports	
At the border	Invoice needs to include a Material Safety Data Sheet (MSDS) provided by the exporter. The importer in Japan needs to produce an 'End-User Certificate' approved by the Ministry of International Trade and Industry (MITI), Government of Japan. The process of getting this 'End-User Certificate' is negligible in terms of costs and takes about 2 days. Application and approval process is one time for a particular importer importing the same chemical.
Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related measures in the databases used for this dissertation have any Japanese requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture (commonly referred to as the Japanese version of REACH) requires entities importing 1 ton or more of any chemicals to the Japanese market in a year to submit an annual report to the METI.
Korea Technical Standards Requirements for Imports	
At the border	Invoice needs to include a Material Safety Data Sheet (MSDS) provided by the exporter. Country of origin must be marked on the minimum packing of physical product.

Certification, Conformity Assessment, and Testing (prior to export)	Chemicals that are classified as hazardous under the Korea Toxic Chemicals Control Act (TCCA) have mandatory labeling requirements. Rigorous testing requirements for pesticide residues/heavy Metals in materials used in the manufacture of traditional and herbal medicines under the rules promulgated by Korean Food and Drug Administration (KFDA). Import consignments of pharmaceuticals, cosmetics, diagnostics, herbal medicines and quasi-drugs need testing under the guidelines set by Korea Pharmaceutical Traders Association (KPTA). Import permits are required in certain cases, and such permits are issued by the KPTA. For imported cosmetics, a Korean label must be placed over the original label on secondary packages. Labels need to incorporate retail price, country of origin, importer, importer address, batch codes and date of manufacture.

Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Under the Korean Toxic Chemicals Control Act (TCCA), new chemicals (defined as those not existing in Korea Existing Chemicals Inventory or KECI) need to be pre-registered by the Korea Chemicals Management Association (KCMA). Chemicals existing in the KECI need to provide detailed MSDS and manufacturing process data. Stringent (compared to international norms) heavy metal residue/pesticide requirements for traditional medicine. Exporter manufacturing unit for pharmaceuticals, cosmetics, diagnostics, herbal medicines and quasi drugs needs to be compliant with ISO Good Manufacturing Practices (GMP), and be certified as such. Importers of functional cosmetics and quasi drugs are required to submit an annual import status report to the Korean Cosmetics Industry Association that includes the total imported volume/weight and quantity. Restriction in the use of more commonly available and cheaper phthalates based plasticizers (substances added to plastics to increase their flexibility, transparency, durability, and longevity) such as DEHP, DBP, and BBP adds to costs of manufacturing.
Malaysia Technical Standards Requirements for Imports	
At the border	Invoice needs to include a Material Safety Data Sheet (MSDS) provided by the exporter. Country of origin must be marked on the minimum packing of physical product.

Certification, Conformity Assessment, and Testing (prior to export)	Malaysia requires all pharmaceuticals, including health supplements, traditional products, over the counter drugs (OTC) and external personal care products to bear a hologram security label, called a "Meditag". The label will have a unique serial number, which verifies that the product has been registered with Malaysia's Drug Control Authority (DCA) and can be traced to the licensed manufacturer or importer of the product.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

At the border barriers in Japan for chemical products are minimal. However, there are several compliance requirements for regulations that are the pre-export or manufacturing stage, the Japanese Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture puts an additional reporting burden on chemical manufacturers exporting to Japan. It also requires the importer (i.e. the agent of the exporting manufacturer in Japan) or the manufacturing exporter themselves to obtain a company code from the METI by submitting company information (e.g. company name, address, name of the president and a person in charge). However, the same reporting requirements are applicable to Japanese domestic manufacturers. The cost of compliance with this regulation has been substantially reduced due to the availability of electronic filing of information. Since similar laws have been enacted, or in the process of being enacted in

major economies around the world that puts similar (in cases much greater) reporting obligations on both domestic and foreign entities in the business of supplying chemicals, this requirement cannot be termed as a 'barrier'. It is more in the nature of regulations compliance with which is increasingly adding a burden on SME operators for whom even a marginal increase in costs can have significant impact.

Korea

While at the border requirements are minimal, the need for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[47]. Korea has several requirements for compliance for regulations related to pre-export and manufacturing stages. The Korean requirement (as per The Korean Toxic Chemicals Control Act) for pre-registration of new chemicals that are not already registered in the Korea Existing Chemicals Inventory (KECI) can represent significant costs of up to USD 300 per new drug[48]. The documentation requirements (for chemicals that already exist in KECI) are also quite cumbersome. The submission of a detailed Material Safety Data Sheet (MSDS) and other supporting documents in Korean often require the exporter to take the help of a Korean professional familiar with both the language and regulatory procedure. While the fees per drug fees paid out to such professionals work out to be cost effective when a firm applies for a host of chemicals, if a firm is an intermittent supplier and needs to comply with this requirement for few different chemicals every time it gets a new order for the Korean market, the costs

[47] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.
[48] CII Taskforce on Technical Standards and Barriers Meeting, April 2010.

implications can be high, especially for SME exporters. The Korean government is looking to implement the Korean REACH regulations to replace the Korean Toxic Chemicals Act. The requirements of the REACH are expected make the costs of pre-registration of new chemicals, and documentation for chemicals already existing in the Korean list is expected to increase[49].

Korean Food and Drug Administration (KFDA) promulgated amendment on the limits of pesticide residues/heavy metals in materials used in traditional and herbal medicines was largely perceived as a technical barrier against Chinese herbal medicines formulations that are popular in the Korean market[50]. However, since the regulation is applicable to all imports into Korea, it has implications for traditional medicines (ayurvedic and yunani) manufactured in India. The key concerns are related to the fact that requirements are considered to be more stringent than necessary, and therefore impose costs for additional testing on importers. Since requirements are less stringent in most other markets, investment into changing production standards and inputs used in manufacture just for the Korean market represents and implicit market barrier.

The need for import permits and additional testing for import consignments of pharmaceuticals, cosmetics, diagnostics, herbal medicines under the guidelines set by Korea Pharmaceutical Traders Association (KPTA) impose additional costs on exporters (tests cost around USD 1000 per product). While tests are one time for new products, random requirements for periodic testing can also be put in place. This provision for

[49] Ibid.
[50] WTO TBT Committee document G/TBT/M/36 paras. 7.

random testing can lead to uncertainty, and can also lead to unplanned delays in shipment reaching the end-user/importer. The requirement for exporter manufacturing unit for pharmaceuticals, cosmetics, diagnostics, herbal medicines and quasi drugs to be compliant with ISO Good Manufacturing Practices (GMP), and be certified as such imposes additional costs of related compliance. However, compliance with ISO-GMP is a requirement for many markets, and most exporting units typically seek to attain compliance with ISO-GMP and get certified to flag quality to prospective clients at both domestic markets as well as abroad. There is also a concern related to conflict of interest arising from KPTA being the lead regulating agency given that a significant number of KPTA membership [51] are actually competing with importing entities (i.e. foreign manufacturers)

The Korean Food and Drug Administration (KFDA) draft guidelines for management of nano-materials in cosmetics requirement for additional more detailed labeling in Korean for cosmetic products adds additional costs for exporters in terms labeling. However, placing a translated label over the original label is generally accepted and cost per label is not very high at about USD 0.4 USD[52].

The requirement for importers of functional cosmetics and quasi drugs to submit status report to the Korean Cosmetics Industry Association (whose members directly compete with importer entities and foreign manufacturers) providing information of strategic commercial value such as total imported volume/weight and quantity amounts to a behind

[51] List of KPTA members is available at (http://www.kpta.or.kr/eng/member/companies.asp).
[52] Based on estimates made available by Intertek, which is a certification and labeling agency.

the border anti-competitive practice. The additional transaction costs in terms of documentation requirements and submission can also potentially act as a deterrent to suppliers/wholesalers in Korea to use imported products.

Phthalates are used extensively in the plastics industry as plasticizers. A key use being to soften polyvinyl chloride (PVC) that itself has many industrial uses. One of the most commonly used phthalate for softening PVC is di(2-ethylhexyl) phthalate (DEHP). Developing countries and SMEs in particular continue the use of DEHP despite health concerns and bans in more advanced economies as it is one of the cheapest plasticizers available. Dibutyl phthalate (DBP) is also a very extensively used phthalates (used as an additive to adhesives or printing inks) which has been restricted or banned in many advanced economies. Another critical industrial use for phthalates is as an input for the manufacture of PVC based flooring material. Benzylbutylphthalate (BBP) is used in the manufacture of foamed PVC that is used in the manufacture of such PVC based flooring. The restriction and ban of DEHP, DBP, and BBP continues to be controversial due to their popularity in the industry. The costs of Korean restrictions on the use of DEHP, DBP, and BBP are imposed are at the manufacturing level, as developing country manufacturers need to find more expensive alternatives to these phthalates. However, since a large number of countries have either already banned or is in the process of banning the use of these substances, Indian exporters would inevitably need to start using alternatives to these substances, and Korean requirements as such do not add an incremental burden to what can be considered to be a move towards a globally accepted

technical standard. The requirement for third party certification from a recognized lab, labeling and a self- declaration do not add significantly to costs.

Malaysia

The requirement for import license from national food and drug regulator is a standard requirement across most countries. The requirement for a specific type of security hologram label (i.e. the 'Meditag') imposes additional costs as such labels are typically manufactured and vetted by agencies in Malaysia, and they need to be procured from Malaysia by an exporter to that country. However, the costs per label work out to a modest 1.5 cents per label[53].

5.4.2. Pharmaceuticals

India's exports of pharmaceuticals to each of the three partner countries are relatively modest given India's status as a one of the most efficient producer and exporter of generics. Pharmaceuticals represented less than 1% of the total value of exports to Japan and Korea (at 0.92% and 0.24% respectively). Pharmaceutical exports to Malaysia represented just 1.4% of the total value of exports from India to that country. As patents on several drug formulations are set to expire, the generic drug manufacturing industry is expected to grow. India's generic drug manufacturing industry is expected to be one of the biggest beneficiaries of this process of major drugs going off-patent. Thus, Indian manufacturers would like to ensure that their generic exports do not face technical

[53] Holography News (2005) "Meditag Launches in Malaysia" available at (http://www.accessmylibrary.com/coms2/summary_0286-9454575_ITM), and from National Pharmaceutical Control Bureau of Malaysia (BPFK), accessed at (http://portal.bpfk.gov.my/index.cfm?&menuid=96).

barriers in major markets like Korea, Japan, and Malaysia. Table 31 below provides the sectoral TBT coverage for the pharmaceutical sector. The results in Table 31 shows that the TBT coverage ratio is 100% for all the three partner countries indicating that all pharmaceuticals related tariff lines in all the three partner countries have one or more TBT related concerns flagged with respect to them.

Table 31. Sectoral TBT Coverage Ratio for Pharmaceuticals

Results of Equation 3 (below), for Pharmaceuticals	For Japan	1.0
	For Korea	1.0
	For Malaysia	1.0

Table 32 below identifies the different compliance requirements in place at the border, and the requirements for the identified TBT measures using the three databases indicated earlier. While Table 32 summarizes the requirements, a more detailed discussion follows on the more specific details of regulatory requirements on these technical standards and their implications. However, the implications of several of the TBT concerns in Table 32 have already been discussed in relation to the TBT concerns related to chemical sector in the preceding sub-section 5.4.1.

Table 32. Actual Regulations and Compliance Requirements for Identified Technical Measures-Pharmaceuticals Sector

Japan Technical Standards Requirements for Imports	
At the border	Importer needs to submit detailed invoice with MSDS backed by a self-declaration by the exporting entity and a test report. Random samples might be drawn to verify contents.
Certification, Conformity Assessment, and Testing (prior to export)	Japan requires all imported plasma products being derived from human blood to be labeled as ‘'hikenketsu', i.e. commercially obtained.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Refer to requirements under Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, commonly referred to as the Japanese version of REACH (see section 5.4.1 on chemicals for details). Registration of new drugs takes a very long time in Japan. Long and expensive clinical trials have to be undertaken in Japan before new drugs are allowed into the market even if such clinical trials have conducted elsewhere (including in major markets like US or EU).
Korea Technical Standards Requirements for Imports	.
At the border	Invoice needs to include a Material Safety Data Sheet (MSDS) provided by the exporter. Country of origin must be marked on the minimum packing of physical product. Import license from Korean Food and Drug Agency (KFDA) is required to be presented for clearance of imported pharmaceutical products.

Certification, Conformity Assessment, and Testing (prior to export)	Chemicals that are classified as hazardous under the Korea Toxic Chemicals Control Act (TCCA) have mandatory labeling requirements (see section 5.4.1 on chemicals for details). Rigorous testing requirements for pesticide residues/heavy metals in materials used in the manufacture of traditional and herbal medicines under the rules promulgated by Korean Food and Drug Administration (see section 5.4.1 on chemicals for details). Import consignments of pharmaceuticals, cosmetics, diagnostics, herbal medicines and quasi-drugs need testing under the guidelines set by Korea Pharmaceutical Traders Association (KPTA). Import permits are required in certain cases, and such permits are issued by the KPTA (see section 5.4.1 on chemicals for details).

Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Under the Korean Toxic Chemicals Control Act (TCCA), new chemicals (defined as those not existing in Korea Existing Chemicals Inventory or KECI) need to be pre-registered by the Korea Chemicals Management Association (KCMA). Chemicals existing in the KECI need to provide detailed MSDS and manufacturing process data (see section 5.4.1 on chemicals for details). Stringent (compared to international norms) heavy metal residue/pesticide requirements for traditional medicine (see section 5.4.1 on chemicals for details). Exporter manufacturing unit for pharmaceuticals, cosmetics, diagnostics, herbal medicines and quasi drugs needs to be compliant with ISO Good Manufacturing Practices (GMP), and be certified as such (see section 5.4.1 on chemicals for details). Registration of new drugs takes a very long time in Korea. Long and expensive clinical trials have to be undertaken in Korea before new drugs are allowed into the market even if such clinical trials have conducted elsewhere (including in major markets like US or EU).
Malaysia Technical Standards Requirements for Imports	
At the border	Invoice needs to include a Material Safety Data Sheet (MSDS) provided by the exporter. Import license from Malaysian National Pharmaceutical Control Bureau (BPFK) is required to be presented for clearance of imported pharmaceutical products.

Certification, Conformity Assessment, and Testing (prior to export)	Malaysia requires all pharmaceuticals, including health supplements, traditional products, over the counter drugs (OTC) and external personal care products to bear a hologram security label, called a "Meditag". The label will have a unique serial number, which verifies that the product has been registered with Malaysia's Drug Control Authority (DCA) and can be traced to the licensed manufacturer or importer of the product (see section 5.4.1 on chemicals for details).
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

Japan follows standard procedure for at the border regulation of pharmaceutical imports and implements a risk-management system (RMS) for drawing of random samples for tests to ensure the veracity of MSDS and product content declarations submitted for customs clearance. The compliance with the labeling requirement for all imported plasma products derived from human blood as ''hikenketsu' or commercially obtained does not impose high costs, with such labels costing less USD 0.5 per label. However, the negative connotation created in the minds of consumers for commercially obtained blood (as opposed to voluntarily donated blood) can be seen as a barrier.

The Pharmaceuticals and Medical Devices Agency (PMDA) of Japan requires a non-Japanese pharmaceutical company without a local subsidiary to first receive accreditation

as a foreign manufacturer before manufacturing and selling medicinal products in Japan. In addition, it requires a marketing approval under Japan's Pharmaceutical Affairs Law (PAL), a national decree, or the equivalent via the drug marketing authorization holder in Japan[54]. After a foreign manufacturer entity for pharmaceuticals has been accredited in Japan, it would need to make an application for the review and registration of new pharmaceutical products. This process is much lengthier in Japan compared to many other countries primarily due to under-staffing of PMDA and lack adequate resources on its part to expedite this regulatory process[55]. The process of application and submission of documents to PMDA also presents challenges as it is very difficult to find professionals who combine good knowledge of both English and Japanese coupled with technical skills required to file applications for drug product approval. Thus, the process can be long and expensive. This specific technical barrier is a result of lack of adequate institutional strength in the importing country, i.e. in Japan for such regulatory processes.

Japan requires that clinical tests have to be performed in Japan although similar tests have already been approved by competent authorities elsewhere. Getting approval for doing such clinical studies in Japan is also cumbersome with lengthy procedures, often as long as 5 years long[56]. The primary logic behind this requirement is concerns that ethnic differences might cause Japanese patients to react differently to the same compound. While the concern of Japanese government on differential reaction to the same drug due

[54] Published information on PMDA website, accessed at (http://www.pmda.go.jp/english/service/regulation.html).
[55] Tsukamoto, E. and Tripathi, S. (2011) "Japan's Drug Lag and National Agenda", Biomedical Consulting International Inc Whitepaper, available at (http://www.biomedconsult.com/201101focusjapan.pdf).
[56] Ibid.

to ethnic differences cannot be undermined, the costs and delays associated with this requirement imposes real burden on foreign pharmaceutical entities seeking to enter the Japanese market.

Korea

While at the border requirements are minimal, the requirement for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[57]. The requirement for import license from national food and drug regulator is a standard requirement across most countries. Like Japan, Korea also requires that clinical tests have to be performed in Korea although similar tests have already been approved by competent authorities elsewhere, thereby imposing additional delays and costs of accessing the Korean market by foreign pharmaceutical manufacturing entities[58].

Malaysia

The requirement for import license from national food and drug regulator is a standard requirement across most countries

5.4.3. Electrical and Electronic

[57] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.
[58] Park, I. (2010) "What's New in the Drug System and KFDA", American Chamber of Commerce, Korea, available at (http://www.amchamkorea.org/publications/upload/Innovation/InSookPark.pdf).

The share of electrical and electronic items in India's export basket to the three partner countries is very modest. Electrical and electronic items accounted for just 1.7% of India's exports in 2011-12 to Japan and Korea and the corresponding figure in the case if Malaysia was 6%. Given the importance of the electronic manufacturing industry in all three partner countries, and especially Japan and Korea, this low figure highlights India's relative failure in terms of integrating with production networks servicing the electrical and electronic sector. As the Indian government seeks to create policies to help develop India's electrical and electronics hardware industry[59], ensuring market access of such products manufactured in India to Asian economies that play a leading role in the global manufacture and trade of such electronic and electrical products such as Japan and Korea would be an important policy goal. Table 33 below that presents the sectoral TBT coverage ratio for electrical and electronics products show a great deal of variation between three partner countries. While TBT coverage ratio for Korea stands at 100%, it is only 0.4% for Japan, and nil for Malaysia.

Table 33. Sectoral TBT Coverage Ratio for Electrical and Electronics

Results of Equation 3 (below), for Electrical and Electronics	For Japan	0.004
	For Korea	1.0
	For Malaysia	0.0

[59] National Policy on Electronics 2011, Department of Information Technology, Ministry for Communication and Information Technology, Government of India, available at (http://deity.gov.in/sites/upload_files/dit/files/Draft-NationalPolicyonElectronics2011_4102011(2).pdf).

The differences between the TBT coverage ratios between Japan and Korea in this case point more to the gaps in the database used for identifying TBT concerns rather than any substantial differences in polices. As the analysis of TBT related concerns and actual measures on the ground in the three countries presented in Table 34 below and the discussion that follows it will show, the actual rules with respect to compliance with standards as pertinent to electrical and electronics in Japan and Korea are very similar. Korea requires the KC mark for a vast majority of electrical and electronic items, while Japan requires the JIS mark. The cost of getting certified, including factory certified for these marks that indicate quality and safety of the product are also similar.

Table 34. Actual Regulations and Compliance Requirements for Identified Technical Measures-Electrical and Electronics Sector

Japan Technical Standards Requirements for Imports	
At the border	There are no specific at the border requirements for clearance of electrical or electronic goods.
Certification, Conformity Assessment, and Testing (prior to export)	Mandatory labeling requirement for Law for the Promotion of Effective Utilization of Resources

Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Law for the Recycling of Specified Kinds of Home Appliances puts an obligation on all manufacturers of specified to items to recycle 50 to 60% of all items sold by them
Korea Technical Standards Requirements for Imports	
At the border	Country of origin must be marked on the minimum packing of physical product.
Certification, Conformity Assessment, and Testing (prior to export)	Korean rules governing safety of electrical appliances, the Radio Waves Act governing information technology and communication products, and safety of lithium-ion batteries impose mandatory certification, testing, and labeling requirement. There is mandatory requirement for marking of all electronic appliances in the Korean language. The law on Recycling of Electrical and Electronic Products and Automobiles obligates exporters to include a Korean language material declaration form with the products they ship into South Korea containing basic organization and product information.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Korean rules governing safety of electrical appliances, the Radio Waves Act governing information technology and communication products, and safety of lithium-ion batteries require mandatory periodic factory inspection (if products fall outside of the self-regulatory list) Korean standards for solar panels restrict market access for certain types of solar panels.
Malaysia Technical Standards Requirements for Imports	
At the border	Country of origin must be marked on the minimum packing of physical product.

Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

While Japan imposes no special regulatory burden at the border for clearance of electrical or electronic items, it has stringent compliance requirements for technical standards at the pre-export and manufacturing stages. The Law for the Promotion of Effective Utilization of Resources requires manufacturers and importers to provide information on six specific chemical substances (mercury, cadmium, light, chromium, PPB and PPD) used in different types of electrical and electronic equipment. Exporting country manufacturer has a labeling requirement using standard labeling requirements set out in the guidelines issued by the Japanese government (i.e. using specifications outlined by Japan Industrial standards (JIS). The applicable standard is JIS C 0950:2005). The costs of these labels are typically USD 0.7 per label[60]. The costs therefore cannot be considered to be prohibitive. Also, such labeling requirements for hazardous materials in electrical and electronic goods are increasingly becoming a requirement for all major markets like EU and the US.

[60] Based on information available in the website of a commercial label manufacturer who provides JIS C 0950:2005 compatible labels. The commercial label manufacturer is LGInternational. The information on prices is available at (http://store.lgintl.com/japan-rohs-labels.aspx).

The law for Law for the Recycling of Specified Kinds of Home Appliances obligates manufacturer exporters to recycle 50% to 60% of the materials used in the manufacture of home appliances sold to Japanese consumers. While the responsibility to collect used or discarded appliances from consumers lie with the retailer, the final responsibility for recycling is with the manufacturer. The manufacturer might choose to recycle the product in any way they deem fit. The operation of this law might lead to Japanese retailers preferring to procure from the larger electronics and electrical appliances manufacturers as they are most likely to be able to demonstrate re-cycling capability, and are more likely to have a physical presence (or presence in Japan through an agent) making it easier for the retailer to meet their transfer to the manufacturer requirement. While the process of actual recycling is not regulated by the Japanese government under the current law, any revision that puts in a clause allowing even random audits of recycling facilities undertaken by manufacturers can end up putting a disproportionate burden on foreign manufacturers of such products.

While not in the list of TBT related concerns gleaned from the three databases, Japan's Electrical Appliance and Material Safety Law needs to be mentioned here in context of the discussion on similar Korean law that follows. The Korean law featured in TBT-IMS database list of concerns, while the Japanese law did not, despite the fact that the compliance obligations they impose are almost similar in nature. This is analysis is necessary to reiterate the point made earlier about the fact that all databases, including comprehensive ones used here, are likely to include a some bias in reporting TBT concerns. It is also necessary to reiterate the TBT concerns need to be seen in the light of

the actual obligations they impose on exporters, as has been the attempt of this dissertation in this chapter. Japan's Electrical Appliance and Material Safety Law governs mandatory testing, certification, labeling and in some instances, factory (of the exporter manufacturer) inspection requirements for electrical and electronic items sold in Japan. Factory inspection requirement is applicable to only 154 specified electrical and electronic items. Costs of compliance with these requirements leading to 'PSE' mark certification, including for factory inspection range from USD 3000 to 8000 per year[61]. For products that require conformity assessments, testing, certification and labeling, but do not have factory inspection requirement imposed on manufacturer exporters, the costs range between USD 1200 to 3000 per product category, and it is a one-time conformity assessment and certification process[62].

If an exporter is interested in getting shipment wise approval prior to clearance in Japan, then the cost per shipment would be USD 27[63]. The shipment wise option is attractive to one time (or intermittent) exporters, large exporters sending several shipments, or regular exporters selling a limited range of products would prefer a product category wise approval, as it is less expensive over the long-run. While the requirements on product safety imposed by Japan are based on legitimate concerns related to consumer welfare and non-discriminatory in letter of the law, they impose substantial burden on exporters from developing countries, especially SMEs. The fact that very third-party agencies have the capability to provide compliance related services, and remain expensive is also a

[61] Based on estimates available with independent third party firms (Intertek and NemKo) who are authorized to provide compliance with these requirements.
[62] Ibid.
[63] DHL Customs and Regulatory Division, Japan.

challenge. The challenge on the part of developing countries looking to export to Japan is to develop the institutional capacity within public-sector agencies to provide compliance related services related to these requirements at a low cost.

Korea

While at the border requirements are minimal, the requirement for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[64]. Korean rules governing the safety of electrical and electronic goods, regulations related to the Radio Waves Act governing information technology and communication products, and regulations on safety of lithium-ion batteries all require testing, certification, and labeling. All of the above mentioned regulations on safety and quality rely on a process of conformity assessment based on tests leading to certification according to the 'KC' mark. No electrical or electronic product can be sold in Korea without having the 'KC' mark. Electrical and electronic goods fall into two categories, i.e. products that fall into the self-regulation scheme, and products that do not. For products that do not fall into the self-regulation scheme, there is requirement for factory inspection for conformity assessment (either by Korean officials, or by a certified third party). The cost of the process leading to obtaining 'KC' mark in case products do not fall into the self-regulatory category can be in the range of USD 3000 to 8000 per year[65]. For self-regulated category of products, the costs of the process to obtain a 'KC' mark is in the range of USD 1200-2000, and this is once in a five years obligation (there is a

[64] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.
[65] Based on estimates available with independent third party firms (Intertek and NemKo) who are authorized to provide compliance with these requirements.

renewal requirement after every five years) for every product[66]. Costs of obtaining a 'KC' mark for lithium-ion batteries is slightly more expensive, ranging between USD 1200 to USD 2500. The option of getting certified just prior to clearance of shipment is also available, and costs are around USD 25 per shipment[67]. The shipment wise option is attractive to one time (or intermittent) exporters, large exporters sending several shipments, or regular exporters selling a limited range of products would prefer a product category wise approval, as it is less expensive over the long-run. While the requirements on product safety imposed by Korea are based on legitimate concerns related to consumer welfare and non-discriminatory in letter of the law, like in the Japanese case, they impose substantial burden on exporters from developing countries, especially SMEs.

The mandatory requirement for marking of all electronic appliances in the Korean language and the law on Recycling of Electrical and Electronic Products and Automobiles that requires exporters to include a Korean language material declaration form do not impose substantial costs, and most other countries have similar requirements. However, the cost of compliance in terms of technical translations into Korean language, and in the case of marking, putting in an additional process for markings in the product or appliance (for e.g. marking indicating the speed in an electronic turbine) can be prohibitive and act as a potential deterrent to an exporter.

[66] Ibid.
[67] DHL Customs and Regulatory Division, Korea.

Korean standards applicable to solar panels (i.e. KS C IEC61646:2007) apply only to amorphous silicon type thin-film solar panels and excludes other types of thin-film solar panels. Thus, other types of solar panels such as cadmium telluride, copper indium selenide, and gallium arsenide cannot be tested or certified under the Korean standard. This effectively means that these other types of solar panels will not able gain the necessary certification to be placed on the Korean market. This is an example of a standard that has effectively become a barrier to market-entry, and thus can be considered to be a pure technical barrier.

Malaysia

While at the border requirements are minimal, the requirement for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[68].

5.4.4. Engineering

Like electrical and electronics, the share of engineering in India's overall export basket to Japan and Korea are very modest. Engineering goods accounted for only 4.2% of Indian exports to Japan in 2011-12. The corresponding numbers for Korea was 2.9%. Share of engineering in Indian exports to Malaysia in 2011-12 was relatively high at 12.4%. The sectoral TBT coverage ratios pertinent to the engineering sector are presented in Table 35 below. None of India's engineering exports get impacted by TBT related concerns as gleaned from the three databases used in this dissertation, while only 1% of engineering

[68] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.

exports to Japan are impacted by such concerns. Keeping with the general trend in overall TBT coverage ratios, 94% of India's engineering exports to Korea get impacted by TBT related concerns gleaned from the databases used in this dissertation. The relatively higher number, though a matter of concern, especially given the fact that India's strategic vision for export growth envisages a major role for engineering, and specifically aims to integrate India better with Asian production networks in engineering that have Korea, Japan, and Taiwan as three important nodes.

Table 35. Sectoral TBT Coverage Ratio for Engineering

Results of Equation 3 (below), for Engineering	For Japan	0.01
	For Korea	0.94
	For Malaysia	0

However, as pointed out in preceding sub-section on electronic and electrical products, the huge variation between partner countries, especially Korea and Japan, is more a reflection of the reporting bias in the information underlying the database used for identification of TBTs rather than substantial differences in actual policies on the ground with reference to technical standards. Most of the technical standards and regulations governing this sector are the same that govern electrical and electronics sector. Thus, Table 36 that follows is almost identical to Table 34 in terms of content. Since the

regulatory measures contained in Table 34, and their actual compliance related details have already been discussed in the preceding section, no discussion follows this table.

Table 36. Actual Regulations and Compliance Requirements for Identified Technical Measures-Engineering Sector

Japan Technical Standards Requirements for Imports	
At the border	There are no specific at the border requirements for clearance of electrical or electronic goods.
Certification, Conformity Assessment, and Testing (prior to export)	Mandatory labeling requirement for Law for the Promotion of Effective Utilization of Resources (for details on actual compliance requirements, see the discussion related to this requirement in the preceding sub-section on electrical and electronics).
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Law for the Recycling of Specified Kinds of Home Appliances puts an obligation on all manufacturers of specified to items to recycle 50 to 60% of all items sold by them (for details on actual compliance requirements, see the discussion related to this requirement in the preceding sub-section on electrical and electronics).
Korea Technical Standards Requirements for Imports	
At the border	Country of origin must be marked on the minimum packing of physical product.

Certification, Conformity Assessment, and Testing (prior to export)	Korean rules governing safety of appliance and the Radio Waves Act governing information technology and communication products impose mandatory certification, testing, and labeling requirement to extend to products that are classified as engineering products. There is mandatory requirement for marking of all electronic appliances in the Korean language. Many of such appliances fall within the classification of engineering products. The law on Recycling of Electrical and Electronic Products and Automobiles obligates exporters to include a Korean language material declaration form with the products they ship into South Korea containing basic organization and product information. This requirement covers products that are classified as engineering goods. (The above three requirements are common for a range of electrical and electronic products as well as engineering. For details on actual compliance requirements for all of the above three requirements, see the discussion related to these requirement in the preceding sub-section on electrical and electronics). Testing and certification regime (involving the acquisition of 'KC' certification) is a cumbersome and expensive process. (Actual details on the costs of acquisition of the 'KC' certification, and the process related have been discussed in the preceding section related to electrical and electronics)

Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Korean rules governing safety of appliance and the Radio Waves Act governing information technology and communication products require mandatory periodic factory inspection (if products fall outside of the self-regulatory list). (Actual details on the costs of compliance with such factory inspection requirement related to the process of getting 'KC' certification for products classified as being outside the 'self-regulatory' category has been discussed in the preceding section related to electrical and electronics)
Malaysia Technical Standards Requirements for Imports	
At the border	Country of origin must be marked on the minimum packing of physical product.
Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

Japan imposes no special regulatory burden at the border for clearance of electrical or electronic items

Korea

While at the border requirements are minimal, the requirement for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[69].

Malaysia

While at the border requirements are minimal, the requirement for marking of country of origin on the minimum packing can be cumbersome and difficult in certain cases, and adds marginally to costs[70].

5.4.5. Textiles and Apparel

The share of textiles and apparel India's export basket to the three partner countries stand at 8.2%, 9.8%, and 7.4% for Japan, Korea, and Malaysia respectively for the year 2011-12. Better market access for textiles and apparel were seen as one of the key deliverables of the PTAs with Korea and Japan. In that light, the presence of technical barriers in this sector would be an important policy concern. Table 37 below shows that both Korea and Japan report a high sectoral TBT coverage ratio of 71% and 72% respectively.

[69] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.
[70] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.

Table 37. Sectoral TBT Coverage Ratio for Textiles and Apparel

Results of Equation 3 (below), for Textiles	For Japan	0.71
	For Korea	0.72
	For Malaysia	0

Textiles and apparel typically have several small and medium exporters who lack the institutional capacity to internalize many technical standards. Even moderately high costs of compliance can become a barrier for exporters for such SME exporters. Given the preponderance of SME exporters in this sector, it also provides a great example of an area for intervention in terms of capacity building. Table 38 below provides the details on terms of TBT measures impacting this sector, followed by a discussion on the actual compliance related procedures and the burdens imposed in relation to these technical regulations.

Table 38. Actual Regulations and Compliance Requirements for Identified Technical Measures-Textiles and Apparel Sector

Japan Technical Standards Requirements for Imports	
At the border	Invoice needs to include declaration on materials used (dyes and composition) and sample of the product (typically a square meter piece of textile, yarn, or a sample of the ready-made garment). Risk management system is in place, and random testing of sample might take place prior to clearance.
Certification, Conformity Assessment, and Testing (prior to export)	Japan's Household Goods Quality Labeling Law imposes strict labeling requirements on 34 different textile products. The exporter is expected to put in information related to ingredients, performance, use and cautions upon use for consumer information in Japanese language.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Japan imposes stringent requirements for quality control of chemicals used in ready- made garments (RMG).
Korea Technical Standards Requirements for Imports	
At the border	Stringent requirements for labeling. Labeling needs to be on the physical product, and being on a packaging or cover is not sufficient. .
Certification, Conformity Assessment, and Testing (prior to export)	The Korean Certification mark ("KC" mark) is a compulsory certification market that must appear on textile products as specified in the Self-Regulatory Safety Confirmation Act or the Safety Quality Mark Act
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Korean requirements or regulations that fall in this category.

Malaysia Technical Standards Requirements for Imports	
At the border	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

Japanese at-the-border procedures for textiles and garments are similar to most other industrialized countries requirements, and do not impose substantial cost burden for clearance or delays for imports. While Japan imposes comprehensive labeling requirements to provide product information to consumers, such a requirement must be seen in the context of right of consumers to be made fully aware about what they are purchasing. The average cost of a label that incorporates such information is around USD 0.5 per label[71], and as such cannot be said to imposing a very heavy burden. However, SME exporters to Japan from India might find capacity building through exporter

[71] Based on approximate costs of such labels as indicated by certification firms such Intertek and NemKo.

organizations can provide valuable institutional help in ensuring proper compliance with Japanese labeling requirements.

Stringent Japanese requirements for quality control of chemicals used in ready- made garments (RMG). This is because a separate manufacturing process would have to be created to cater for Japan's requirements that much more demanding than most other export markets as well as the domestic market in India. The cost of separating the manufacture of Japan bound RMG for processes such as bleaching, dyeing, and washing that uses chemicals from the rest increases costs by 15% over and above what is required for by Indian standards[72]. However, many fast growing Indian brands are using extremely stringent manufacturing standards given the quality concerns of large multinational brands for both Indian and export markets, and therefore such medium to large exporters do not face a big challenge in complying with this requirement. However cost implications are serious for many smaller players. Since Japan's requirements are far higher than what is typically accepted in other countries, it can be argued that this is a disguised barrier.

Korea

The Korean requirement to put labeling of origin on the physical product for textiles adds greatly to costs and inconvenience. According to the Korean customs clearance guidelines the country of origin marking for imported fabrics must be affixed or permanently incorporated at both edges of the fabric, or on the roller by weaving, leaf,

[72] Confederation of Indian Industry (CII) WTO and Trade Agreements Committee Meeting, February 2010.

printing, label or tag, on the end of piece goods, or other permanent marking. Country of origin marking can also be incorporated with other information sewn into the fabric edges. The requirement is even more stringent for wool or wool blend fabrics. The country or origin must be marked at least every two meters on the edges of the wool fabric bolt with fabric content and the name of the manufacturer or importer. The rules clearly state that country of origin marking must be shown at the time of customs clearance. The requirement to put in labels in both edges (or every two meters in the case of woolens) increases the cost of marking and labeling while adding to costs due to the care that needs to be taken to ensure that such marking and labeling does not lead to damage or decrease in fabric quality. Further, even the slightest error in marking (for example, missing a couple of meters while marking woolens) can lead to consignment not being custom cleared leading to delays and increase in clearance costs. This requirement can definitely be classified as a disguised barrier to trade as single rules of origin certificate with every consignment, in combination with labeling requirement for final product can achieve the same regulatory objective.

Two sets of rules of govern the testing, certification, and product information labeling for textile products and garments. Textiles products for infants (under 36 months) and accessories for children are subject to the Self-Regulatory Safety Confirmation Act. There is a mandatory requirement for testing of these products at laboratories authorized by Korean authorities. These tests must confirm that products meet the corresponding standards to qualify for the 'KC' Mark as it applies to textiles in order to be imported or sold in Korea.

Safety Quality Mark Act governs textile products that come in contact with the skin. There is no requirement for testing for products falling under Safety Quality Mark Act. It requires exporters to Korea to indicate that the product meets the corresponding safety requirements with a self- declaration of conformity in order to sell or import these products and to receive the corresponding 'KC' Mark. Although this is a self-declaration of conformity from exporters to or importers in Korea, and it is not necessary to conduct testing, if the product does not meet the 'KC' requirements during a Korea Consumer Agency investigation, then the exporter to/importer in Korea can be penalized.

5.4.6. Automobiles and their Components

While India has been relatively successful as an exporter of automobile parts and components, and two and three wheeler vehicles, and in recent times of automobiles, tractors, and commercial vehicles, the share of such items in India's export basket to the three partner countries remain modest at 1.18%, 0.58%, and 1.97% for Japan, Korea, and Malaysia respectively for the year 2011-12. Automobiles, especially passenger cars and commercial vehicles are some of the most heavily regulated products. Auto parts and components, since they form an intrinsic part of such vehicles, are also subject to stringent requirements. While a strong regulatory environment characterizes these products, TBT concerns related to emission standards and engine efficiency requirements

in Japan and Korea have been raised by WTO member countries[73]. Table 39 below presents the TBT coverage ratio for the three partner countries.

Table 39. Sectoral TBT Coverage Ratio for Automobiles and their Components

Results of Equation 3 (below), for Automobiles	For Japan	0.27
	For Korea	0.05
	For Malaysia	0

Table 39 shows that more than a quarter of India's exports to Japan (i.e. 27%) are impacted by TBT concerns, while number for Korea is just 5%. There are no TBT concerns related to auto and their parts identified with respect to Malaysia in the three databases that were used for this dissertation. While the high number for Japan is cause for concern, the lower number for Korea should be interpreted more as a sign of India's exports of autos and automobiles to Korea tending to be more in HS tariff lines that are not impacted by identified TBTs rather than the existence of a more liberal regime for auto related imports in that country. Table 40 below provides the details on actual measures in place related to the technical standards, and their compliance burden. This is followed by a more detailed discussion on the specifics of each of these requirements.

[73] Refers to TBT concerns related to WTO documents G/TBT/M/32 and G/TBT/M/26 (available at the TBT-IMS website maintained by the WTO at http://tbtims.wto.org/Default.aspx?Lang=0).

Table 40. Actual Regulations and Compliance Requirements for Identified Technical Measures-Automobiles and their Parts Components

Japan Technical Standards Requirements for Imports	
At the border	Certificate of conformity with Japanese emission standards needs to be submitted along with invoice for completely built-up units (i.e. fully assembled), and engines in the case of completely knocked down (i.e. disassembled) vehicles.
Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related concerns in the databases used for this dissertation have any Japanese requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Japanese emission standards for diesel engines are more stringent than requirements in other major economies (i.e. EU and US), and are higher than standards applicable in India[74].
Korea Technical Standards Requirements for Imports	
At the border	There are no additional documentation required at the border specific to the importation of autos and auto parts in Korea

[74] Details of diesel engine emission standards by country and vehicle category are available at (http://www.dieselnet.com/standards/).

Certification, Conformity Assessment, and Testing (prior to export)	There is a mandatory requirement to label the fuel efficiency of cars prior to sale. This label indicates the car's fuel economy rank (1-5), based on Korean specifications, and its fuel economy in kilometers per litre. The law on Recycling of Electrical and Electronic Products and Automobiles obligates exporters to include a Korean language material declaration form with the products they ship into South Korea containing basic organization and product information (for the compliance related details for this requirement, please refer to the discussion in the sub-section on electrical and electronics).
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	Korean emission standards for automobiles are unique to the country, and could lead to prohibiting vehicles designed to comply with emission standards in other major markets from entering the Korean market. Average fuel economy standards in Korea for passenger cars can be considered to be barrier to trade
Malaysia Technical Standards Requirements for Imports	
At the border	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Certification, Conformity Assessment, and Testing (prior to export)	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.
Compliance with technical requirements of the importing country during manufacturing, or behind the border requirements in importing country	None of the notified TBT related concerns in the databases used for this dissertation have any Malaysian requirements or regulations that fall in this category.

Japan

Requirement for a certificate of conformity with Japanese emissions standards at the border is a standard requirement in most developed economies, and increasingly many developing countries. Since conformity for non-diesel vehicles is aligned to international standards, does not add additional burden. Japan's stringent emission standards for diesel engines not only puts a higher cost of compliance for exporters due these requirements, it also ensures that vehicles or engines produced with the standards of other major markets cannot be sold in Japan, this necessitating additional investment in plant and machinery to develop vehicles that are suitable for the Japanese market. Therefore, Japan's stringent diesel vehicle emissions norms are much higher than global average requirements do represent a trade barrier. Given that India is emerging as a center for the development small diesel passenger cars, tractors, and diesel vehicles in general, Japanese emission standards can prove to be major trade barrier for Indian automobile exports to Japan.

Korea

Korean labeling requirements do not add substantial costs of exporters of automobiles as they require the listing of routine information on fuel efficiency. However, Korean emission standards, while not representing radically different emission targets, require vehicles to get re-tested according to Korean standards and get certification from authorized laboratories to show conformity with Korean emission standards. This requires re-tooling of the manufacturing process (in order for the vehicle to meet Korean

standards), as well as additional costs of testing and certification[75]. Therefore, Korean emission standards can be considered to be a technical barrier to trade.

5.5. Conclusion and Policy Recommendations

A critical finding in this chapter was that India's PTAs come up short in terms of depth of agreements achieved with reference to the TBT related provisions of these agreements. Benchmarking the JSEAP, which has strong TBT related provisions, and using a TCE framework to assess the TBT chapters of the JSEAP and India's PTAs as contracts showed that India's PTAs score much lower. The lack of strong commitments on mutual recognition of technical standards and conformity assessment procedures were the reason for these low scores.

The lowest score where for India's agreements with Japan followed by Korea. Both Japan and Korea are industrialized economies, and therefore have high regulatory benchmarks for technical standards. This presents Indian negotiators the challenge of committing to MRAs with advanced partners on technical standards and conformity assessment while having a weak national regulatory mechanism and technical assessment institutional and physical infrastructure at home. At the same time, because these countries are important markets, and given their relatively higher standards, most likely to present Indian exporters with regulatory obstacles in terms of costs and complexity of compliance, seeking some policy solution with these countries on matters of technical standards and conformity remain critical to Indian export interests.

[75] Statement by Ambassador Demetrios Marantis, Deputy United States Trade Representative, House Committee on Ways and Means, Subcommittee on Trade, Washington, D.C., April 7, 2011.

An analysis of TBT coverage ratios for Indian exports confirms that Korea and Japan are markets where a significant proportion of Indian exports are subject to TBT related concerns. As has been pointed out, the significant differences between partner country scores, especially the very high score for Korea, might reflect the reporting bias and information deficit to which most TBT related databases are subject to, the scores are indicative of a larger narrative on the existence of such concerns on the day to day occurrence of cross-border trade. Sectoral TBT ratios also confirm that pharmaceuticals, chemicals and autos and auto-components are some of the most highly regulated sectors in terms of technical standards for health, quality, and safety. Since all three are sectors of interest to Indian exporters, existence of TBT related concerns in these sectors, as well as in textiles and apparel, remain of policy interest to India.

The detailed dissection of TBT related concerns reported in the three comprehensive databases used in the analysis in this chapter, in combination with at-the-border requirements provided by DHL customs and regulatory departments in the three partner countries add significant value to the pin-pointing the policy discussion to actual on-the-ground issues faced by exporters. By categorizing the specific regulatory measures on the basis of whether they are at-the-border issues, issues related to certifications, labeling, and conformity assessment, or issues that require compliance with importing country (i.e. partner country) requirements at the manufacturing stage (including post manufacturing performance behind the border in partner country) enables a better understanding of the specific challenges such measures pose to exporters.

A sector by sector analysis of the measures shows some common factors. An important finding is that at-the-border compliance requirements in partner countries subject to customs clearance do not impose significant costs or complexity for exporters, with some exceptions. Labeling, certification, and conformity assessment procedures also typically do not represent trade barriers per se, but present a challenge in some cases due to the cost of compliance. This is especially true in a developing country like India where lack of institutional strength and physical infrastructure in combination with a large geographical spread of the country ensures that exporters do not have adequate cost-effective solutions to their compliance needs for many of the requirements that were discussed. Lack of adequate laboratories as well as shortages of trained personnel in existing labs have been flagged time and again as major concern by Indian exporters seeking a cost effective solution to their compliance needs for foreign markets[76]. However, standards imposed at the time of manufacturing, or standards related to product performance behind the border in partner country do often represent actual trade barriers, independent of institutional or technical capability of available to the Indian exporter. This is especially true if such technical requirements are based on unreasonably stringent specifications that defy internationally accepted norms.

This leads us to the policy recommendations related to TBTs. A significant portion of the compliance burden on exporters, especially SME exporters would be reduced if they had cost-effective solutions to show their conformity with partner country standards and

[76] Agenda item in the Confederation of Indian Industry (CII) representation to Ministry of Commerce on export development issues, June 2010, and February 2011.

obtain authorized certification for it. Currently, many such conformity assessment and certification schemes are available in India, especially with reference to some of the more important certifications like the 'KC' mark for electronics, engineering, and textile products applicable to Korea, or the 'PSE' mark for electrical and electronics for Japan. However, such conformity assessment and certification is offered not by India's public regulatory or technical standards assessment bodies, but by private MNCs in the certification and standards business like Intertek. Such private firms are also authorized to perform factory audits and inspections where necessary. While these firms offer a cheaper option than getting tested, certified, or get inspected by the recognized government agencies based in Japan or Korea, as has been indicated in the technical measure specific discussions, the services offered by these firms do not come cheap. The high costs of compliance end being a barrier for market entry for many firms who would have otherwise liked to have explored markets in Korea or Japan.

The certification, conformity assessment procedures, and factor audit authorization represent low-hanging fruit. The Indian government, led by the Ministry of Commerce and Industry, needs to push both public technical standards bodies and also public sector firms in sectors like engineering, chemicals, and other sectors to develop the capacity to test, certify, and train professionals to carry out technical audits and factory inspections. The excess capacity that public-sector firms in India in sectors like engineering, chemicals, and even textiles related industries could be put to good use, and the revenue currently going to international testing and certification firms could become a revenue stream. On the trade policy and design of agreements front, India could push partner

countries, especially Korea and Japan to agree to time-bound deadlines by which Indian agencies would be able to provide testing, conformity assessment, and certification for a large number of the major technical regulations relevant to important sectors in these two partner countries. The government also needs to integrate the private sector associations, at least the ones that have the institutional strength and size, to become partners in the trade policy negotiations related to TBTs. Such involvement would have to go deeper than the traditional stakeholder consultation process, i.e. include the setting up of a special TBT committee specific to each trade agreement that reviews actual barriers and problems related to technical requirements, and come up with solutions that can be incorporated in trade agreements. The language of the TBT agreements could identify these sectoral associations as the nodal agency for developing MRA regimes, and put a deadline around closure of such a process. This would put the onus on India's private sector to bear part of the cost institutional development and capacity building, and also make their professionals more familiar with overseas technical requirements, resulting in the dissemination of such knowledge downstream into their specific sectors.

Trade policy solutions are unlikely to be found for the more intractable technical requirement related to manufacturing standards or behind-the-border performance measures. Emissions standards in autos present a good example of such a measure. Global pressure for greater harmonization at multilateral forums are often more efficient to finding solutions in such areas compared to bilateral agreements. India's trade policy would have to take a more proactive role in pushing for harmonization of standards in sectors where it has strong export interests. The close cooperation between India's

automobile sectoral association, Society of Indian Automobile Manufacturers (SIAM) and the Indian government negotiators on WTO negotiations relating to automobile standards and their harmonization provides a good example[77]. The fact that the TBT chapters of India's PTAs cannot be considered deep agreements should be the starting point for a much greater engagement in both domestic capacity building and trade policy in order to facilitate exports and reduce the cost of compliance for Indian exporters.

[77] Authors conversation with Mr. Dilip Chenoy, former Director-general at SIAM, and with Mr. Vishnu Mathur, current Director-general at SIAM.

Chapter 6: Conclusion and Policy Recommendations

6.1. Conclusions

The increasing pace of globalization and the development of new business models that operate on the basis of global production chains have made the need for a well-defined and rules based architecture for the exchange of goods and services across borders critical. Thus, the design of trade agreements and their relationship with national regulatory systems assumes great importance as these agreements form the basis of this institutional architecture governing the flow of goods and services across national borders in an increasingly globalized economic system.

With the inability of the WTO member states to successfully conclude the Doha Development Round of multilateral trade negotiations, countries have increasingly turned to preferential arrangements to provide the institutional architecture governing cross-border flows of goods and services. As has been argued in chapter 1 of this dissertation, a strong argument in favor of such preferential arrangements has been that that they are better able to incorporate the institutional mechanisms governing cross-border and their relationship with distinct regulatory environments of partner countries participating in negotiating such an agreement. This argument is based on the assumption that a limited number of countries (as opposed to the large number of members in multilateral negotiations) that enter into preferential agreements would be better able to resolve

potential conflicts between the demands of their national regulatory systems and the need to facilitate the movement of goods and services which is the objective of such agreements in the first place. To that extent PTAs are not just instruments of furthering the incomplete agenda of general trade liberalization as represented by the Doha Development Round, but also instruments in innovation in the governance of cross-border rules and development of new institutions for cross-border economic integration.

In this context, analysis of PTA negotiations and agreement design offer interesting insights into two important policy questions. The first question is whether such PTAs can indeed achieve to deliver more comprehensive trade liberalization and enable better coordination with national regulatory requirements. The second question is whether such PTAs provide an example of innovation in terms of institutions that govern cross-border trade. As highlighted in chapter 1, analyzing India's PTAs in this context is of great interest given the fact that it is a country that has aggressively pursued such PTAs, and is also very good example of a large emerging economy with a large domestic industrial base that has started the process of integration into the international economy relatively recently. The four PTAs chosen for analysis represent a diverse group of partner countries, i.e. Japan which is a mature industrialized economy, Korea which is a newly industrialized economy, Malaysia which is a emerging economy, and Singapore which is a highly developed city state that is also a regional hub for trade and business.

Design of trade agreements and their relationship with regulatory institutions by their very nature cover a diverse set of issues. This dissertation prioritizes Indian trade

objectives with a focus on those aspects of trade negotiations that are most impacted by the interface with domestic regulation and trade institutions, or in other word areas that would most significantly benefit from greater depth in trade agreement design. India has emerged as one of the most successful exporters of services using what is popularly known as the offshore outsourcing model. These services are linked to the final delivery of various professional services, i.e. accounting, legal, engineering, and architecture. Such professional services tend to be high regulated across almost all economies across the world, and cross-border delivery of such services or their provision by foreign professionals is subject to a complex institutional architecture dictated by domestic laws. As India looks to integrate itself with manufacturing networks across Asia, issues related to technical standards and compliance with partner country regulations on health, product safety, and quality are becoming a very critical element of trade policy. Unlike bilaterally agreed upon tariff reduction schedules, that are predictable and simple to understand and implement, technical barriers remain the real challenging aspect of trade negotiations and agreement design with respect to merchandise trade.

Thus, this dissertation focuses on trade in professional services and technical barriers to trade in order to analyze India's PTAs in terms of depth of agreements and institutional design. The analysis of institutional design of agreements and their depth by its very definition needs to be a relative one. This dissertation offers a two-level analysis. It first focuses on the differences between the institutional design and depth of the multilateral regimes defined by GATS commitments (in the case of professional services), and TBTA (in the case of technical barriers to trade) which would have been the trade regime

governing trade between India and the four partner countries in the absence of PTAs, and the PTA regimes that have made an attempt to improve upon the existing level of commitments. The dissertation then goes on to compare both the trade regimes in place with actual status-quo, i.e. the autonomous national regulatory regime that actually governs trade between India and their partner countries, and defines the regulatory architecture which must be complied with by entities that trade across borders. This second level of analysis between trade regime commitments and actual status-quo autonomous regulatory regimes is critical to the understanding of relative of depth of agreements and their institutional design as it defines the limits of possibility for a trade agreement (i.e. possible depth), and what has been actually achieved in terms of commitments (i.e. achieved depth).

This analysis is especially relevant as most other Asian PTAs have similarities with design of India's PTAs with these four Asian partner countries. Like these four PTAs, most Asian PTAs use the positive list approach based on GATS methodology for negotiations involving services. Similarly, most Asian PTAs have not made substantive improvement on existing regimes dealing with TBTs, with some exceptions. Like India, other Asian countries also suffer from realtively weak institutional and physical infrastructure that makes negotiations on regulatory aspects of trade dealing with professional services and TBTs difficult. Thus, the policy recommendations that have been made in Chapters 3 (with regards to services) and chapter 5 (with regards to TBTs), and the broad recommendations that follow later in this chapter are relevant to the Asian architecture of trade negotiations.

Trade in professional services is essentially involves trade in specific tasks requiring varying degrees of skill, experience, and levels of understanding of local norms, rules, and laws essential for accounting, architecture, engineering and legal professionals to have in order to service specific markets. Chapter 2 provides a discussion on the literature related to fragmented production networks and trade in tasks that provides the context in terms of disaggregating professional services into specific functional roles within the larger context of final delivery of such professional services in different markets. The Grossman and Rossi-Hansberg (2008) definition of an international production network as a continuum of tasks that is integrated within an international supply chain is especially relevant for professional services.

Such a continuum of tasks exist within a value-chain that is unique to each professional service, This dissertation focuses on the levels of difficulty a foreign professional will to be able to deliver a certain tasks for clients in the local market. This level of difficulty in essence becomes the value-chain, with more difficult the task in terms of complexity and need for local context, the higher the returns to it. Such disaggregation of professional services into specific tasks within a value-chain that takes into account that tasks that are regulated by statutory qualification requirements lie at the apex of such a value chain is essential for analyzing the actual impact of both trade and actual status-quo regimes on actual cross-border trade. Thus, it is the essential first step towards a more comprehensive understanding of the relative depths and institutional design of trade agreements.

Chapter 2 develops this hierarchy of tasks for each professional service, categorizing each task into four types, i.e. Type 1, 2, 3, and 4. This hierarchy is developed according to three aspects of the task, i.e. need for formal training and specialization, need for domain knowledge (i.e. industry specific knowledge), and need for knowledge of local regulatory and legal aspects. Type 4 represents the apex of this hierarchy, requiring proficiency in all three aspects, while Type 4 represents the low of this hierarchy requiring proficiency in none of the three. Type 3 and Type 2 form the intermediate parts of this hierarchy, with Type 2 not requiring any industry specialization and Type 3 not requiring knowledge of local laws and regulations. Using BLS data on levels of educational attainment for a set of functions and tasks within each professional services category, and using the O*Net database on job attributes related to levels of importance for inductive reasoning and importance of familiarity with local laws and regulations, Chapter 3.2 establishes an hierarchy of tasks within each professional service that is presented in Table 5.

In order to undertake a qualitative analysis of institutional depth and design of commitments in trade agreement regime (TR) and its relation with the status quo autonomous regime (AR), a scoring system, referred to as the liberalization index, based on 14 attributes that cover market access, institutional integration, and transparency issues are developed and presented in Table 4. Chapter 3, sections 3 to 5 provide the scores for each task for each of the four professional services with reference to each of the three different regimes under consideration. This is followed with a detailed comparative analysis of the actual trade policy commitments and autonomous regulation

measures in place. Section 3.6 provides a similar analysis for trade policy commitments and autonomous measures related to the movement of people, while sections 3.7 and 3.8 do the same for institutional integration and transparency related measures.

This comparative analysis is supported by discussions with actual industry participants that underline the actual interpretation of the autonomous regime in each of the partner countries with reference to the various task types. The result of this undertaking supports the hypothesis of this dissertation that there is very little gain in terms of incremental depth in PTAs relative to existing multilateral regimes, and PTA commitments fall short of actual levels of market access and institutional measures already available in the status quo autonomous regime in partner countries for many of these tasks. This gap between actual levels of market access (or the actual applied levels of protection) and the trade policy regime (i.e. the defined level of protection that a country can apply if it so desired) has been pointed out as a major trade policy concern by Francois and Martin (2003) as it reduces the scope of trade agreements from bringing certainty in the existing market access regimes by locking in the existing levels of market access. Sub-section 3.7.2 takes up the issue of critical existing and emerging regulatory challenges specific to digital delivery of services, including professional services, and establishes that Indian PTAs are yet to take such potential barriers to exports into account in their institutional design of agreements.

Chapter 4 changes the focus of this dissertation to the issues related to TBT, and argues on the basis of existing literature that the NTBs, and specifically TBTs are increasingly

becoming more important to the policy discussions related to trade policy and economic integration. Chapter 4 also brings into focus the need for nuance in defining and understanding the nature of TBTs. There is considerable amount of debate in the literature in terms of what kind of measures can categorized as a TBT and which measures can be considered to be legitimate defense of the health, quality, and other societal objectives of a country. This point is made very succinctly by Picciotto (2003) who characterizes the debate on NTBs, and specifically TBTs, as an essential tension between liberalization of markets and the need for national policy-makers to take into account the growing concerns around consumer safety, environmental protection, sustainability, adequate safeguards of labor, and adequate production information being made available to consumers.

In the end the discussion on technical standards and their potential to emerge as a barrier to trade must essentially be based on the ability of exporters to comply with such technical requirements in partner countries in a cost effective manner. Section 4.4 focuses the discussion on impact of technical standards and relative abilities of compliance. The literature points to the fact that a significant challenge lies in countries, or regions within countries, not having adequate institutional and physical infrastructure to provide cost effective solutions for compliance requirements in export destinations. A qualitative institutional analysis of the multilateral TBTA shows that it contains little in the way of concrete commitments that would bind countries towards the stated objectives of harmonization of standards, or their mutual recognition, and towards agreements on recognition of conformity assessment for technical standards.

Analysis of TBTA provisions in PTAs by Budetta and Piermartini (2009), Maur and Shepherd (2011), Lesser (2007), and Baller (2007) show that with some exceptions PTAs have not been able to deliver comprehensive measures with relation to TBTs. Like in the case for professional services, the research question on TBTs focuses on relative depth of agreements within a tiered comparative approach. The first level is based on comparison between the multilateral regime and preferential regimes available in the context of India's PTAs. The second level investigates the actual systems defined by autonomous regulation with reference to the TBT barriers being faced by Indian exporters in the three partner countries. As in the case for services, there is critical focus on the actual requirements for compliance and the burden it puts on exporters from India based on actual exporter experience.

The methodology for comparing India's PTA provisions for TBTs is drawn from the literature on TCE, specifically on the assessment of the strength of contracts. A scoring system is developed where agreements are evaluated on the nature of commitments (binding as opposed to a pledge), substance (defined as departure from the status-quo represented by the TBTA), enforceability and conditions to induce reliance among the contracting parties. A score of 5 indicates a strong contractual commitment that goes above and beyond existing TBTA. Lower scores indicate weaker contracts. In order to investigate the incidence of TBTs on Indian exports to the three partner countries, standard TBT coverage ratios are used. These TBT coverage ratios are further refined to look at greater levels of vulnerability (as represented by multiple identified TBT measures applicable to particular products), and in terms of sector specific TBT coverage

ratios. While TBT ratios are subject to identification bias of TBT measures peculiar to the database from where such a list of measures are drawn, they provide the closes estimate of actual policies related to technical standards for specific products in particular countries. This dissertation uses the WTO TBT-IMS database, a comprehensive database listing US and EU TBT related concerns, and a database of TBT concerns identified by Indian exporters to the Ministry of Commerce, Government of India. An internal DHL database related to actual customs processes in the three partner countries is used in order to understand actual at-the-border compliance requirements for TBT measures.

Chapter 5 uses the TCE approach to the assessment of contracts by analyzing TBT provisions in PTAs. It uses the Japan-Singapore Economic Partnership Agreement whose TBT provision are considered to be comprehensive as a yardstick to compare the TBT provisions of India's PTAs with Japan, Korea, and Malaysia. The results of applying such an assessment of contracts approach to these four agreements show that while JSEPA gets a score of 5 underlying its strong contractual nature that puts specific obligations on both members, India's PTAs with Japan and Korea score very low (0 and 1 respectively) and indicating that such PTA provisions are very weak in terms of putting actual obligations on partner countries. The India-Malaysia PTA scores relatively higher with 4 points. This supports the hypothesis that India's PTAs under consideration in this dissertation (with the qualified exception of the one with Malaysia) have not added depth with respect to PTAs.

TBT coverage ratios for Indian exports to the three partner countries vary widely between three partner countries. Japan and Malaysia get relatively low TBT coverage ratio of just 7% and 3% respectively, while Korea on the other hand gets a high score of 23%. While these results need to interpreted in light of problems with TBT databases discussed earlier, as well as the concentration of Indian exports in some of the less-value added manufacturing products that face the least TBTs, the results might also partially reflect the Korea's own transition to an industrialized economy and the related development of a lot of product standards over the last few years, as opposed to Japan whose development of standards happened earlier and have thus allowed exporters to Japan get more used to such standards and not perceive of them as barriers. Malaysia less score could also be expected in light of the fact that emerging countries have fewer compulsory technical standards domestically, thereby limiting their ability to put such obligations on imports in order to be compatible with the national treatment obligation of the WTO. Export vulnerability scores for all three countries are low.

Section 5.4 discusses the TBT sectoral coverage ratios, and actual compliance requirements at various different stages for exporters to Japan, Korea, and Malaysia. As expected TBT coverage ratios are high for pharmaceuticals for all partner countries. Textiles, a major Indian export interest, also have high TBT coverage ratios for Japan and Korea. TBT coverage ratio for engineering, electronics, and chemicals are high for Korea, but not for the other two partner countries. In terms of actual compliance requirements, a very large number of identified technical requirements emerge as barriers more due to lack of institutional capability in India to provide low-cost solutions to these

measures, with some exceptions. Since these measures typically reflect what are emerging as global norms and standard technical requirement to ensure health and human safety and environmental protection, Indian exporters would have find ways to comply with similar requirement across a large number of industrialized economies. At the border compliance requirements are typically not very complex or expensive. On the other hand regulatory requirements at the manufacturing and pre-export stage tend to be more expensive.

6.2. Implications of Findings for Policy Recommendations

The broad theme of the dissertation is that India's PTAs have not provided significant levels of improvement in terms of depth of trade commitments, and the relationship of such commitments with national regulatory systems. This interface is critical to the cross-border flows of goods and services, and was largely perceived as one most significant advantage of trade negotiations among smaller group of countries as opposed to a global membership in multilateral negotiations. The results in chapter 3 and chapter 5 vindicate this broad hypothesis of this dissertation. Results of the analysis on institutional factors related to trade in professional services and provisions related to movement of people also indicate that these PTAs have not been able to impose firm obligations on such regulatory integration (including regulatory innovations that would allow greater integration of labor market through more liberal movement of people) on partner

countries. The lack of substantial achievements in this front shows that there is still a lot of room for innovation in trade policy and trade agreement design.

Trade agreements can serve as a device to improve upon existing levels of market access available within existing rules and institutional structures. In other words, to improve upon levels of market access and facilitation with regards to regulatory interface that impacts trade allowed under the existing autonomous regime status quo in the partner country. This can be described as the maximum ambition for trade agreements and trade policy makers. The second best level of ambition is to essentially lock in the existing levels of market access and facilitation with regulatory interfaces currently available in the autonomous national regime in the partner country. This would involve the partner country making commitments to ensure that there are no future shocks to the system in terms of reduction of market access or in terms of regulatory barriers that can effectively reduce the levels of markets access to that country.

There is an intermediate level between the first and second best options which is less interesting. This is the ensuring that the trade agreement provides levels of market access and facilitation in terms of regulatory interfaces that the partner country has made to a third country which might have some elements that are better than the existing autonomous regime. However, this is only a special case of the first best option, and increasingly most agreements include language to ensure that subsequent rounds of negotiations incorporate any improvements in market access and other features in PTAs undertaken with third countries by either partner country. The only exceptions two this

rule are often in areas which have been the major focus of this dissertation, i.e. regulatory interfaces that affect market access. A country might have committed to MRAs in areas related to professional services and with regards to TBTs with one partner country, without committing the same with another partner country. The differences in terms of commitments between the TBT related provisions in the SJEPA and IJCECA discussed in chapter 5 underline this point.

In framing the design of trade agreements, the policy-maker needs to be very clear about the above framework of first best, second best, and the intermediate options available. In some ways the intermediate option is the easiest to pursue, as the provisions of the partner country trade agreements with third countries are easily accessible and offer pre-existing solutions to market access and facilitation with regulatory interface related issues. However, in pushing for either first best, intermediate, or second best solutions, policy-makers in developing countries like India are often constrained by domestic capacity constraints. Such trade policy solutions would require Indian regulatory interface with trade, and Indian institutions governing professions or administering technical standards to have the ability to enter into agreements on mutual recognition and other facilitating arrangements that would be integral to the trade design of locking in existing levels of access to partner country markets.

In the case of professional services, India currently lacks a well-defined system of occupational classifications and domestic regulation in terms of which specific tasks carried out by professionals need to be regulated by domestic laws, including statutory

functions such as audit of companies or the right to plead in a court of law approved by bar councils, and which functions can be clearly defined to be exempt from such requirements. The notified professional associations that govern accounting, architecture, engineering, and legal professions also need to develop institutional ability to able to enter into bilateral discussions on MRAs and other forms of cooperation with PTA partner countries. In cases where such associations seem reluctant to pursue MRAs and other forms of bilateral cooperation, the government would have to take the lead and put firm deadlines in place for such associations to start negotiations on MRAs and close them.

In the case of TBTs, the capacity constraints are even more serious. There is a shortage of both labs and technicians to man such labs across the country. Such shortages mean that the turn-around time for tests and certification from such labs are very high. More importantly, government administered lab facilities lack the ability to enter into agreements with partner country counterparts that would allow them to provide conformity assessment certification for partner country requirements. Under such circumstances, the only option left to exporters is to approach large multi-national testing companies who have the ability to provide conformity assessment and certification. However, the services of such labs tend to be expensive thereby acting as an effective market access barrier.

6.3. Policy Recommendations Specific to Professional Services

India's priority should be to lock in the current liberal market access for Type 1, 2, and 3 tasks in all four professions using Mode 1 and Mode 3. In order to do that it would be essential to get a clear defined list of such tasks included in the agreements stating that these tasks fall outside the purview of the regulated Type 4 tasks in each of these professions and can be considered to be management and consultancy services. The agreement should also specify that there are no special qualification requirements for these tasks. In terms of commercial presence, Indian firms should be allowed barrier-free investment in partner countries with 100% Indian ownership for firms providing such services. This list of specific tasks should be included in a special annex in the PTAs with reference to the fact that such tasks are essential support services to each of the four professional services.

In order to negotiate and include such an annex in the PTA, the Indian government would have to first work towards creating such a well-defined list of tasks. The best way forward would be to work with the Indian private sector, especially associations like the NASSCOM, to create a list of occupations that provide specific support functions associated with the delivery of each of the professional services. Such a list could draw from the BLS classification of occupations as a starting point. By definition, such a list would have to be revised as changes in technology and business models add or modify the lists of occupations related to specific tasks. A longer-term objective for capacity building should be for government to work with private sector bodies for the development of task based professional certification systems for different task types involved in the delivery of professional services. This would enable India to have the

ability to discuss and negotiate MRAs for qualifications and certifications if there is any future move in partner countries to regulate Type 1, 2, and 3 tasks in terms of qualification requirements.

With reference to Type 4 tasks, the government would have to first find ways to seek regulatory clarity in terms of which specific Type 4 tasks do not require licensing by statutory bodies in the partner countries, and seek ways to lock this existing level of market access through the inclusion of language in the agreements indicating the same. It can also try and push for MRAs in architecture and engineering related professions, and in order to do so would have to, as indicated earlier, take a leadership role in pushing and creating incentives for notified professional associations to work towards this goal. A major impediment for Indian policy-makers is that India's own regime in professional services remains restrictive, and professional associations that govern such professional services are protectionist in their outlook and not keen to enter into MRAs with partner country counterparts. This is especially true for accounting and legal professions, that have been typically very protectionist in their outlook towards opening up the Indian market to foreign professionals, moves towards MRAs are seen in the light of enabling foreign completion (i.e. foreign professionals) to enter the Indian market. This means that there is need for greater debate in terms of creating a better understanding of the gains to Indian professionals delivering Type 4 legal and accounting functions from being able to serve partner country markets, and the loss due increased competition from foreign service providers from India's reciprocal acceptance of partner country professionals serving Indian markets.

A major challenge to Indian Mode 1 exports would come from new initiatives in data privacy and data security, and restrictions on certain types of data crossing borders. India would therefore do well to first establish a strong domestic legal framework related to data privacy and data security issues, thereby inspiring confidence in partner countries that Indian firms operate within a strong and legally accountable regime. The current set of rules[78] fall short of the standards set by Japan, Korea, and EU. A 2010 report by the EU recommended that India not be given data secure status. A related priority would be to include language in PTAs that clearly defines the limits of data privacy and security protocols to restrict the flow of data and therefore Mode 1 trade in various information intensive services. In addition, the PTAs can define common standards with reference to data security and privacy, and identify institutions that can ensure conformity assessment for such standards that will be mutually recognized. The private sector, led by major firms have a stake in Mode 1 export of professional and other services in this process would be critical.

Gains in terms of Mode 4 are perceived as central to debate on services trade in India. This is one aspect of negotiations where locking in current levels of access would not necessarily be seen as incremental gain, as current levels of market access as defined by work visa policies continue to remain restricted, and visa procedures continue to be cumbersome. Indian government would have to include a chapter on visa facilitation in

[78]Data privacy regulations in India are governed by the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011, that fall within the larger framework of Information Technology Act of 2000. While having regulatory principles compatible with safe harbor requirements, it does not include an enforcement clause, thus making it inadequate for entering into bilateral negotiations.

each of the PTAs that would minimize documentation requirements and visa fees for Indian professionals applying for work visas. Additional levels of facilitation can be achieved by including language in the PTAs that allows firms based in India that have an endorsement by a recognized industry body in India to get visa for their employees processed in an expedited manner with the minimum documentation and other requirements. The government of India would have to be prepared to reciprocate in the same manner in its visa policies applicable to partner country professionals desiring to work in India. A more ambitious goal would be to create a special visa category applicable to PTA partner countries that allows short-term (up to 12 months) work visa permit. Such a visa permit could have specific requirements that firms (whose professionals are seeking a visa) or an independent professional might have to fulfill. In order to assuage security concerns, such a regime could be backed by a common database that monitors the entry and exit of professionals travelling on such visas on a common platform available to the immigration authorities of both countries. Violation of visa norms should be subject to severe punitive measures to minimize abuse.

6.4. Policy Recommendations Specific to TBTs

Existing agreements that represent a strong set of bilateral obligations such as the JSEPA discussed in chapter 5 can serve as a good model for Indian policy-makers to proceed. However, as discussed earlier, the big constraint is the lack of confidence in the ability of Indian technical standards related organizations affiliated to various government

departments and government labs to be able to deliver on partner country requirements on conformity assessment. Lack of domestic regulation in several areas in the form of compulsory requirements for compliance with technical standards (as opposed to voluntary guidelines) is also a limiting factor as this also means that related institutional and physical infrastructure to ensure compliance in such areas is also lacking in India. The development of domestic regulation in various areas of industrial activity including with reference to recycling, human safety, and environmental obligations is a work in progress, and would take some amount of time to see a full implementation. A more short-term policy objective would have to focus on two aspects. First, strategically select public sector organizations or units (PSUs) which have related technical capability and domain knowledge to develop a dedicated compliance and conformity assessment business. Second, the use PTA negotiations to push for these PSUs to get recognized to be able to provide conformity assessment and certification for partner country technical requirements. Finally, develop schemes through which exporters, especially SME exporters can get such conformity assessment and certification at relatively lower costs.

Facilities and man-power in many Indian PSUs in engineering, heavy machinery, electronics, and chemicals sectors are today under-employed. By targeting some of these PSUs, and making funds available to them to develop additional infrastructure related testing facilities, skilled personnel, and monitoring mechanisms, the government can create alternatives to the existing MNC testing and certification firms that charge large fees for their services. The advantage these MNCs enjoy in having acquired the status that gives them the ability to undertake testing and conformity assessment for several

technical requirements for countries such as Japan and Korea can be neutralized through negotiating the same competencies for Indian PSUs using the platform of the PTAs. Indian PSUs developing competency to deliver testing, inspection, and certification services is not without precedence. Certification Engineers International Limited (CEIL), a subsidiary of the large PSU engineering firm Engineers India Limited (EIL) already offers such services with respect to regulatory requirements in countries like Malaysia.

The Ministry of Commerce runs a program called ASIDE (Assistance to States for Developing Export Infrastructure) that partially finances export augmenting infrastructure (federal government funds 20%, state governments fund 80%). A slight modification of this scheme, which increases the federal component to 50%, requires states to invest 25%, and remainder coming from either PSUs or even interested private sector players can serve as a platform to attract investment in technical standards testing and certification business. One of the conditions of receiving funding by either the PSU or private sector player would be reduced fees to be charged to exporters having SME status, and overall reducing the existing pricing structure available to Indian exporters in availing such testing and certification services. Bureau of Indian Standards (BIS), which is the national statutory body governing most of industrial standards in India can set up a monitoring system that ensures the quality of services offered by these testing and certification bodies. Additionally, the government of India can use federal funding support for any visits by technical regulators from partner countries, and monitoring costs of lab facilities and testing standards offered by testing and certification bodies by partner

country institutions to further reduce the financial burden of running such facilities, while savings in operating costs due to federal funding is passed on to exporters.

Another available option is to empower some select Export Promotion Councils (EPCs) that fall under the administrative aegis of the Ministry of Commerce to work with member exporter concerns to set up such testing and certification services, including investing in labs and other physical infrastructure. The funding options can be similar to that suggested above (using ASIDE type of scheme). The EEPC (Engineering Export Promotion Council), CHEMEXIL (Chemicals Export Promotion Council), PHARMEXIL (Pharmaceutical Export Promotion Council), and TEXPROCIL (Cotton Textile Export Promotion Council) should be approached by the government and asked to develop a strategy on technical testing and certification at reasonable costs for key markets. Given their export focus, strong membership (sectoral exporters), and exposure to international markets, these EPCs would be in an ideal position to develop and deliver services related to compliance with technical requirements in partner countries. Again, the government role would be to help with funds and using the platform of PTAs to obtain recognition for the labs and testing and certification services developed by respective EPCs.

The discussion in this chapter points to a common thread the seeks to combine capacity building initiatives, specifically with help of the Indian private sector, and leverage innovations in trade agreement design to maximize the gains for bilateral economic engagement in PTAs. Without such strategic thinking and implementation, PTAs can simply become a political statement that while helping buttress Indian geo-strategic

engagement with various important regional economies, would do little to push actual economic and trade related goals, especially in the context of increasing Indian exports. In his latest budget speech to the Indian Parliament, Finance Minister Mr. Chidambaram stressed on the fact that India's rising current account deficit (CAD) is emerging as the most important long-term macro-economic challenge for the country. In light of this statement, one can only assume that a renewed focus on ensuring exports growth would be central to the government's policy. Making PTAs more effective through improvement in institutional design of such agreements, along with domestic capacity building that ensures that Indian exporters can actually leverage such trade agreement design innovations has to become a central part of the short to medium term policy on sustainable export growth.

Annex 1: Attribute Score Tables

Table 1: Skill Intensity Scores

	Less than high school diploma	High school diploma or equivalent	Some college, no degree	Associate degree	Bachelor degree	Master degree	Doctoral or profession -nal degree
Tax Preparers	1.60%	14.80%	24.50%	9%	32.10%	12.90%	5.10%
Architects, Except Landscape and Naval	0%	1.70%	4.80%	4.30%	52.30%	28.30%	8.60%
Civil Engineers	0.10%	3.10%	6%	5.60%	57.20%	23.90%	4.10%
Architectural and Civil Drafters	1.60%	12.50%	29.60%	31.80%	20.30%	3.60%	0.60%
Civil Engineering Technicians	3.60%	23%	33.30%	22.90%	14.40%	2.30%	0.50%
Electrical and Electronics Drafters	1.60%	12.50%	29.60%	31.80%	20.30%	3.60%	0.60%
Commercial and Industrial Designers	2.70%	12.70%	19.60%	13.90%	43.10%	7%	1.10%
Auditors	0.10%	4.70%	8.70%	10.30%	56.30%	17.40%	2.50%
Financial Specialists (Accountants)	0.80%	11.50%	19%	8%	43.60%	14.70%	2.40%
Financial Analysts	0.50%	3.70%	8.40%	3.10%	46.90%	31.50%	5.90%
Budget Analysts	0.50%	6.40%	16.40%	9%	43.30%	23%	1.50%
Bill and Account Collectors	4.20%	33.40%	36.10%	10.90%	13.20%	1.80%	0.50%
Financial Clerks (Acc Clerks)	3.70%	34.40%	34.90%	10.90%	13.50%	2.20%	0.40%
Bookkeeping, Accounting, and Auditing Clerks	3.20%	32.80%	39.40%	9.60%	12.70%	2%	0.30%
Payroll and Timekeeping Clerks	2.50%	31.90%	37.20%	12.60%	13.90%	1.60%	0.30%
Billing and Posting Clerks	3.50%	34.40%	35.20%	12.10%	12.50%	1.90%	0.40%
Legal Secretaries	2.50%	32.80%	34.80%	13.10%	14.30%	2.10%	0.40%

Lawyers	0.10%	0.10%	0%	0%	0.80%	2.50%	96.50%
Paralegals and Legal Assistants	0.90%	12.80%	25.70%	19.20%	34.40%	4.40%	2.60%
Arbitrators, Mediators, and Conciliators	0.10%	0.10%	0%	0%	0.80%	2.50%	96.50%
Title Examiners, Abstractors, and Searchers	1.80%	18.90%	27.50%	13.40%	27.70%	6.70%	4%

Source: Data from American Job Centre Network (www.acinet.org)

Table 2: Inductive Reasoning Scores

Tasks or Professions	Scores
Civil Engineers	64
Auditors	61
Lawyers	61
Architects	60
Commercial and Industrial Designers	60
Financial Analysts	52
Architectural Drafters	52
Arbitrators, Mediators, and Conciliators	52
Electronic Drafters	52
Electrical Drafters	52
Civil Engineering Technicians	52
Accountants	50
Bill and Account Collectors	50
Civil Drafters	50
Paralegals and Legal Assistants	46
Title Examiners, Abstractors, and Searchers	46
Bookkeeping, Accounting, and Auditing Clerks	45
Tax Preparers	43
Payroll and Timekeeping Clerks	43
Legal Secretaries	41
Billing, Cost, and Rate Clerks	41
Statement Clerks	38

Source: O*Net Database, Bureau of Labor Statistics

Table 3: Importance of Familiarity with Compliance Procedures Scores

Tasks or Professions	Scores
Lawyers	84
Auditors	74
Architects, Except Landscape and Naval	73
Financial Analysts	72
Civil Engineering Technicians	71
Accountants	70
Civil Engineers	63
Electrical Drafters	62
Paralegals and Legal Assistants	61
Tax Preparers	59
Architectural Drafters	56
Electronic Drafters	54
Legal Secretaries	52
Civil Drafters	52
Billing, Cost, and Rate Clerks	51
Title Examiners, Abstractors, and Searchers	49
Arbitrators, Mediators, and Conciliators	46
Commercial and Industrial Designers	45
Bill and Account Collectors	44
Bookkeeping, Accounting, and Auditing Clerks	40
Statement Clerks	35
Payroll and Timekeeping Clerks	33

Source: O*Net Database, Bureau of Labor Statistics

Annex 2: Sector and Task-Wise Index Score Details

ACCOUNTING TYPE 4 TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomo-us Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	0
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	0
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
14	Have specific deadlines been established for MRAs/It is not required	0	0	0
15	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	7	10
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomo-us Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	0	1

2	Has precision been achieved in making clear that such a task is allowed to be traded	0	0	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	0
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
14	Have specific deadlines been established for MRAs/It is not required	0	0	0
15	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6	10
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomo-us Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
14	Have specific deadlines been established for MRAs/It is not required	0	0	0
15	Is there a prior consultation mechanism	0	0	1

	TOTAL SCORES	9	9	12
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomo-us Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	0
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
14	Have specific deadlines been established for MRAs/It is not required	0	0	1
15	Is there a prior consultation mechanism		0	1
	TOTAL SCORES	6	6	13

ACCOUNTING TYPE 3-2 TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomo us Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	1	1
7	Has Mode 3 obligation been made in the sector related to	0	1	1

	the task			
8	Is majority stake allowed	0	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	1	1
10	Are there no hiring restrictions/restrictions are defined	0	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	0	7	11
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	8	8	11
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1

3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
13	Have specific deadlines been established for MRAs/It is not required	0	0	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6	13
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
13	Have specific deadlines been established for MRAs/It is not required	0	0	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	7	7	14

ACCOUNTING TYPE 1 TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	11	14
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1

9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	10	14
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autono mous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	1	1
10	Are there no hiring restrictions/restrictions are defined	0	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	1	1
13	Have specific deadlines been established for MRAs/It is not required	0	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	0	9	12
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autono mous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1

4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	10	14

TYPE 4 ARCHITECTURE TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	0
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0.5	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1

	TOTAL SCORES	8	8.5	11
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	0	0	0
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	0	0	0
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	8	8	10
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to	0	0	1

	the task			
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	9	9	11
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	0	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0	1	1
8	Is majority stake allowed	0	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	1	1
10	Are there no hiring restrictions/restrictions are defined	0	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	2	6	12

TYPE 3-2 ARCHITECTURE TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1

3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	8	9	12
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	0	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	0
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1

	TOTAL SCORES	5	5	11
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	0
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6	9
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	0	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to	0	0	1

	the task			
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	5	6	12

ENGINEERING TYPE 4 TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	7	8	12
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1

5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	0
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6	11
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0.5	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	7.5	8	10
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to	1	1	1

	task			
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0.5	0.5
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6.5	11.5

ENGINEERING TYPE 3-2 TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	0
5	Has the process for achieving professional equivalency defined/not required	0	0	0
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1

12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	9	10	12
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	0
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
13	Have specific deadlines been established for MRAs/It is not required	0	0	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6	6	13
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	1	1	1
5	Has the process for achieving professional equivalency defined/not required	1	1	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0.5	1	1

8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
13	Have specific deadlines been established for MRAs/It is not required	0	0	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	7.5	8	12
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0.5	0.5	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	1
13	Have specific deadlines been established for MRAs/It is not required	0	0	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	6.5	6.5	14

TYPE 4 LEGAL TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1

2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	0
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	0	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	1
10	Are there no hiring restrictions/restrictions are defined	0	0	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	4	6	11
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	0.5	0.5
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	1	1
4	Is professional equivalency easily possible/is not required	0	0	0
5	Has the process for achieving professional equivalency defined/not required	0	1	1
6	Commercial presence is not required for cross-border	0	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0	1	1
8	Is majority stake allowed	0	0.5	0.5
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	0
10	Are there no hiring restrictions/restrictions are defined	0	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1

	TOTAL SCORES	0	7	9
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0.5	0.5	0.5
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	0
5	Has the process for achieving professional equivalency defined/not required	0	0	0
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0	0	0.5
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	1
10	Are there no hiring restrictions/restrictions are defined	0	0	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	0
	TOTAL SCORES	3.5	3.5	7
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	0	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	0	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	0	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	0	1
7	Has Mode 3 obligation been made in the sector related to the task	0	0	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	0	1
10	Are there no hiring restrictions/restrictions are defined	0	0	1
11	Has Mode 4 obligation been made in the sector related to	0	0	1

	the task			
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	0	0
13	Have specific deadlines been established for MRAs/It is not required	0	0	0
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	0	0	11

TYPE 2-1 LEGAL TASKS

	Japan	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	1	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	11	14
	Korea	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	1	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1

5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	10	14
	Malaysia	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to task	0	1	1
2	Has precision been achieved in making clear that such a task is allowed to be traded	0	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	0	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	0	1	1
7	Has Mode 3 obligation been made in the sector related to the task	0	1	1
8	Is majority stake allowed	0	0	0
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	0	1	1
10	Are there no hiring restrictions/restrictions are defined	0	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	0
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	0	1	1
13	Have specific deadlines been established for MRAs/It is not required	0	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	0	9	12
	Singapore	Multilateral (1 if yes, 0 if no)	Bilateral (1 if yes, 0 if no)	Autonomous Regime (1 if yes, 0 if no)
1	Has Mode 1 obligation been made in the sector related to	1	1	1

	task			
2	Has precision been achieved in making clear that such a task is allowed to be traded	1	1	1
3	Has precision been achieved in terms of making clear what professional regulatory regime such tasks fall under	1	1	1
4	Is professional equivalency easily possible/is not required	0	0	1
5	Has the process for achieving professional equivalency defined/not required	0	0	1
6	Commercial presence is not required for cross-border	1	1	1
7	Has Mode 3 obligation been made in the sector related to the task	1	1	1
8	Is majority stake allowed	1	1	1
9	Can non-professionals (i.e. those who have not attained local equivalency) be partners/shareholders	1	1	1
10	Are there no hiring restrictions/restrictions are defined	1	1	1
11	Has Mode 4 obligation been made in the sector related to the task	0	0	1
12	Have MRAs been mentioned and parties to engage in MRA discussion identified/It is not required	1	1	1
13	Have specific deadlines been established for MRAs/It is not required	1	1	1
14	Is there a prior consultation mechanism	0	0	1
	TOTAL SCORES	10	10	14

Annex 3: Autonomous Regime Sources by Service Sector and Task

Accounting Services

Japan-Accounting Services	
Type 4 Tasks	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte Japan Institute of Chartered Public Accountants (JICPA) http://www.hp.jicpa.or.jp/english/accounting/becoming/index.html OECD Professional Services Regulation Database www.oecd.org/economy/pmr
Type 3-2	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ OECD Professional Services Regulation Database www.oecd.org/economy/pmr Firm consultation with Deloitte and Genpact Japan Institute of Chartered Public Accountants (JICPA) http://www.hp.jicpa.or.jp/english/accounting/becoming/index.html
Type 1	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm Consultation with Deloitte and Genpact Analysis of firm incorporation, services offered, and

	delivery models in a typical Japanese firm offering outsourced accounting and finance outsourcing company http://www.japanconsult.com/outsourcing/accounting-japan/ http://www.neusoft.com/services/1194/index.html

Korea-Accounting Services	
Type 4 Tasks	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte Korean Institute of Certified Public Accountants (KICPA) http://www.kicpa.or.kr/english/default.htm OECD Professional Services Regulation Database www.oecd.org/economy/pmr
Type 3-2	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte and Genpact Korean Institute of Certified Public Accountants (KICPA) http://www.kicpa.or.kr/english/default.htm OECD Professional Services Regulation Database www.oecd.org/economy/pmr
Type 1	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm Consultation with Deloitte and Genpact Analysis of firm incorporation, services offered, and delivery models in a typical Korean firm offering outsourced accounting and finance outsourcing company http://www.neusoft.com/services/1194/index.html

Malaysia-Accounting Services	
Type 4 Tasks	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte Malaysian Institute of Certified Public Accountants (MICPA) http://www.micpa.com.my/micpanew/index.asp
Type 3-2	World Bank Services Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte Malaysian Institute of Certified Public Accountants (MICPA) http://www.micpa.com.my/micpanew/index.asp
Type 1	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm Consultation with Deloitte

Singapore-Accounting Services	
Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte Institute of Certified Public Accountants of Singapore (ICPAS) http://corp.icpas.org.sg/homepage.aspx
Type 3-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Deloitte and Genpact Institute of Certified Public Accountants of Singapore (ICPAS) http://corp.icpas.org.sg/homepage.aspx

Type 1	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm Consultation with Deloitte and Genpact

Architecture and Engineering Services

Japan- Architecture and Engineering Services	
Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro and Shapoorji Pallonji OECD Professional Services Regulation Database www.oecd.org/economy/pmr The Japan Architectural Education and Information Centre http://www.jaeic.or.jp/k-seidozenpan-e.htm Analysis of firm incorporation, services offered, and delivery models in a typical Japanese firm offering architecture and engineering services http://www.nikken.co.jp/en/firm/corporate_data.html
Type 3-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro and Shapoorji Pallonji OECD Professional Services Regulation Database www.oecd.org/economy/pmr The Japan Architectural Education and Information Centre http://www.jaeic.or.jp/k-seidozenpan-e.htm Analysis of firm incorporation, services offered, and delivery models in a typical Japanese firm offering architecture and engineering services http://www.nikken.co.jp/en/firm/corporate_data.html

Korea-Architecture and Engineering Services

Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro and Shapoorji Pallonji OECD Professional Services Regulation Database www.oecd.org/economy/pmr The Korean Institute of Registered Architects (KIRA) http://www.kira.or.kr/eng/sub/sub_1.asp Analysis of firm incorporation, services offered, and delivery models in a typical Korean firm offering architecture and engineering services http://www.heerim.com/#/about%20us/corporate%20profile
Type 3-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro and Shapoorji Pallonji OECD Professional Services Regulation Database www.oecd.org/economy/pmr The Korean Institute of Registered Architects (KIRA) http://www.kira.or.kr/eng/sub/sub_1.asp Analysis of firm incorporation, services offered, and delivery models in a typical Korean firm offering architecture and engineering services http://www.heerim.com/#/about%20us/corporate%20profile

Malaysia-Malaysia Architecture and Engineering Services	
Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Larsen and Toubro Malaysian Board of Architects http://www.lam.gov.my/ Analysis of firm incorporation, services offered, and

	delivery models in a typical Malaysian firm offering architecture and engineering services http://www.trhamzahyeang.com/profile/company.html
Type 3-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Larsen and Toubro Malaysian Board of Architects http://www.lam.gov.my/ Analysis of firm incorporation, services offered, and delivery models in a typical Malaysian firm offering architecture and engineering services http://www.trhamzahyeang.com/profile/company.html

Singapore-Architecture and Engineering Services	
Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro Singapore Board of Architects http://www.boa.gov.sg/index.html Analysis of firm incorporation, services offered, and delivery models in a typical Singaporean firm offering architecture and engineering services http://www.surbana.com/en/index.html http://www.a-alliance.com.sg/
Type 3-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro Singapore Board of Architects http://www.boa.gov.sg/index.html Analysis of firm incorporation, services offered, and delivery models in a typical Singaporean firm offering architecture and engineering services http://www.surbana.com/en/index.html http://www.a-alliance.com.sg/

Legal Services

Japan-Legal Services	
Type 4 Tasks	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro OECD Professional Services Regulation Database www.oecd.org/economy/pmr Japan Federation Bar Associations http://www.nichibenren.or.jp/en/ Analysis of firm incorporation, services offered, and delivery models in a typical Japanese firm offering legal services http://talaw.jp/en/index.php
Type 1-2	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro OECD Professional Services Regulation Database www.oecd.org/economy/pmr Japan Federation Bar Associations http://www.nichibenren.or.jp/en/ Analysis of firm incorporation, services offered, and delivery models in a typical Japanese firm offering legal services http://talaw.jp/en/index.php

Korea-Legal Services

Type 4 Tasks	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro OECD Professional Services Regulation Database www.oecd.org/economy/pmr Korean Bar Association http://www.koreanbar.or.kr/eng/default.asp
Type 1-2	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro OECD Professional Services Regulation Database www.oecd.org/economy/pmr Korean Bar Association http://www.koreanbar.or.kr/eng/default.asp

Malaysia-Legal Services	
Type 4 Tasks	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro Firm consultation with Shroff and Company Malaysian Bar Association http://www.malaysianbar.org.my/
Type 1-2	World Bank Trade Restrictiveness Index APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro

	Firm consultation with Shroff and Company Malaysian Bar Association http://www.malaysianbar.org.my/

Singapore-Legal Services	
Type 4 Tasks	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro Firm consultation with Shroff and Company Law Society of Singapore http://www.lawsociety.org.sg/
Type 1-2	APEC Services Trade Access (STAR) Database http://www.servicestradeforum.org/ Firm consultation with Wipro Firm consultation with Shroff and Company Law Society of Singapore http://www.lawsociety.org.sg/

Annex 4: Firm Consultation on Service Delivery Model and Cross-Border Trade in Specific Tasks

BPOS/consulting firms are currently delivering tasks categorized as type 3, 2, and 1 in accounting services through an offshore model. (Thus, such services can be categorized under CPC classification 8650)

Countries	**Response**	**Firms which were consulted**
Japan	Allowed	Deloitte, Genpact
Korea	Allowed	Deloitte, Genpact
Malaysia	Allowed, for Type 2 and 1, unclear for 3	Deloitte
Singapore	Allowed	Deloitte, Genpact

Engineering and integrated engineering firms are currently delivering tasks categorized as type 3 and 2 in engineering and architecture services through an offshore model. (Thus, such services can be categorized under CPC classification 8672 and 8673)

Countries	**Response**	**Firm which were consulted**
Japan	Allowed	Wipro, Shapoorji Pallonji
Korea	Allowed	Wipro, Shapoorji Pallonji
Malaysia	Allowed, subject to clearance by locally licensed architect	Larsen and Toubro

Singapore	Allowed	Wipro

LPO firms are currently delivering tasks categorized as type 3,2 and 1 in legal services through an offshore model. (Thus, such services can be categorized under CPC classification 8650, i.e. management consulting services)

Countries	**Response**	**Firm which were consulted**
Japan	Allowed	Wipro
Korea	Allowed	Wipro
Malaysia	Allowed	Wipro
Singapore	Allowed	Wipro

Annex 5: Flow-Chart on Embassy Based Information on Visa Processes

1. Download listed visa categories, visa application form, listed visa documentation requirements, and listed visa fee amount in the embassy of Japan[79], Korea[80], Malaysia[81], and Singapore[82] in India.
2. Checked the web-page hyperlinked to the main consular page of the embassy website offering information on work-related visas for the partner countries
3. Checked for any reference or indication on partner country websites in India about preferential agreements with respect to to visa application

1. Download listed visa categories, visa application form, listed visa documentation requirements, and listed visa fee amount in the embassy of Japan (in Argentina)[83], Korea (in Argentina)[84], Malaysia (in Argentina)[85], and Singapore (in South Africa)[86]
2. Checked the web-page hyperlinked to the main consular page of the embassy website offering information on work-related visas for the partner countries

1. Comparison of the information available from partner country embassy websites in India, and their respective embassy websites in third non-preferential partner

[79] http://www.in.emb-japan.go.jp/long_term%20visas.html.

[80] http://ind.mofat.go.kr/english/as/ind/visa/issuance/index.jsp.

[81] http://www.kln.gov.my/web/ind_new-delhi/requirement_foreigner.

[82] http://www.mfa.gov.sg/content/mfa/overseasmission/new_delhi/useful_links.html.

[83] http://www.ar.emb-japan.go.jp/.

[84] http://arg.mofat.go.kr/korean/am/arg/main/index.jsp.

[85] http://www.kln.gov.my/web/arg_buenos-aires/home.

[86] Singapore does not have a mission in Argentina, thus South Africa, a large emerging country with no preferential agreement with Singapore was chosen. http://www.mfa.gov.sg/content/mfa/overseasmission/pretoria.html.

countries to see if there any difference in listed visa categories, visa form, documentation requirements for professional visas, and the listed visa fee.

2. Confirmed that web-page hyperlinked from the India based embassy websites is the same as the one hyper-linked to the respective partner country embassy websites in non-partner third countries

Annex 6: TBT Measures by Country and Applicable HS Codes for Each Measure

Korea	Recycling of Electrical and Electronic Products and Automobiles announced in the Korean Official Journal N° 16160 on 30 December 2005 *84, 85*
Korea	Regulation on Registration and Evaluation of Chemical Material (G/TBT/N/KOR/305) *28, 29, 3002, 3003, 3004, 3006, 3101-3105, 3201-3215, 3301-3307,3401-3407, 3501-3507, 3601-3606, 3701-3707,3801-3825*
Malaysia	Hologram Stickers on Pharmaceutical Products. Mandatory use of a hologram (labeling requirement), *3001, 3002, 3003, 3004, 3005, 3006, 3301, 3302, 3303,3304,3305,3306,3307*
Japan	To have concerns with respect to the requirement that blood plasma be labelled as either "kenketsu" (which meant it was voluntarily donated) or as "hikenketsu" (which meant it was compensated) *3002*
Korea	Residual Limits and Test methods for Pesticide Residues/Heavy Metals in Herbal Medicines *3003, 3004, 3301,3302,3303,3304,3305,3306,3307*
Korea	Good Manufacturing Practice requirements for cosmetics (G/TBT/N/KOR/301). *3301, 3302,3303,3304,3305,3306,3307*
Korea	Proposed Cosmetics Labeling and Advertisement Guidelines (G/TBT/N/KOR/308); KFDA draft Guidelines for Management of nanomaterials in cosmetics. A provision of the Act that would require cosmetics manufacturers to indicate, in Korean, the product name, company name, batch number and expiration date or period after opening, on both the primary package and on the labeling and the secondary or outer package. *3301, 3302,3302,3304,3306,3307*
Korea	Import Review Process for Functional Cosmetics. Discrimination against foreign firms *3304*
Korea	Related to PVC flooring material and Wallpaper and paper linoleum, and toys (G/TBT/N/KOR/303 and Add.1 and G/TBT/N/KOR/304 and Add.1). An above-mentioned measure notified by Korea restricts utilizing specific plasticizers such as DEHP, DBP and BBP in PVC. *3918,4814*
Korea	Safety criteria for various products (G/TBT/N/KOR/127). Proposed requirements on tires and safety glass for road vehicles

	4011, 4012,7007
Korea	Korean notification dated 13 June 2000 (G/TBT/Notif.00/284) concerning safety of electric appliances *8414,8415,8416,8418,8419,8421,8422,8428,8433,8443*[87]*,8450-8452,8467,8471,8472,8481,8501-2,8504,8506-7,8509-10,8514,8516-17,8518-21,8525,8527,8528,8531,8536,8537,8539,8543,8544,9405,*
Japan	Amendment to the Enforcement Order of the Law for the Promotion of Effective Utilization of Resources (G/TBT/N/JPN/156, Add.1 and Corr.1). The measure requested that manufacturers or importers provide information on six specific chemical substances (mercury, cadmium, light, chromium, PPB and PPD) for seven types of electrical and electronic equipment. Japan was requested to provide scientific justification in this regard *8415,8418,8443*[88]*,8450,8451,8471,8528,8529, 851650*
Korea	Amendment to Radio Waves Act 1/2011 (RRA) which has put into place new marking and labeling and certification requirements for a host of information technology products *8443*[89]*,8469,8470,8471,8472,8473,8486,8517,8523,8524,8525,8526,8527,8528.8529,8542,* *9405*
Korea	Related to notification from Korea (G/TBT/N/KOR/26) on miniature fuses on automatic electric controls. The safety criteria for these devices referred to various standards which might deviate from the relevant IEC standards *8532,8533,8535,8536,*
Japan	Notification (G/TBT/N/JPN/20) concerning standards of vehicle emission. Certain vehicle types would require the replacement of diesel engines by gasoline ones. The proposal called for emission levels which would be attainable in future technology. *8701,8702,8703,8704,8705*
Korea	Korean emission standards for automobiles which could prohibit vehicles designed to comply with emission standards designed for other major markets to to enter into the Korean market (G/TBT/M/26) *8701,8702,8703,8704.8705*
Japan	Amendment to Enforcement Order of Industrial Safety and Health Law (G/TBT/N/JPN/166) on the use of asbestos in parts of bicycles. The requirements on bicycles contained in the above-mentioned measure were over-restrictive and therefore not in compliance with the TBT principle of choosing the least trade restrictive alternative. Members concerns include lack of scientific evidence that showed the risks of asbestos when used as a friction material for brakes on bicycles, and technology was not sufficiently advanced to produce a substitute for asbestos, and that its use should not be completely restricted in production. *8714,*
Korea	Related to PVC flooring material and Wallpaper and paper linoleum, and toys (G/TBT/N/KOR/303 and Add.1 and G/TBT/N/KOR/304 and Add.1).

[87] 0nly 844331, by inference, instead of 9009 (photocopying machines of all types)
[88] Ibid
[89] Ibid

	Restrictions on utilizing specific plasticizers such as DEHP, DBP and BBP in PVC *9503*
Korea	Marks of Origin System and Related Labeling Requirements (G/TBT/M/1 paras. 78-81). The measure includes burdensome application of the origin regulations for watches, the marking regulations for woolen fabrics and the mandatory marking in Korean language on many home appliances *511111, 511119, 511120, 511130, 511190, 511211, 511219, 511220, 511230, 511290, 580110,600310,600410,600490,600610 (Woolens)* *841451,841459,841510,841821,841829,841850,841911,841981,842112,842121,842211,* *842219,8508,8509,8510,851310,851610,851621,851650,851660,851671,851672 (Home Appliances)* *910111,910112,910119,910121,910129,910191,910199,910211,910212,910219,* *910221,910229,910291,910299 (Watches)*
Malaysia	Malaysian mandatory standards that was introduced by Malaysia on 15 November 2008. These measures impose an excessively cumbersome conformity assessment procedure for imports of the 57 steel products (G/TBT/M/47 paras. 19-20) *720610, 720711, 720712, 720719, 720720, 721310, 721320, 721391,721399, 721410, 721420, 721430, 721491, 721499, 721510, 721550, 721590, 721622, 721632, 721633, 721640, 721650, 721891, 721899, 722100, 722211, 722220, 722230, 722240,722300,722410, 722490, 722870*
Japan	Revision to Enforcement Regulation for the Law Concerning the Rational Use of Energy and Ministerial Notification of the Ministry of Economy, Trade and Industry. Implications are for air-conditioners, freezers, and refrigerators (G/TBT/N/JPN/176) *841510,841581,841582,841810,841821,841829*[90]*,841830,841840*
Korea	Conformity Assessment Procedures for Lithium-Ion Batteries (G/TBT/N/KOR/193) *850780,*
Korea	KS C IEC61646:2007 standard for thin-film solar panels considered to be too stringent *854140,*
Korea	Recycling of Electrical and Electronic Products and Automobiles as announced in the Korean Official Journal N° 16160 on 30 December 2005. Imposes restrictions on the use of hazardous substances, puts in requirements for improvement in material/structure aspect related matters, and puts in place fees for compliance *870210, 870290, 870310, 870321, 870322, 870323, 870324, 870331, 870332, 870333, 870390, 871110, 871120, 871130, 871140, 871150, 871190*
Korea	Average fuel economy standards for passenger cars which can be construed as an unnecessary barrier to trade. (G/TBT/M/32)

[90] Ibid

	870321, 870322, 870323, 870324, 870331, 870332, 870333, 870390
Japan	Under the Ordinance of Law for Promotion of Effective Use of Resources (G/TBT/JPN/8), Japan had stated that this Enactment was to promote the "3Rs" (Reduce, Reuse and Recycle). Provisions require exporting manufacturing units to show that they have made effective measures to promote these 3Rs[91]. *841430,841440,8415(air-conditioners), 8418 (refrigerators)* *8528,852990 (television sets, and related parts), 851650 (microwave Ovens)* *8450,8451 (washing, drying, and dyeing machines)* *8471 (personal computers and data processing machines)*[92]
Japan	Difficulties in the processing time for registration of new drugs (USTR study) *30*
Japan	Long handling procedures and requirements that clinical tests have to be performed in Japan although similar tests have already been approved by competent authorities elsewhere. Getting approval for doing such clinical studies in Japan is also cumbersome with lengthy procedures, often as long as 5 years long. (USTR study) *30*
Korea	Before granting a marketing authorization, the South Korean authorities require applicants to repeat clinical trials already conducted elsewhere in the world (USTR study) *30*
Korea	Korean requirements for a Bridging Study to register a new product are inconsistent with international practices *30*
Korea	Cumbersome import requirements for medical devices *9011-9013, 9018-9027*
Japan	Labeling requirements adds to costs *52*
Korea	Labeling requirements are cumbersome and adds to costs *52*
Japan	Application of Japanese standards that are far more stringent than international norms *6105*
Japan	Stringent requirements for quality control of chemicals used in RMG *61,62*
Korea	Prior approval regime for telecommunication equipment adds to transaction costs *8517*
Korea	Testing and certification regime applicable to engineering goods are

[91] Handbook for Consumer Product Import Regulations 2010, Japan External Trade Organization (JETRO), available at (http://www.jetro.go.jp/en/reports/regulations/pdf/cons2010ep.pdf)

[92] Product list developed from submission of Malaysia to TBT Committee (G/TBT/M/23), and from Ministry of Economy, Trade, and Industry (METI), Government of Japan website (http://www.meti.go.jp/policy/recycle/main/english/law/promotion.html)

	cumbersome and expensive *84*

References

References

Abbot, K., Keohane, R., and Moravcsik, A. (2000) "The Concept of Legalization", *International Organization*, 54:3, 401-419.

Adlung, R., and Molinuevo, M (2008) "Bilaterism in Services Trade: Is there Smoke Behind the (BIT) Fire", *Journal of International Economic Law*, 11:2, 365-409.

Anderson, J. and Wincoop, E. (2004) "Trade Costs", *Journal of Economic Literature*, XLII, 691-751.

American Institute of Architects (2009) "The Business of Architecture: An AIA Survey Report on Firm Characteristics", American Institute of Architects (AIA).

Ando, M. (2006) "Fragmentation and Vertical Intra-Industry Trade in East Asia", *North American Journal of Economics and Finance*, 17:3, 257-281.

Bacchetta, M and Bora, B (2002), "Market Access for Industrial Products and the Doha Development Agenda", paper prepared for World Bank Conference on "Informing the Doha Process: New Trade Research for Developing Countries", Cairo, May.

Baccini, L., Dur, A., Elsig, M., and Milewicz, K. (2011) "*The Design of Preferential Trade Agreements: A New Dataset in the Making"*, World Trade Organization Economic Research and Statistics Division, Staff Working Paper ERSD-2011-10.

Baldwin, R. (1993) "A Domino Theory of Regionalism", NBER Working Papers No.4465, National Bureau of Economic Research.

Baldwin, R. (1997) "The Causes of Regionalism", *The World Economy*, 20:7, 865-888.

Baldwin, R. (2000), "Regulatory Protectionism, Developing Nations and a Two-Tier World Trading System", in Collins, S and Rodrik. D. (eds.) *Brookings Trade Forum*, Brookings Institution.

Baldwin, R. and Jaimovich, D. (2010) "Are Free Trade Agreements Contagious?" NBER Working Paper No.16084.

Baller, S. (2007) "Trade Effects of Regional Standards Liberalization: A Heterogeneous Firm Approach", World Bank.

Banerjee, P. (2005) “Towards an Appropriate Approach to Trade Diplomacy in Services” in Chakraborty, D., Sengupta, D., and Banerjee, P., (ed), *Beyond Transition Phase of the WTO: An Indian Perspective on Emerging Issues*, Academic Foundation.

Banerjee, P., Goldin, I., and Reinert, K. (2010) “Trade, Development, and Poverty Alleviation: Considerations for India and China,” in B. Hahn and C. Jaeger (eds.), Trade Liberalization and Protectionism, Nova Publishers, 2010.

Bardhan, A., and Kroll, C., (2003) “The New Wave of Outsourcing, Research Report”, Fisher Center for Real Estate and Urban Economics.

Barrett, C. and Yang, Y. (2001) “Rational Incompatibility with International Product Standards”, *Journal of International Economics*, 54:1, 171-191.

Bhandari, J. (2006) “Free Trade and Semi-Closed Borders: Symmetries, Consistencies and Contradictions”, *Journal of International Trade Law and Policy*, 5:2, 1-13.

Bhatnagar, P. and Manning, C. (2005) “Regional Arrangements for Mode 4 in the Services Trade: Lessons from the ASEAN Experience”, *World Trade Review*, 4:2, 171-191.

Blinder, A. (2006) “Offshoring: The Next Industrial Revolution?”, *Foreign Affairs*, Vol. 85:2, 113–128.

Boom, A. (1995) “Asymmetric International Minimum Quality Standards and Vertical Differentiation”, *The Journal of Industrial Economics*, 18:42, 101–120.

Borchert, I., Gootiz, B., and Mattoo, A. (2012) “Policy Barriers to International Trade in Services: Evidence from a New Database”, World Bank.

Bradford, S. (2003) “Paying the Price: Final Goods Protection in OECD Countries”, *Review of Economic and Statistics* 85:1, 24-37.

Budetta, M and Piermartini, R., (2009) “A Mapping of Regional Rules on Technical Barriers to Trade” in Estevadeordal, A., Suominen, K., and The, R. (eds) *Regional Rules in the Global Trading System*, Cambridge University Press.

Bunyaratavej, K., Hahn, E., and Doh, J. (2007), “International Offshoring of Services: A Parity Study”, *Journal of International Management*, 13:1, 7-21.

Cable, V. (1996) “The New Trade Agenda: Universal Rules amid Cultural Diversity”, *International Affairs*, 72:2, 227-246.

Calvin, L. and Barry, K. (1998) “Technical Barriers to Trade: A Case Study of Phytosanitary Barriers and U.S.-Japanese Apple Trade”, *Journal of Agricultural and Resource Economics*, 23:2, 351-66.

Carrere, C. and De Melo, J. (2011) "Non-Tariff Measures: What Do We Know, What Might Be Done?", *Journal of Economic Integration*, 26: 1, 169-196.

Cervantes, M. (2009) "Sarbanes-Oxley and the Outsourcing of Accounting", *The Michigan Journal of Business*, 2:1, 99-139.

Chakraborty, D., Banerjee, P., and Sengupta, D. (2008) "Can IBSAC Emerge as a Major Bargaining Coalition at the WTO Negotiations?" in Chaisse, J. and Balmelli, T. (eds) *Essays on the Future of the World Trade Organization*, Interuniversitaires Suisses

Chaudhuri, S., Mattoo, A., and Self, R. (2004) "*Moving People to Deliver Services: How can the WTO Help?*" World Bank Policy Research Working Paper 3238.

Chen, M., and Joshi, S. (2010), "Third-country Effects in the Formation of Free Trade Networks", *Journal of International Economics* 82:2, 238-248.

Chen, M., and Mattoo, A (2008) "Regionalism in Standards: Good or Bad for Trade?" *Canadian Journal of Economics*, 41:3, 838–63.

Chidambaram, P. (2013) "Budget Speech by the Finance Minister to the Lok Sabha", Delivered at the Indian Parliament on 28th February, 2013, available at (http://indiabudget.nic.in/ub2013-14/bs/bs.pdf)

Coase, R (1984) "The New Institutional Economics", *The Journal of Institutional and Theoretical Economics*, 140:1, 229-31.

Copeland, B. (1990) "Strategic Interaction among Nations: Negotiable and Non-Negotiable Trade Barriers", *Canadian Journal of Economics*, 23:1, 84-108.

Deardorff, A. (2001) "Fragmentation in Simple Trade Models", *North American Journal of Economics and Finance*, 12:2, 121–137.

Deardorff, A., and Stern, R. (2008) "Empirical Analysis of Barriers to International Services Transactions and Consequences of Liberalization," in Mattoo, A., Stern, S., and Zanini, G. (eds), *A Handbook of International Trade in Services*, Oxford University Press.

Deardorff, A., and Stern, R. (1998), "*Measurement of Non-Tariff Barriers*", University of Michigan Press.

Dhar, B. (2012) "Boosting Trade with ASEAN: India's FTA with ASEAN Will Not Lead to the Realization of Potential Gains Unless it does the Necessary Homework" LiveMint, September 24th

Drope, J. (2007) "The Political Economy of Nontariff Trade Barriers in Emerging Economies", *Political Research Quarterly*, 60:3, 401-414.

Egger, P. and Larch, M. (2008) “Interderdependent Preferential Trade Agreement Memberships: An Empirical Analysis”, *Journal of International Economics*, 76:2, 384-399.

Essaji, A. (2008) “Technical Regulations and Specialization in International Trade”, *Journal of International Economics*, 76:2, 166–176.

Everaert, P., Sarens, G., and Rommel, J. (2006) “*Outsourcing of Accounting Tasks in SMEs: An Extended TCE Model”*, University of Gent

Farrell, D., Laboissière, M., and Rosenfeld, J. (2006) “Sizing the Emerging Global Labor Market: Rational Behavior from Both Companies and Countries Can Help It Work More Efficiently”, *Academy of Management Perspectives*, 20:4, 23-34.

European Commission (2012) “Ninth Report on Potentially Trade Restrictive Measures” European Commission Director-General of Trade Report.

Feenstra, R., and Spencer, B. (2005) “Contractual Versus Generic Outsourcing: The Role of Proximity”, National Bureau of Economic Research (NBER) Working Paper No. 11885.

Finger, M., Hall, H., and Nelson, D. (1982) “The Political Economy of Administered Protection”, *The American Economic Review*, 72:3, 452-66.

Fink, C., and Molinuevo (2008a) “East Asian Preferential Trade Agreements in Services: Liberalization Content and WTO Rules”, *World Trade Review*, 7:4, 641-673.

Fink, C., and Molinuevo (2008b) “East Asian Free Trade Agreements in Services: Key Architectural Elements,” *Journal of International Economic Law*, 11: 2, 263–311.

Fisher, R., and Serra, P. (2000) “Standards and Protection”, *Journal of International Economics*, 52:2, 377-400.

Fontagne, L., Kirchbach, F., and Mimouni, M. (2005) “An Assessment of Environmentally Related Non-Tariff Measures”, *World Economy*, 28:10, 1417–1439.

Francis, J., and Martin, W. (2003) “Formula Approaches for Market Access Negotiations”, *World Economy*, 26:1, 1-28

Freund, C. (2000) “Multilateralism and the Endogenous Formation of Preferential Trade Agreements”, *Journal of International Economics*, 52:2, 359-376.

Fugazza, M. and Robert-Nicoud, F. (2010) “The “Emulator Effect” of the Uruguay Round on US Regionalism”, *Centre for Economic Policy Research*, Discussion Paper No.7703.

Ganguly, D. (2005) “*Barriers to Movement of Natural Persons: A Study of Federal, State, and Sector-Specific Restrictions to Mode 4 in the United States of America*”,

Working Paper No. 169, Indian Council for Research on International Economic Relations (ICRIER).

Gereffi, G., and Fernandez-Stark, K. (2010) "The Offshore Services Value Chain: Developing Countries and the Crisis" in Cattaneo et al. (ed), *Global Value-Chains in a Post-Crisis World: A Development Perspective*, World Bank.

Goldin and Reinert (2012) "Globalization for Development: Meeting New Challenges", Oxford University Press.

Gootiz, B, and Mattoo, A. (2009) "Services in the Doha Round: Whats on the Table?" *Journal of World Trade*, 43:5, 1013-1030.

Grajek, M (2004), "Diffusion of ISO 9000 Standards and International Trade", Discussion Paper No. SP II 2004 –16, Wissenschaftszentrum.

Graz, J. (2004) "Transnational Mercantilism and the Emergent Global Trading Order", *Review of International Political Economy*, 11:3, 597-617.

Grossman, G., and Helpman, E. (2005) "Outsourcing in a Global Economy", *Review of Economic Studies*, 72:1, 135-59.

Grossman, G., and Helpman, E. (1994) "Protection for Sale", *American Economic Review*, 84:4, 833-50.

Grossman, G., and Rossi-Hansberg, E. (2008) "Trading Tasks: A Simple Theory of Offshoring", *American Economic Review*, 98:5, 1978-1997.

Hansen, F. (2006) "Global Workforce: Special Report", *Workforce Management*, 85:7, 20-31.

Hoekman, B. (1996) "Assessing the General Agreement in Trade in Services" in Martin, W., and Winters, A (eds) *The Uruguay Round and Developing Countries*, Cambridge University Press.

Hoekman, B., and Kostecki, M. (2009) "*The Political Economy of the World Trading System: From GATT to WTO*", Oxford University Press.

Hoekman, B., and Mattoo, A. (2011) "*Services Trade Liberalization and Regulatory Reform: Re-invigorating International Cooperation*" Policy Research Working Paper No. 5517, World Bank.

Holcomb, T., and Hitt, M. (2007) "Toward A Model of Strategic Outsourcing", *Journal of Operations Management*, 25:2, 464–481.

Horn, H., Maggi, G. and Staiger, R. (2010) "Trade Agreements as Endogenously Incomplete Contracts", *American Economic Review*, 100:1, 394-419.

Horn, H. and Mavroidis, P. (2009) “Non-discrimination”, in Reinert, K. and Rajan, R. (eds) *The Princeton Encyclopedia of the World Economy*, Princeton University Press.

Jones, R., and Kierzkowski, H. (2001) “A Framework for Fragmentation”, in S, Arndt., and H. Kierzkowski.,(ed), *Fragmentation: New Production Patterns in the World Economy*, Oxford University Press.

Kim, J. (2011) “WTO Legality of Discriminatory Liberalization of Internal Regulations: Role of RTA National Treatment”, *World Trade Review*, 10:4, 473-95.

Kim, S. and Reinert, K. (2009) “Standards and Institutional Capacity: An Examination of Trade in Food and Agricultural Products,” *International Trade Journal*, 23:1, 54-77.

Kim, S. and Reinert, K. (2007) “Textile and Clothing Safeguards: From the ATC to the Future”, *The Estey Journal of International Law and Trade Policy*, 8:2, 155-74.

Kshetri, N. (2007) “Institutional Factors Affecting Offshore Business Process and Information Technology Outsourcing”, *Journal of International Management*, 13:1, 38-56.

Lang, A. (2011), “World Trade Law After Neo-liberalism: Re-Imagining the Global Economic Order”, Oxford University Press.

Lawrence, W. (2000) “*Reducing the Barriers to International Trade in Accounting Services: Why it Matters, and the Road Ahead*”, New York University Center for Law and Business, Working Paper #CLB-00-004,

Lawrence, R. Z. (1996) “*Regionalism, Multilateralism and Deeper Integration*” Integrating National Economies Series, Brookings Institution Press.

Leamer, E., and Storper, M (2001) “The Economic Geography of the Internet Age”, *Journal of International Business Studies*, 32:4, 641–665.

Leamer, E., (1990) “Latin America as a Target of Trade Barriers Erected by the Major Developed Countries in 1983”, *Journal of Development Economics*, 32:2, 337–368.

Lee, J., and Swagel, P. (1994) “"Trade Barriers and Trade Flows across Countries and Industries”, *The Review of Economics and Statistics*, 79:3, 372-82.

Leland, H. (1979), “Quacks, Lemons, and Licensing: A Theory of Minimum Quality Standards”, *Journal of Political Economy*, 87:6, 1328–1346.

Lesser, C. (2007) “Do Bilateral and Regional Approaches for Reducing Technical Barriers to Trade Converge Towards the Multilateral Trading System?”, OECD Trade Policy Working Paper No. 58, OECD.

Levchenko, A. (2007) “Institutional Quality and International Trade”, *Review of Economic Studies*, 74:3, 791-819.

Levy, F., and Murnane, R. (2004) "*The New Division of Labor: How Computers are Creating the Next Job Market*", Princeton University Press.

Lewin, A., Massini, S., and Peeters, C. (2009) "Why are Companies Offshoring Innovation? The Emerging Global Race for Talent", *Journal of International Business Studies*, 40:6, 901–925.

Lewin, A., and Peeters, C. (2006) "Offshoring Work: Business Hype or the Onset of Fundamental Transformation?, *Long Range Planning*, 39, 221-239.

Limao, N., and Tovar, P. (2009) "Policy Choice: Theory and Evidence from Commitment via International Trade Agreements", NBER Working Paper 14655.

Liu, R., Feils, D., and Scholnick, B., (2011) "Why are Different Services Outsourced To Different Countries?" *Journal of International Business Studies*, 42:4, 58-571.

Lloyd. P. (1974) "Strategies for Modifying Non-Tariff Distortions" in Corbell, H. and Jackson, J. (eds) *In Search of a New World Order*, Croon Helm.

Luo, Y. and Mezias, J. (2002) "Liabilities of Foreignness: Concepts, Constructs, and Consequences", *Journal of International Management*, 8:3, 217-221.

Manning, S., Massini, S, and Lewin, A. (2008) "A Dynamic Perspective on Next-Generation Offshoring: The Global Sourcing of Science and Engineering Talent", *Academy of Management Perspectives*, 22:3, 35-54.

Mansfield, E., and Busch, M., (1995) "The Political Economy of Non-Tariff Barriers: A Cross National Analysis", *International Organization*, 49:4, 723-49.

Martinez, A., Mora, J., and Signoret, J. (2009) "The CoRe NTMs Database: A Compilation of Reported Non-Tariff Measures", Office of Economics Working Paper No. 2009-12A, US International Trade Commission (USITC).

Mattoo, A., and Chaudhuri, S. (2004) "Trade in Services: Access to Foreign Markets, Domestic Reform and International Negotiations", Unpublished World Bank Paper.

Mattoo, A., and Fink, C., (2004) "Regional Agreements and Trade in Services: Policy Issues", *Journal of Economic Integration*, 19:4, 742-779.

Mattoo, A., and Sauve, P. (2003) "Domestic Regulation and Service Trade Liberalization" World Bank and Oxford University Press.

Mattoo, A and Sauve, P (2008) "Regionalism in Services Trade" in Mattoo, A., Stern, R., and Zanini, G. (ed), *A Handbook of International Trade in Services*, Oxford University Press.

Mattoo, A., Wunsch-Vincent, S. (2004) "Pre-empting Protectionism in Services: The GATS and Outsourcing", *Journal of International Economic Law*, 7:4, 765-800.

Maur, J., and Shepherd, B. (2011) "Product Standards" in Maur, J and Chaffour, J. (eds) *Preferential Trade Agreement Policies for Development: A Handbook*, World Bank Publication.

McDonald, J. (2005) "Domestic Regulation, International Standards, and Technical Barriers to Trade", *World Trade Review*, 4:2, 249-274.

McKinsey (2012) "*Help Wanted: The Future of Work in Advanced Economies*", McKinsey Global Institute Report.

Meyer, N., Fenyes, T., Breitenbach, M., and Idsardi, E. (2010) "Bilateral and Regional Trade Agreements and Technical Barriers to Trade: An African Perspective", OECD Trade Policy Working Paper No. 96, OECD.

Mezias, J. (2002) "How to Identify Liabilities of Foreignness and Assess their Effects on Multinational Corporations", *Journal of International Management*, 8:3, 265-282.

Moenius, J. (2006) "The Good, the Bad and the Ambiguous: Standards and Trade in Agricultural Products", Paper presented at the IATRC Summer symposium "Food Regulation and Trade: Institutional Framework, Concepts of Analysis and Empirical Evidence", May 28-30.

Naiki, Y (2010) "TBT provisions in Japan's RTAs: Some Prospects for Greater Convergence of TBT Policies", Osaka University.

NASSCOM (2008) "NASSCOM-Everest India BPO Study", National Association of Software and Services Companies (NASSCOM).

NASSCOM (2011) "Indian Knowledge Services Industry: Creating Global Business Impact", National Association of Software and Services Companies (NASSCOM).

Nguyen-Hong, D. (2000), "*Restrictions on Trade in Professional Services"*, Productivity Commission Staff Research Paper, AusInfo.

Nogues, J. Olechowski, A., and Winters, A. (1986) "Extend of Non-Tariff Barriers to Industrial Countries' Imports", *World Bank Economic Review*, 1, 181–199.

Nordas, H. (2005) "International Production Sharing: A Case for a Coherent Policy Framework", Discussion Paper No. 11, World Trade Organization.

Nsour, M (2008) "Regional Trade Agreements in the Era of Globalization: A Legal Analysis", *North Carolina Journal of International Law & Commercial Regulation*, 33, 359-436.

Otsuki, T., Wilson, J., and Sewadeh, M. (2001) "What Price Precaution? , European Harmonisation of Aflatoxin Regulations and African Groundnut Exports", *European Review of Agricultural Economics*, 28:3, 263–283.

Panagariya, A. (2005) "India's Trade Reform: Progress, Impact and Future Strategy", in Bery, S., Bosworth, B., and Panagariya, A. (eds) *India Policy Forum 2004*, Brookings Institution Press and NCAER.

Panizzon, M. (2010) "*GATS Mode 4 and Migration Agreements"*, Occasional Paper No. 47, Friedrich Ebert Stiftung, Geneva.

Park, I. (2010) "What's New in the Drug System and KFDA", American Chamber of Commerce, Korea, available at (http://www.amchamkorea.org/publications/upload/Innovation/InSookPark.pdf).

Park, J., (2011) "Enforcing International Trade Agreements with Imperfect Private Monitoring", *Review of Economic Studies*, 78:3, 1102–1134.

Persin, D. (2011) "Market Access for Small versus Large Service Enterprises: The Preferential and Multilateral Trade Liberalization Tracks Compared", *Journal of World Trade*, 45:4.

Piccioto, S. (2003) "Private Rights vs. Public Standards in the WTO", *Review of International Political Economy*, 10:3, 377-405.

Rabach, E., and Kim, E. (1994) "Where is the Chain in Commodity Chains: The Service Sector Nexus" in Gereffi, G., and Korzeniewicz, M. (ed) *Commodity Chains and Global Capitalism*, Greenwood Press.

Raustiala, K, (2005) "Form and Substance in International Agreements", *The American Journal of International Law*, 99:3, 581-614.

Ray, E. (1981) "The Determinants of Tariff and Non-Tariff Restrictions in the United States", *Journal of Political Economy*, 89:1, 105-121.

Rosendorff, B., and Milner, H. (2001) "The Optimal Design of International Trade Institutions: Uncertainty and Escape," *International Organization*, 55:4. 829-857.

Rosendorff, B., and Milner, H. (2001) "The Optimal Design of International Trade Institutions: Uncertainty and Escape," *International Organization*, 55:4. 829-857.

Roy, M. Marchetti, J., and Lim, H., (2007) "Services Liberalization in the New Generation of Preferential Trade Agreements (PTAs): How Much Further than the GATS?," *World Trade Review*, 6:2, 155-192.

Santana, R. and Jackson, L (2012) "Identifying Non-Tariff Barriers: Evolution of Multilateral Instruments and Evidence from the Disputes (1948−2011)", *World Trade Review*, 11:3, 462-478.

Sen, R. and Srivatsava, S. (2012) “Asia's International Production Network: Will India be the Next Assembly Centre?", ?" ARTNeT Working Paper No. 118, Trade and Investment Division, United Nations ESCAP.

Seshadri, V. (2009) “Evolution in India's Regional Trading Arrangements”, *Journal of World Trade*, 43:5, 903-926.

Sheldon, I. (2012) “North–South Trade and Standards: What Can General Equilibrium Analysis Tell Us?”, *World Trade Review*, 11:3, 376-389.

Stephenson, S. (2002) “Regional versus Multilateral Liberalization of Services”, *World Trade Review*, 1:2, 187-209.

Sturm, D. (2006) “Product Standards, Trade Disputes and Protectionism”, *Canadian Journal of Economics*, 39:2, 564-81.

Swinnen, J, and Vandermoortele, T. (2012) “Trade and the Political Economy of Standards”, *World Trade Review*, 11:3, 390-400.

Tsukamoto, E. and Tripathi, S. (2011) “Japan’s Drug Lag and National Agenda”, Biomedical Consulting International Inc Whitepaper, available at (http://www.biomedconsult.com/201101focusjapan.pdf).

Valletti, T. (2000), “Minimum Quality Standards under Cournot Competition”, *Journal of Regulatory Economics*, 18:3, 235–245.

Vancauteren, M. and Weiserbs, D. (2005) “Intra-European Trade of Manufacturing Goods: An Extension of the Gravity model”, Discussion Paper No. 2005-26, Department of Economics, Université Catholique.

Vernon, R. (1977) “Storm over the Multinational: The Real Issues”, Harvard University Press.

Williamson, O. (1985) “Assessing Contract” *Journal of Law, Economics and Organization*, 1:1, 177-208.

Wilson, J. (2009) “Technical Barriers to Trade”, in Reinert, K. and Rajan, R. (eds) *The Princeton Encyclopedia of the World Economy*, Princeton University Press.

Winters, A., (2008) “The Temporary Movement of Workers to Provide Services”, in Mattoo, A., Stern, S., and Zanini, G. (eds), *A Handbook of International Trade in Services*, Oxford University Press.

Winters, A (1987) “Negotiating the Abolition of Non-Tariff Barriers”, *Oxford Economic Papers, New Series*, 39:3, 465-480.

WTO (2011) *"The WTO and Preferential Trade Agreements: From Co-Existence to Coherence"*, World Trade Report 2011, WTO.

WTO (2009) "Trade Policy Commitments and Contingency Measures", World Trade Report 2009, WTO.

WTO (1998) "Architectural and Engineering Services-Background Note by the Secretariat", Council for Trade in Services Document S/C/W/44, July.

Yarbrough, B., and Yarbrough, R. (1987), "Institutions for the Governance of Opportunism in International Trade", *Journal of Law, Economics, and Organization*, 3:1, 129-139.

Yue, C., Beghin, J., and Jensen, H. (2006) "Tariff Equivalent of Technical Barriers to Trade with Imperfect Substitution and Trade Costs", *American Journal of Agricultural Economics*, 88:4, 947–60.

Zaheer, S. (1995) "Overcoming the Liability of Foreignness" *Academy of Management Journal*, 38:2, 341–363.

Curriculum Vitae

Pritam Banerjee grew up in Kolkata (Calcutta), India. Pritam studied at Illinois Wesleyan University, where he got his Bachelor of Arts in Economics in 2001. He went on to receive his Master of Arts in Economics from Jawaharlal Nehru University, New Delhi in 2003. Pritam received his Doctorate in Public Policy from George Mason University in 2013. Pritam has previously worked at the World Bank in Washington DC, the Confederation of Indian Industry (CII) in New Delhi, and is currently engaged as the Senior Director for Corporate Public Policy for South Asia with Deutsche Post DHL.