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Inter-modal Linkages in Services Trade

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INTER-MODAL LINKAGES IN SERVICES TRADE

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by Rupa Chanda

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ABSTRACT

According to the GATS, services can be traded through four different modes of supply, namely, cross border supply, consumption abroad, commercial presence, and movement of natural persons, termed modes 1, 2, 3, and 4, respectively. There is much evidence to indicate interdependence across these four modes in services trade. There are essentially two types of linkages, namely, positive and negative linkages, across the various modes of supply. Positive linkages take the form of (i) complementarities across modes, where one or more mode is simultaneously used for providing the service across borders; and (ii) facilitation across modes, where trade through one mode creates conditions that are conducive for trading through other modes. Negative linkages take the form of (i) substitution across modes, where trade through one mode is substituted by another; (ii) restrictions on one mode which affect trade through other modes of supply and distort the way in which a service is trade; and (iii) restrictions which apply across multiple modes and constrain several modes simultaneously. In addition to these first order linkages, there are also extended spillover effects across the modes that arise indirectly over the medium and long run.

This paper discusses the various kinds of linkages that are found in service sector trade, using evidence from companies, countries, and surveys and from a wide range of services. The objective is to provide an integrated perspective on service sector trade and related multilateral negotiations under the GATS so that countries can better leverage cross modal and cross-subsectoral trade opportunities, address constraints in a holistic manner, and maximize the overall gains from services trade.

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EXECUTIVE SUMMARY

According to the GATS, services can be traded through four different modes of supply, namely, cross border supply, consumption abroad, commercial presence, and movement of natural persons. These are termed modes 1, 2, 3, and 4, respectively. There is much evidence to indicate interdependence across these four modes in services trade. There are essentially three types of linkages, namely, positive, negative and substitutive linkages, across the various modes of supply. Positive linkages take the form of (i) complementarities across modes, where one or more mode is simultaneously used for providing the service across borders; and (ii) facilitation across modes, where trade through one mode creates conditions that are conducive for trading through other modes. Negative linkages involve (i) restrictions on one mode, which affect trade through other modes of supply and distort the way in which a service is traded; and (ii) restrictions which apply across multiple modes and constrain several modes simultaneously. Substitutive linkages involve the substitution of one mode of supply with another. In addition to these first order linkages, there are also extended spillover effects across the modes that arise indirectly over a period of time.

This paper discusses the various kinds of linkages that are found in service sector trade, using evidence from companies, countries, interviews and surveys. The objective is to provide an integrated perspective on service sector trade so that countries can better leverage cross modal and cross-subsectoral trade opportunities, address constraints in a holistic manner, and maximize the overall gains from services trade.

Following the introduction, Section 2 of the paper highlights positive linkages across various services from around the world. These include engineering and R&D, education and training, financial, business, and retail distribution services. The most common linkage that emerges is that between modes 3 and 4, where temporary movement of service providers complements commercial presence, and there is a supporting and intermediary role played by mode 1 in this process. There are several examples of firms that have established commercial presence overseas and have had intrafirm movement and deputation of personnel (mode 4) across countries to run the overseas operations, i.e., modes 3 and 4 have been complementary. In some of the examples, commercial presence overseas through captive subsidiaries has enabled the offshoring of certain service operations. In such cases, mode 3 has facilitated mode 1 or cross border supply. In some of the services, such as in education and training services, complementary and facilitating relationships are present between modes 2, 3, and 4, with some organizations setting up overseas networks of training institutes and subsidiaries, staffing them with instructors from the home market, and in turn attracting students from other countries to the home country's institutions.

Section 3 discusses the nature of positive linkages in information technology and business process outsourcing services and in healthcare services. In the case of IT and BPO services, the most prevalent intermodal linkage that emerges in this context is the complementary relationship between modes 1 and 4, i.e., the complementary nature of offshore and on-site provision of software and other business services, the latter often being supported and facilitated by mode 3, i.e., the overseas development centre or subsidiary of the client firm. In the case of healthcare services, company as well as country-specific evidence is provided. The examples in this subsector reveal the interdependence across all four GATS modes, for example mode 2, the consumption of health services by foreign patients which is facilitated by the setting up of foreign hospitals and joint ventures with foreign partners, i.e., mode 3, and supported by

teleconsultation and other telehealth services, i.e., mode 1 as well as the staffing of overseas health care establishments with home country health care professionals and management personnel.

Section 4 discusses negative linkages across different services, arising from cross-cutting limitations and intermodal distortions. Cross-cutting limitations are highlighted by examples where restrictions on one mode constrain the scope for trade through other modes, such as restrictions on commercial presence, mode 3, that curtail the scope for associated mode 4 based delivery and recognition requirements which cut across modes 1 and 2 in sectors like healthcare services. Intermodal distortions are highlighted using examples of restrictions such as data privacy laws which force cross border supply of certain services to be done only through the establishment of captive subsidiaries, i.e., mode 3.

Section 5 discusses substitutive linkages. Intermodal substitution effects are discussed using examples from health and education services where overseas commercial presence can substitute for consumption by foreigners in the home country of investment, i.e., mode 2 exports. There are also examples from BPO and IT-enabled services, where temporary movement of service providers or mode 4 is substituted by voice/internet/satellite based offshore delivery of various business services under mode 1. There is also the example of retail distribution services where the need for overseas commercial presence is obviated by cross-country retailing online and expanding e-commerce opportunities.

Section 6 outlines domestic policy measures and strategies as well as modalities for the GATS negotiations so that the positive, substitutive, and negative linkages across modes and across service lines can be internalized. The discussion notes three broad areas for domestic policy action. Firstly, it suggests that governments facilitate the central modal source of the positive linkage where such a mode exists and can be identified, by removing various domestic constraints to this mode. Secondly, it suggests the need to facilitate and increase the effectiveness of the main channels by which the positive linkage arises and influences other modes. Thirdly, it suggests that governments address the domestic policy-based, infrastructural, and other constraints that affect trade opportunities in related modes so that the positive linkages are realized and negative linkages are reduced. It also notes the need to reflect these three broad elements, namely, facilitating the key drivers, promoting the channels by which linkages are propagated across modes, and liberalizing all modes in general in the negotiating strategy at the multilateral, regional, and bilateral levels. It points out the need to remove cross-cutting limitations across modes and to recognize where the scheduling of commitments in one mode is conditional on market access in other modes in the context of a country's negotiating strategy under the GATS.

The paper concludes by summarizing the main findings based on the evidence from different companies and countries across a wide range of services. It also notes that inter-modal dynamics and spillover effects in services trade are likely to become more widespread, complex, and multidirectional in nature, due to growing transnationalization of production and services, further advances in information and communication technology, and the emergence of many more countries in services trade.

List of Acronyms

BPO – Business Process Outsourcing

APEC- Asia Pacific Economic Cooperation

NAFTA- North American Free Trade Agreement

TCS – Tata Consultancy Services

GATS- General Agreement on Trade in Services

WTO- World Trade Organization

TN visas – Non-Immigrant visas for professionals who are citizens of NAFTA countries and eligible under the North American Free Trade Agreement

INTER-MODAL LINKAGES IN SERVICES TRADE

1. Introduction

1. Trade in services takes many forms and is a complex phenomenon. It is embodied in cross-country flows of information, data, financial and intellectual capital, labour, and goods. Barriers to services trade are also complex taking the form of regulatory, technical, infrastructural, and policy constraints. In recent years, with the globalization of production through global sourcing and offshoring of processes, with advances in information and communication technology that have enhanced trade opportunities in services, and with the opening up of economies to foreign capital and technology, services trade has become all the more complex in nature. Much of this complexity is due to the fact that there is now greater interdependence and synchronicity across the different modes by which services are traded across countries.

2. There is considerable evidence to indicate this interdependence across the different forms of delivery in cross border trade of services. Services are often traded simultaneously through multiple modes of supply, or in a phased or sequential manner through more than one mode of supply. There are strong facilitating relationships across modes. For instance, overseas establishment of subsidiaries or teleworking establishments enable offshoring of services and thus export of services through electronic and voice-based delivery to the source country of the investment or even third countries.

3. Different forms of service trade may also complement one another. For instance, the establishment of commercial presence may be associated with the temporary staffing of such overseas establishments with home country service providers, often in a managerial capacity, to oversee operations. Here, movement of labour complements the movement of capital. Likewise, offshore delivery of information technology services by overseas software development centres may require complementary temporary on-site presence of technical and managerial staff to support the offshore work.

4. By the same token, barriers to one form of service trade could become trade barriers to other forms of delivery. For instance, restrictions on setting up of commercial establishments and on firms' employment decisions may impede the associated international flows of service providers who would staff such establishments. Modes may also substitute for one another. For instance, immigration and labour market barriers and difficulties in temporarily deputing personnel on-site for delivering services may result in increased offshoring and virtual delivery of services across countries.

5. The General Agreement on Trade in Services (GATS) provides a useful way to conceptualize the various forms of services trade and to capture different kinds of linkages across these forms of trade, through a mode-wise classification. The four GATS modes of services trade include:

- Cross border supply or mode 1 when the service is delivered within the territory of the consumer from the territory of the service supplier and actually crosses national borders. Cross border supply may entail delivery by mail, telecommunication/satellite based data or information flows

(e.g., distance education, telemedicine, financial transfers done electronically) from one country to another¹;

- Consumption abroad or mode 2 which refers to trade in services where the consumer of the service moves to consume a service in another country (e.g., tourism, persons seeking medical treatment abroad, students pursuing higher education in other countries);
- Commercial presence or mode 3, which refers to the establishment of any type of business or professional enterprise in the foreign market for purposes of supplying a service. This mode involves granting of rights to a foreign interest to establish an investment in the host country. Commercial presence includes foreign equity participation, establishment of corporate subsidiaries, joint ventures, partnerships, sole proprietorships, associations, representative offices, and branches/acquisition of such entities (e.g., financial, telecom, distribution services)²; and
- Movement of natural persons or mode 4 which refers to the temporary cross border movement of individuals, either in an independent capacity or as part of a commercial establishment (e.g., software, health, and construction services)³. One of the distinguishing characteristics of mode 4 is that it is temporary (though temporary is not defined in the GATS) and that it is distinct from economic migration, which involves entry into the permanent labour market and citizenship.

6. While the GATS is a conceptual framework for understanding and analysing trade in services, it is important to recognize that in reality, it is often difficult to distinguish between the different forms of trade in services. Multiple modes may be simultaneously involved in the course of services trade and one mode may be subsumed within another. Often a particular mode may be the primary form of commercial exchange between two countries, but exchange through the latter mode may only be possible when supported by other modes. For instance, a service may be primarily traded through information and data flows over the internet and via satellite links, but the latter may only be possible through some supporting temporary movement of professional service suppliers between the two countries to execute the offshore project. While in the purely commercial sense, the primary form of trade and foreign exchange earnings here is through the offshore component, there is related reliance on temporary cross border movement of

¹ It should be noted that there is no agreement amongst WTO Members as to whether electronic supply falls under mode 1 (cross-border supply) or mode 2 (consumption abroad), i.e., whether the service is crossing borders or the virtual consumer is consuming within the territory of the service supplier. While throughout the paper electronic supply is attributed to mode 1, this is without prejudice to any agreements amongst WTO Members on this issue.

² Standard BoP statistics do not capture mode 3 in services. The best proxy for this mode is the Foreign Affiliates Trade in Services statistics. There are some unresolved issues regarding what constitutes commercial presence in a strict GATS sense, such as the extent of foreign equity participation and involvement with the host country that is required to fit this mode. This paper, however, considers any form or level of commercial involvement through an office/subsidiary/other juridical presence as constituting mode 3, the underlying assumption being that there are associated capital flows and authorizations from the host country. This may not always directly match the GATS definition of mode 3.

³ Mode 4 includes intra-firm movement of service providers, such as between subsidiaries of a firm located in different countries or between the head office and an overseas subsidiary of the same company. There is some disagreement about the coverage of foreign employees as opposed to contractual service suppliers of domestic companies. This paper takes a broad definition of mode 4 by capturing independent as well as establishment related contractual and employee movement within and among firms and temporary movement at all skill levels. It is important to note, however, that often it is not possible to determine whether the movement is temporary or not. But throughout the paper, mode 4 does not refer to economic migration.

service providers to supervise and coordinate the work. From the perspective of a firm that is engaged in services trade, the two modes would be seen as an integrated package and as contributing together to the foreign exchange earned by executing this work. Thus, in reality it is difficult to directly map the GATS modes (which if strictly legally interpreted refer to commercial exchange of services across countries) to how services are actually traded.

1.1 Scope and objectives

7. This paper illustrates the different kinds of linkages that exist across various modes by which services can be supplied across countries. Wherever relevant, it also highlights the channels through which these linkages come into effect. To illustrate these linkages, it provides examples from a wide range of service subsectors and a wide range of developing and developed countries. There are essentially two relationships across modes, complements and substitutes. The former may take the form of positive linkages and facilitating relationships as well as negative linkages while the latter takes the form of intermodal substitution effects.

8. Positive linkages take the form of:

- complementarities across modes, where one or more mode is simultaneously used for providing the service across borders; and
- facilitation across modes, where trade through one mode creates conditions that are conducive for trading through other modes.

The difference between these two types of linkages is that the former is a simultaneous and supportive relationship while the latter is a sequential relationship, with one mode leading to another, with no particular *a priori* time frame within which this sequencing occurs.

9. Negative linkages take the form of:

- complementarities across modes whereby restrictions on one mode affect trade through other modes of supply and distort the way in which a service is traded; and
- negative spillover effects across modes whereby restrictions apply across multiple modes and constrain several modes simultaneously.

10. Substitutive linkages involve substitution across modes. Trade via one mode is substituted by another mode. Substitution may result from relative ease of trading in certain modes over others or due to restrictions placed on certain modes, which force the choice of one mode over another.

11. In addition to these first order linkages, there are also extended spillover effects across the modes that arise indirectly over the medium and long term. Survey-based evidence from selected services is provided to highlight these externalities across modes. The discussion in this paper also illustrates that there are inter-sectoral dynamics within the service sector.

12. The main objective of the paper is to provide an integrated perspective on services trade so as to enable countries to leverage upon cross modal and cross-subsectoral trade opportunities, to address constraints in a holistic manner, and to maximize the overall gains from services trade. The discussion suggests that the gains from liberalizing any particular mode may be far greater than generally perceived, if one accounts for such dynamic linkages and externalities across modes and across activities. The paper

indicates that both cross-modal and cross-activity linkages are relevant for policy formulation and for framing international negotiating strategies in services.

13. It is important to note two caveats at the outset. The first caveat is that the discussion of modes and intermodal linkages highlighted in the various services trade examples in this paper does not always follow the strict GATS interpretation of each mode due to practical difficulties in doing so. This is because much of the discussion on linkages is gleaned from general information that is available on company activities. Companies rarely explicitly note the presence of inter-modal linkages in their services trade operations. Nor do companies view services trade from a GATS specific modal perspective, as was apparent in discussions held with various companies. Such discrepancies between services trade in practice and services trade as defined by and as committed under the GATS, makes it difficult to shed very detailed insight on the exact nature and specifics of modal linkage in line with the GATS text.

14. The second caveat is that when modes are discussed in this paper, they may not always constitute commercial exchange. In many cases, they are enabling mechanisms for trade via other modes. This raises the point of why one would use the GATS modal framework without sticking to the definitions of that framework. The reason is as noted earlier, GATS does not strictly represent services trade as it occurs in the real world and hence available information cannot be mapped one to one with GATS definitions either. The objective of the paper is more to understand existing relationships across different forms of services delivery so that countries can recognize synergies across modes and services and negotiate more effectively. Once there is recognition of linkages at a more conceptual level and there is a better understanding of the modes and services where linkages tend to be prevalent, negotiators can obtain the requisite information in strict accordance with the GATS definitions and commitment structure, so as to incorporate the issue of linkages in their negotiations.

15. In view of these deviations from strict GATS terminology and definitions, the discussion in this paper refers to modes in terms of the nature/form of service delivery rather than specifically to GATS modes 1, 2, 3, and 4. However, in each case it points out the most directly relevant GATS mode. Attempt has been made to go as close as possible to the GATS definition of modes, but where there is looser interpretation of the modes or some possible ambiguity in interpretation, this has been pointed out. The underlying idea has been to use GATS as a conceptual construct for visualizing modes and intermodal linkages rather than a strict legal text for defining and relating modes.

1.2 *Outline of paper*

16. Section 2 discusses the positive linkages across modes, providing examples from a range of sectors. Section 3 discusses the positive linkages that exist in the information technology (IT), business process outsourcing (BPO) and health services. Section 4 discusses substitution effects across modes. Section 5 discusses the negative linkages across modes in terms of intermodal distortions, and cross-cutting limitations. Section 6 concludes by outlining some domestic policy measures and strategies, as well as modalities for the GATS negotiations, which may help address the linkages across modes.

2. Positive linkages across modes in services trade

17. There are numerous examples that can be given across service lines and activities and from companies around the world, which demonstrate the positive relationship that exists across the various GATS modes of supply. The following discussion provides examples of complementary as well as facilitating relationships across modes. Both of these positive linkages have been combined as many of the examples that were researched exhibited the two in conjunction and it was often difficult to discuss them separately.

2.1 *Examples of complementary and facilitating relationships between modes*

18. Services are traded simultaneously through multiple modes of supply, whereby there is a mutually supporting relationship between two or more modes. One of the most common cases is that of movement of capital that is supported by movement of labour and often also delivery of offshore services through voice, satellite, or electronic means (i.e., GATS modes 3, 4, and 1).

(i) *Construction, and integrated engineering services*⁴

19. The **Shell-Nanhai project** is a joint venture between China National Offshore Oil Corporation (CNOOC) and Shell Petrochemicals Company Limited to build a \$4.3 billion petrochemical complex in Guangdong province. Shell is performing the related engineering and design services at seven locations around the world (Beijing, Wuhan, Yokohama, Kuala Lumpur, Madrid, and Reading). The offsite engineering work is supported by a resident engineering team, which manages work at the construction site in China. The project has also involved visits by delegations from the Netherlands and the UK – e.g., a commercial delegation of over 50 Dutch and UK representatives of business subsidiaries in the Guangzhon area have visited the site to participate in the project. This construction project involves temporary movement of service providers (mode 4) for on-site engineering services and business visitors and intra-company transfers, as well as offshore engineering and design services (mode 1). Hence, there is a complementary and supporting relationship between movement of labour, and movement of data/information.

(ii) *Engineering and R&D services*

20. Under its Global Research Programme, **General Electric (GE)** employs over 2,000 researchers at three multidisciplinary facilities in the US, India, and China. The centres engage in research and development work and are responsible for many of GE's new products and services. Engineers across the three centres work on the same project from different locations – e.g., the engineer in the US works on the project with the chemist in India and the physicist in China. This helps GE design products faster and in a consistent and replicable manner and enables integration of field data and measurements to make products faster, perform better, and enhance future designs. Here, overseas commercial presence in the form of R&D centres and company subsidiaries (mode 3) enables offshoring of product development and research services (mode 1) between different centres. Both commercial presence and offshoring constitute trade in this example, as both are explicit forms of commercial transaction with associated revenues and spending.⁵ It is worth noting that such operations are likely to require intrafirm movement of personnel across the various subsidiaries of GE and thus cross border mobility of labour for management, supervision, and coordination purposes is implicit in this example.

(iii) *Education and training services*

21. **Aptech** is an Indian company providing IT training via a network of over 3,200 training centres in 52 countries. It trains over 300,000 students and professionals per year on latest technologies and IT applications. Aptech Worldwide has formed alliances with several universities to provide programmes at other educational institutes and, through these franchises and collaborative arrangements with other educational institutions, invites students from all over the world to India for training (e.g., Aptech franchises in Korea, Sri Lanka, Tanzania and Kenya have sent students to India to study and thirty El Salvadorean students were sponsored by their government over a 9-month period to get diplomas in

⁴ See http://www.shell.com/cnoocshell.com/operation/asp/english/news_frame.asp.

⁵ See <http://www.crd.ge.com/cooltechnologies/technologydetail.jsp?id=187> and <http://www.crd.ge.com/wherewework/index.jsp>.

advanced software technology).⁶ It deputes its IT trainers to these overseas franchises and centres. Aptech's overseas commercial presence through franchises would constitute mode 3 exports and its deputation of trainers to overseas centres would represent mode 4 exports.⁷ The latter in turn facilitates consumption abroad as some of the overseas students are brought to the home country training centres for specialized programmes and further study. The latter constitutes mode 2 based exports of computer education by Aptech.

22. Similarly, **Vietnam** is trying to address its skills gap in the IT area through use of overseas trainers like Aptech, NIIT, and Oracle. For instance, Australia's Royal Melbourne Institute of Technology became the first 100% foreign owned university to establish in Vietnam in 2003.⁸ These institutes are training thousands of Vietnamese programmers in dedicated centres across the country. The trained programmers are then employed in offshore IT development work for foreign companies. Here, mode 3 imports of education and training services by Vietnam is enabling it to develop its human resource base and facilitating its exports of IT and IT enabled services (most analogous to mode 1). This example also shows the linkages across sectors, in this case education services and IT and BPO services, and between imports and exports of services.

23. Another example of education and training services trade between **Malaysia and Indonesia** illustrates the complementarity between commercial presence and movement of service providers. Thousands of Indonesian workers go to Malaysia to work as construction workers, plantation workers, domestic help, and factory workers. As such workers are typically engaged in short-term contracts in low and semi-skilled occupations, their movement to Malaysia can be considered as mode 4 exports by Indonesia to Malaysia. The Association of Indonesian Manpower Service Agencies (APJATI) and a Malaysia-based education and training firm, Infomaya Group of Companies (IGC) have partnered to help Indonesian workers improve their skills and facilitate their access to the Malaysian market.⁹ The 400 plus agencies falling under APJATI supply workers for training. The latter learn relevant skills, languages such as Bahasa Malaysia and English, and Malaysian laws and culture, from trained Malaysian instructors. The workers are given certificates at the end of the project, which are recognized by Malaysian employers. The training is undertaken with the help of IGC's subsidiaries in Indonesia, namely, Alliance Legacy (which formulates training programmes for instructors and selects training assessment material for workers) and the Progressive Skill Development Centre (which arranges for accreditation and certification of the workers who have completed the courses). APJATI provides the administrative and training facilities to its 130 worker training institutes in Indonesia and in collaboration with IGC subsidiaries trains around 10,000 workers every month. Here, the presence of IGC subsidiaries or commercial presence (mode 3) in Indonesia is supported by movement of Malaysian instructors to these subsidiaries for imparting training.¹⁰ Moreover, this process facilitates and supports the movement of Indonesian workers to Malaysia (which as noted earlier, can be seen as low and semi-skilled mode 4 exports by Indonesia given the temporary and

⁶ See http://aptech_globaltraining.com/individual_training.htm, http://aptech_globaltraining.com/individual-training.htm, http://www.aptech-globaltraining.com/iwp/participants/participants_h.htm and http://www.aptech-globaltraining.com/iwp/news_4u/news_h.htm.

⁷ Note that Aptech contracts IT trainers and thus movement by contractual employees across Aptech's franchises around the world is mode 4.

⁸ See www.offshoredev.com/jsp/features_detail.jsp?fid=9.

⁹ See www.bernama.com/bernama/v3/news.php?id=82731.

¹⁰ It is again unclear whether this intrafirm movement of instructors would constitute mode 4 in the strict GATS sense given the ambiguity about the coverage of intra-firm employee movement versus intra-firm contractual service provider movement under mode 4. But if one were not to make such a distinction between employment-based and contract-based movement, then one could consider the deployment of Malaysian instructors to train Indonesian workers as constituting mode 4.

repeat nature of such flows) Again, one sees in this example the cross sectoral and import-export linkage in services trade.

24. The **Educational Testing Services agency** (ETS) is a leading educational training and testing company based in the US.¹¹ It offers test-related training, consultations, and educational solutions and helps organizations worldwide, including ministries of education, universities, testing agencies and other educational organizations in over 35 countries. It provides four types of training, including 3 to 5 day courses, customized courses for client requirements and consumers, training assessment, and programmes through regional institutes. Training is conducted at its US headquarters and international sites. ETS staff works with regional educators and instructors and travel to the overseas institute sites to conduct courses and training programmes. The complementarity here is mainly between commercial presence and associated movement of service providers, and potentially of consumers of education services. ETS provides training at its overseas establishments (mode 3 exports in education testing services), complemented by movement of ETS staff (clearly mode 4 to the extent this involves contract-based intrafirm movement). The overseas presence of ETS also leads to inflows of foreign trainers and instructors to ETS' headquarters for enrolment in training programmes and workshops conducted in the US (thus mode 2 exports by the US).

25. The very establishment of international schools is often driven by commercial presence and associated movement of service providers in various service sectors. For instance, companies that establish subsidiaries abroad are often instrumental in setting up international schools to provide education to their employees' children. Usually, such schools are administered under contract by an international educational organization like the International Schools Services. The associated management, administration, and recruitment services are provided by such organizations. For example, in the Nanhai Shell case discussed earlier, an international school was opened up near the site to attract expatriate Chinese employees of the China Shell Petrochemicals Company (CSPC) and for the children of the foreign consultants involved in the programme.¹² Thus, the joint venture (mode 3) in energy and construction services and associated presence of service suppliers (mode 4) necessitated the establishment of an international school (mode 3 in education services). Related to the establishment of such schools is the staffing by teachers and administrators who are largely recruited from overseas. Thus, there is a supporting relationship between commercial presence and movement and presence of service providers, across different services (energy, construction, and education in the Nanhai example) and across exports and imports of services. Commercial presence serves as the driving force in this linkage.

(iv) *Financial services*

26. There is a strong complementarity between commercial presence and movement and presence of service suppliers in the case of financial services. Banks and financial institutions often establish overseas branches and subsidiaries in countries where there is a strong presence of home country nationals. While it is generally difficult to distinguish between temporary and permanent migrants among expatriate populations, in the case of the Gulf and Middle East regions, foreign nationals are typically temporary service suppliers engaged as employees or contract-based workers for host or third country firms/individuals. The presence of such suppliers with ties and return intentions to the home country creates business opportunities for banks and financial institutions from the source country of movement – e.g., South Asian financial institutions have opened branches in the Gulf to tap the demand for financial services by their non-resident populations. The aim of these banks is to increase customer accounts among the non resident population, develop further trade business and offer a wider range of products in the Gulf

¹¹ See www.ets.org/etseurope/pmckinsey.html.

¹² See http://www.shell.com/cnoocshell.com/operation/asp/english/news_frame.asp.

and in the source countries, often in partnership with host country banks. For instance, ICICI bank has recently opened a representative office in Dubai to cater to the non-resident Indian (NRI) community in the Gulf and is planning to open a full-fledged branch there. In this case, trade in financial services in the form of overseas offices, branches, and subsidiaries (mode 3 if this involves joint ventures or establishment of subsidiaries but not strictly mode 3 if only tie-ups or representative offices are involved) is driven by presence of service suppliers from the source country of investment.¹³ ICICI's commercial presence has in turn facilitated cross border supply of financial services. ICICI has had a strategic partnership with Emirates Bank International for joint marketing of retail banking and wealth management products to that bank's large non-resident Indian customer base, with the service to be provided electronically (via mode 1) by ICICI. ICICI will support and serve these overseas customers through electronic delivery channels apart from making use of a network of branch ATMs and door-to-door delivery mechanisms.

27. The rise in business process outsourcing has also led to interesting complementary linkages between commercial presence and remote delivery of financial services.¹⁴ **Morgan Stanley** has set up a wholly-owned subsidiary in India, which provides equity research, report writing, formulation of deal structures, maintenance of databases, and updating of websites to Morgan Stanley through offshore delivery (analogous to mode 1). Another captive subsidiary in India handles services relating to hedge funds processing and support. Deutsche Bank has invested \$3 million in a processing centre in Mumbai for its Asia wide transactions for Japan, Hong Kong, Singapore, Korea, and Taiwan, while Standard Chartered has set up a unit in Chennai for business process outsourcing of financial services. JP Morgan Chase has a 400-seat financial services captive centre in Mumbai, engaged in reconciliation and loan processing, which it plans to expand to 1 000 seats. Thus commercial presence in the form of captive subsidiaries of global financial services firms facilitates offshoring of financial services. This complementarity is strong in areas like financial and accountancy services where there are data privacy and client confidentiality issues and thus third party outsourcing to independent providers may not be desirable.

(v) *Business services*

28. Multinational companies such as **Ernst and Young** are engaged in trade through multiple modes of supply at the same time.¹⁵ Their overseas presence through subsidiaries and offices (mode 3) in locations such as Boston, Paris, Munich, Tel Aviv, Hong Kong, and Sydney requires staffing with certified accountants and other professionals. The latter often involves deployment of contractual and regular employees across the company's worldwide offices (the formerly clearly constituting mode 4), along with local recruitment. In addition, the company also provides on-line services to clients in other countries, including provision of customized news and information, access to online business tools and customized data bases, and responding to technical queries by clients. Thus, a combination of exports via commercial presence, associated movement and presence of service suppliers, and electronic delivery is involved in executing the company's activities. It is worth noting that the establishment of overseas commercial presence is the key form of services trade in this case, but it is supported by other modes.

¹³ See www.gulf-news.com/Articles/news.asp?ArticleID=99176. Note that this facilitating relationship between movement of service providers and commercial presence also holds in the case of permanent migration. The latter is indicated by the presence of overseas branches of banks in countries where there are large diaspora populations, such as Indian bank branches in the UK and the US.

¹⁴ The examples of various financial services companies engaged in business process outsourcing through subsidiaries is based on Chawla and Manchanda (2004) and Agarwal and Sinha (2004).

¹⁵ See www.ey.com/global/content.nsf/International/services.

(vi) Retail distribution services

29. There are several interesting cases of complementarity between commercial presence and cross border supply in the case of retail distribution services. Some retail companies set up local franchises and discount stores to expand the variety of available products, attract more customers, and improve online business volume. One such example is that of Tesco, Britain's leading food retail group, which is spreading its e-commerce operations to countries where it operates stores. Carrefour, which is the largest retailer in Europe and Latin America and the first international retailer in Asia, is making use of its numerous supermarkets, deep discount and convenience stores, and franchised operations in Europe, Latin America, and Asia to expand its online retailing business. It has also acquired companies in other countries for this purpose. Thus, commercial presence enables cross border supply.

3. A closer look at linkages in two sectors: IT and business process services and health services**3.1 IT and Business Process Services**

30. The case of IT and IT-enabled services deserves separate discussion given the evidence on how IT and business process outsourcing providers execute their projects using a combination of different modes of supply and the fact that advancements in information and communication technology (ICT) are in large part responsible for the existence of inter-modal linkages in many activities. ICT has in fact made possible new ways and combinations of services trade. IT and IT enabled services also deserve separate discussion due to their performance-enhancing and supporting role in other services, and thus their role as intermediaries in services trade. Several of the above examples, such as the case of education and training services or financial services, already indicated the importance of information and communication technology in providing the service across borders and in facilitating other kinds of service trade. Most of the company and country examples discussed below highlight the complementarity between commercial presence, cross border supply, and movement and presence of service suppliers. A virtuous circle emerges across these three forms of service delivery in the case of IT and IT enabled services.

(i) Complementarity between cross border supply and temporary movement of service suppliers

31. Companies that outsource contracts send over personnel, usually at a managerial and technical level, to the client site to familiarize themselves with the client's procedures and work processes. Even call centres, often engaged in routine on-line and voice-based support, send over teams of persons to the client site after signing a contract. The on-site visit is made in order to understand the client's needs and to train the service provider's staff and customize services according to the client's requirements. As the degree of customization and the complexity of the outsourced activity increases (i.e., with higher value and skill activities), the complementarity between the two modes also increases. For instance, where the project is more complex in nature and requires problem solving and analysis, a project management team is often deputed to the client's site to ensure regular coordination between the offshore team. Thus, a combination of on-site and offshore delivery is used (i.e., mode 4 and 1 are simultaneously required). From the company's perspective, a typical outsourced project is billable in terms of its various components (on-site and offshore elements) and thus all concerned modes of supply constitute a commercial transaction.

32. Interviews with persons in the IT industry suggest that there is phased relationship between cross border supply and movement of service suppliers in the course of executing outsourced contracts. First is the *planning* phase when the specifications of the contract are worked out, the technical requirements assessed, and the entire process copied from the overseas client to the IT firm. This phase takes, on average, a month. It involves temporary movement of high-level personnel such as intra company transferees and technical specialists in the executing firm to the client site (mode 4), typically on intracompany transferee and business visitor visas.

33. The second phase is called the *transition* phase. This involves knowledge sharing between the client company and the software firm, such as understanding the profile and skills required for the task, studying the culture of the client firm, training of employees in the executing firm to meet client requirements, and also parallel work in both locations. Usually, four to five months are required for knowledge sharing and the parallel performance period lasts about a month. Again, movement of natural persons is required, in this case persons at a middle level, such as programmers, data base analysts, and coders.

34. The final phase is the *steady state* phase, which is when the entire process has been transferred to the executing firm in the low cost country and the work is done offshore and delivered through cross border supply from the offshore location. This phase involves some mode 4 on a periodic basis, mostly at the executive and managerial levels, under business visitor visas.

35. Thus, although the end product is delivered through cross border supply (mode 1), all stages of the preparatory process and even the follow up, require movement and presence of service providers (mode 4). But as noted earlier, the extent of this complementarity varies depending on the value and skill requirements of the outsourced contract.

36. The examples also highlight an important point, that as one moves up the value chain in cross border supply of services, the nature of mode 4 that is required to complement mode 1 changes. For instance, high-end outsourced activities like IT consulting, product development, and research and analytical services need to be supplemented by mode 4 at the level of specialists and domain experts for the purposes of knowledge transfer and customization. Thus, as countries move up to higher value outsourcing and BPO activities, their need for temporary cross border mobility of professional service suppliers shifts towards higher level providers, those with specialized skill sets.

37. In addition to the complementary relationship between cross border supply and temporary movement and presence of service suppliers, there is also a facilitating relationship between the two modes. India's emergence as the leading offshore outsourcing destination for services such as data base design and maintenance, technical help desk support, engineering design and research and development, is in large part due to the development of its software industry based on on-site exports of professional services, or mode 4.¹⁶ (Although not all this movement would constitute Mode 4, as e.g. often Indian nationals enter the US as students under H1-B visas and subsequently remain in the US as employees.) A recent World Bank study attributes the success of India's BPO industry to the country's comparative advantage in mode 4 based supply of IT services during the 1990s. The study notes that firms have leveraged the skills, knowledge, contacts, and understanding of client needs and processes that were acquired through temporary movement of service suppliers in the IT industry during the 1990s to exploit opportunities in the BPO industry.¹⁷ According to this study, the building of domain knowledge and

¹⁶ China is a key product development centre for GE, Intel, Microsoft, Phillips, and other electronics giants, for hardware design and embedded software. It also hosts call centres for Japanese and South Korean companies. The Philippines is host to outsourced work from over 8,000 foreign companies given its English speaking, educated workforce of accountants, software writers, architects, telemarketers, and graphic artists. Companies like Boeing, Nortel, Motorola, and Intel outsource research and development (R&D) services and solutions for complex projects to Russia given the latter's large pool of professionals in science, information technology, and mathematics. See *Business Week* (February 2003).

¹⁷ The study also notes the role of India's large diaspora population in developed countries for retaining this comparative advantage.

expertise arising from movement of service suppliers and exposure to working in developed countries has enhanced the Indian industry's ability to undertake higher value, complex, and diverse IT and BPO work.¹⁸

(ii) *Commercial presence as a facilitator and intermediary in cross border supply*

38. The rise in outsourcing and back-office activities has both stimulated and is being supported by commercial presence.¹⁹ For example, the rapid growth in outsourcing in India has led many foreign companies to expand their capacity and set up new capacity through the establishment of customer interaction centres, back-offices, and captive units, capitalization of third party units, and setting up of product development and research centres. Companies such as GE Capital and IBM from the US; HSBC, Prudential, British Telecommunications, Aviva, and British Airways from the UK; Telstra from Australia; and NTT Comway, Hitachi, and the NEC Nomura Research Institute from Japan, have undertaken significant expansion in their outsourced activities in recent years. Several software service companies are entering by acquiring equity in existing third party business process outsourcing facilities or by setting up their units. Major multinational companies are setting up offshore subsidiaries for providing business support in areas such as engineering design and data research to the parent company.²⁰ For instance, companies like Ford, Caterpillar, GE, Hitachi, Panasonic, and Dell Computers (Japan) have set up subsidiaries in countries like India and China for design and research and development activities and virtual design teams have been set up by some multinationals in India.²¹ Others have formed joint ventures with local companies. It is worth noting here that cross border supply may not always be the primary motive behind such presence as often companies enter through just joint ventures or set up R&D projects to create name recognition, conduct market studies, advertise, and conduct local market research rather than primarily to export through cross border supply, and cross border supply is a consequence of such presence.

39. Such strategic investments are made to facilitate outsourcing of research and development or design services, which in turn are exported back to the parent company through cross border supply and supported by movement and presence of service providers in different stages of the knowledge transfer process, as discussed earlier. Moreover, commercial presence in the form of overseas offices and subsidiaries of the firm that has been contracted for executing the outsourced project, helps the latter to deploy on-site personnel on a temporary basis for process transfer, coordination, and follow up work that are required in the course of an outsourced project. Thus, commercial presence not only helps in attracting outsourcing work to the delivery economy through captive subsidiaries and offshore development centres

¹⁸ A recent survey of returning Indian IT professionals finds that such return migrants contribute significantly to the domestic IT and BPO industries through the transfer of skills and knowledge which in turn helps the industry to secure overseas projects and investment. Survey respondents note that overseas experience in on-site projects helps them develop domain expertise in fields such as insurance, telecom, or energy, and domain knowledge in technology and applications. Hence, they are able to bring in specialization and depth, and are therefore better placed to lead and educate teams working on projects in specific areas. Other specific contributions made by the returning professionals include improved documentation skills, knowledge of new estimation techniques and quality processes, and introduction of new organizational processes and systems of work based on their overseas experience. Overall, the exposure of returning professionals to overseas clients and to new technologies and applications helps Indian IT and BPO companies to undertake more diverse and up to date projects which require such expertise. Given their knowledge of overseas market conditions and expectations of clients, such professionals also play an important role by liaising with overseas clients.

¹⁹ See Chanda (forthcoming 2005/06) for further discussion on BPO services and foreign and domestic investment.

²⁰ See, Nasscom (2002).

²¹ See *Economic Times* (May 15, 2003), p.7.

but also helps the firm that is executing the project to easily send over persons to the client site to complement its offshore work.

40. To some extent, temporary cross border movement of service suppliers in the IT and engineering sectors (mode 4) and the associated externalities of such movement highlighted earlier), apart from the usual diaspora network effects that result from economic migration in general, have contributed to the capital inflows into India's BPO and IT industries. This is evident from statistics on temporary admissions of Indian software service suppliers and information on the source of FDI collaborations in India's IT sector. Countries like the US and the UK, which are important destination markets for Indian IT professionals are also important source countries for FDI inflows into India's IT sector. Thus, there appears to be a complementary relationship between movement of IT service providers (some of which is mode 4) and movement of capital. Discussions with Indian IT industry sources and evidence on returning Indian IT professionals confirm this positive linkage. For instance, many returning Indian IT professionals have helped establish and manage subsidiaries of MNCs in the IT and BPO sectors in India. Some have set up their own BPO companies in India. Others have influenced foreign multinationals to set up operations or undertake offshore development work in India. They have also helped tap existing diaspora networks to make them aware of opportunities in India and attract venture capital.²² Thus, channels such as skill and technology transfer, reputation effects, and development of overseas networks and contacts, resulting from temporary (as well as permanent) movement of service suppliers have facilitated investment flows in the source sectors of movement and subsequently enabled India's emergence in BPO (cross border supply) exports. One can thus view commercial presence as an intermediary between movement of suppliers and cross border exports.

Box 1: IT and business process services - two country examples

Barbados: Software development

Barbados has emerged as a near shore software development centre for US based companies, featuring capital investment by companies like JP Morgan and Prudential Insurance Company of America. In turn, the centre makes use of professionals from around the world, with some 200 IT workers from India, Jamaica, Malaysia, and the UK working on software development and maintenance projects for US clients including Pfizer Inc., and Travelers Corp. IT training companies from other countries have also established subsidiaries to train computer science graduates in Barbados for employment at the centre.

There are three linkages in this example. First, there is commercial presence involved in the setting up of the software development centre (mode 3), the operations of which are supported by temporary inflows of professionals from other countries (mode 4). The latter in turn enable cross border supply of services (mode 1) from Barbados. Second, there is a linkage across service activities as the setting up of the development centre and the associated employment requirements have led to imports of service suppliers (mode 4) in IT training and supporting service activity. Third, there is a link between exports and imports, in that imports of labour for the software development centre enable exports of IT enabled services and necessitate imports of labour in supporting activities.

²²

Of course it should be noted that not all the diaspora are mode 4; indeed, many are permanent migrants who would fall outside the scope of GATS mode 4. However, it is also true that communities of Indian migrants became aware of investment opportunities at home through contact with temporary Indian workers.

Vietnam: IT solutions and business process outsourcing

Companies like IBM, which initially worked through established local partners, have now opened a development centre in Vietnam. Petrosin Infotech, a Singapore software development company with offices in US and India has now established a development centre in Vietnam to support its headquarter operations in areas like healthcare, e-commerce, and education. Innotive of Korea, another software development company has a centre in Vietnam staffed with 10 developers to provide specialized satellite and medical imaging services. Silk Road Systems has set up a centre in Ho Chi Minh City with a staff of 30 members to cater to clients in the US, UK, and Japan and has recently also signed a deal to provide outsourced services to the US government. Thus, commercial presence (mode 3) in the form of offshore software development centres has enabled exports of IT enabled services (mode 1) from Vietnam. In the case of outsourcing projects delivered to countries like the US and the UK, the client interface role has been dominated by expatriates and overseas Vietnamese (i.e., some of which is mode 4), due to the English language skill requirements.

The case of Vietnam also illustrates the supporting role of investment in other service sectors in enabling exports of ITES. For instance, one of the main barriers to the growth of the IT and BPO industry in Vietnam has been the poor telecom infrastructure in the country given small internet bandwidth and high telecom tariffs, due to the government monopoly in telecommunication services. In a bid to facilitate the growth of the IT and BPO industries, the Vietnamese government has recently taken steps to increase connectivity and bring down the cost of leased lines and broadband services. Its bilateral trade agreement with the US commits it to opening its telecom sector to foreign competition. Also, the global communication provider, BCE Teleglobe has signed a satellite connectivity deal with Vietnam Datacoms Company, which is the largest internet service provider in Vietnam, to give high speed satellite data transactions between Vietnam and North America. FDI (mode 3) in value added communication services is being encouraged now by the Vietnamese government to facilitate cross border exports of IT and ITES (mode 1).

This relationship between investment (mode 3) in telecom and internet services and cross border supply (mode 1) is not only limited to Vietnam. The opening up of the telecom sector to foreign direct investment has played an important role in the emergence of many developing countries as destinations for offshore outsourcing. Thus, there are not only synergies between modes but also synergies across service sectors.

Sources: www.computerworld.com/news/1998/story/0,11280,13474,00.html; http://www.offshoredev.com/jsp/feature_sdetail.jsp?fid=9

(iii) Company examples

41. The following discussion provides examples of various companies that provide different kinds of IT and IT-enabled services, such as software development, database maintenance, systems design, and IT solutions to clients in a wide range of service subsectors.

Filipino IT solutions provider for environmental services company²³

42. The Ondeo Nalco Company, based in Naperville, Illinois, which specializes in water treatment services outsourced its IT solutions work to the Philippines. The work was initially facilitated by a team of 3 Filipino programmers. This team spent two months in Naperville to understand client requirements and to frame the project. Following that, the work was delivered remotely, via regular teleconferencing and a project manager who liaised with the client and the team in Manila to ensure execution of the project. Thus, a mix of on-site (mode 4) followed by offshore delivery (mode 1) and supported by periodic on-site visits (mode 4) was used.

²³

See <http://www.computerworld.com/managementtopics/management/project/story/0,10801,84815,00.html>

*Larsen and Toubro Infotech: IT solutions*²⁴

43. Larsen and Toubro Infotech provides comprehensive end to end software solutions and services to client companies via a worldwide network of 2,200 professionals, 20 international offices, 7 software development centres in India, and proximity development centres in the US. The Wide Area Network of this company helps connect development centres in India with its business offices in US, Europe, and Japan via high-speed satellite and terrestrial links, which are extendable to the client premises at short notice. Its overseas commercial presence (mode 3) has associated staffing requirements (mode 4), and this combination facilitates the exports of IT applications and solutions via internet or satellite (mode 1) from developing countries. For example:

- For mainframe maintenance services, consultants are usually sent (mode 4) to study the client's systems, develop the production plan on-site, and then communicate this plan to the offshore team. At a later stage, the routine and strategic responsibilities are also handed over to the offshore team (mode 1). This process is often facilitated by subsidiary presence of the company in the client market (mode 3).
- L&T Infotech was contracted by a group of large health care companies, health management consultants, and Third Party Administrators operating in India, to implement an e-customer relationship management (CRM) project that would provide quality service to customers. L&T Infotech worked with the client on its premises, via interviews conducted over a 10-day period, to develop the required e-CRM package. Based on this on-site work, business process modification plans were prepared. The actual development work was done offshore in India, with regular communication between the offshore team and the on-site technical project manager.²⁵
- For a large US brokerage firm, with over 4,000 offices worldwide, L&T Infotech set up a dedicated team to visit client sites to analyse the existing IT infrastructure and develop a roadmap. Once this assessment was done, the team of professionals based in India developed the web based applications for transactions such as trading, electronic bank transfer, mutual funds liquidations, and intellectual property rights (IPR) claims. The on-site team coordinated with the offshore professionals to help tailor the methodologies for maintenance and development and ensure uniformity of processes across the various subdivisions involved in the project. The project resulted in cost savings of about 35 percent per year on application and maintenance.

44. This last example demonstrates several linkages. The globally dispersed commercial presence of the client company created the need for increased global accessibility of its services, and thus demand for IT application and maintenance services. The outsourcing of these services in turn necessitated on-site presence of technical professionals to assess the problem and frame the project. Thus, there was an initial facilitation of cross border supply and temporary movement of service suppliers by foreign commercial presence, and subsequently a complementary relationship between offshore and on-site delivery. Further, commercial presence in the financial services sector created trade opportunities in the IT and ITES area. Moreover, it was the commercial presence by L&T, a construction and engineering company, in the form of its subsidiary L&T Infotech in India, which created the scope for exporting the IT application and maintenance services from India. So, commercial presence imports in the form of the subsidiary created possibilities for cross border supply related exports by the host country of the investment, again indicating the export-import linkages that exist in services trade.

²⁴ See <http://www.lntinfotech.com/lntinfotech/aspfiles/domainsolutions/i1117financebanking%5Fcass.asp>.

²⁵ See <http://www.lntinfotech.com/lntinfotech/aspfiles/technologysolutions/1117CRMCS.asp>.

Tata Consultancy Services

45. Keretapi Taval Malayu Berhad (KTMB), the leading railway transport provider in Malaysia contracted TCS to develop a ticketing and reservation system and a train operation and management system.²⁶ KTMB wanted to improve its services for passenger and freight trains, which it operates in Kuala Lumpur and suburban areas, between Malaysia and Singapore, and between Malaysia and Thailand. TCS helped with the installation of the ticketing and reservation system and the train operation and management system at multiple sites across Malaysia, and also in Singapore and Thailand. The gap analysis was done on-site in Malaysia (mode 4) but the system was designed and developed offsite in India and delivered virtually (mode 1). Implementation again required temporary movement of service suppliers (mode 4) as TCS employees went on-site to enable the migration to the new system. There was also a potential facilitation of exports of rail transport services (mode 1/ 2) by Malaysia, firstly through enhanced physical movement of passenger and freight trains and secondly through increased on-line reservation and ticketing services between Malaysia and neighbouring countries.

Everest Group

46. This global outsourcing advisory firm, which is headquartered in the US, recently opened an office in London (which comes closest to the GATS definition of mode 3) in order to serve its European and global clients and to capitalize on the growing outsourcing activity in Europe. Commercial presence has followed the provision of consultancy services both online and through the movement of professionals by this firm. As stated by the CEO of Everest Group, “We are excited to have a physical presence in the European market. Given the great volume of work we’ve been doing in Europe, it made perfect sense to establish an office there”, indicating quite clearly that other modes of trade in consultancy services as well as cross border trade in various outsourced services from Europe have led the firm to establish commercial presence. The group also has offices in other countries, namely, Canada, Australia, and India apart from its US headquarters, to provide strategic advisory services that help companies in different regions to outsource their operations. So mode 3 in consulting services is being used to complement mode 1 and 4 activities by this firm and has been facilitated by mode 1 activities in other services in the larger context of outsourcing by firms in the European region. It is also interesting to note that the firm has been transferring and moving key personnel from its various offices to the London office to build the practice in the European region, indicating that mode 4 in the context of intracompany transferees is also involved and complements the establishment of commercial presence.

3.2 Health services

47. There is an interesting mix of movement of capital, professionals, information, and consumers in the health sector, with virtuous relationships across modes and synergies with other service sectors. FDI in the health care sector, such as the establishment of joint ventures and foreign owned multispeciality or specialized hospitals have played an important role in facilitating exports of health services through consumption abroad, by providing facilities and world class hospitals for medical tourism and telehealth exports. As in the IT sector, returning health care professionals (who had gone abroad for further studies and training or work experience)²⁷ have indirectly helped in this process. They have facilitated such

²⁶ See, [http://www.tcs.com/0 case studies/industry practices/transportation/ktmb/html](http://www.tcs.com/0_case_studies/industry_practices/transportation/ktmb/html).

²⁷ Some of this movement of health care professionals constitutes mode 4 or mode 2, to the extent that it is related to short-term contractual presence abroad or overseas presence for medical education and training, respectively. However, some returning professionals would fall under the general economic migration category to the extent that they went abroad seeking better economic opportunities and later reversed their decision to stay abroad. The difficulty in distinguishing between these two classes of returning health care professionals relates to the fact that “temporary” is not defined under mode 4. But to the extent that the

investment flows through diaspora networks and contacts, helped promote medical tourism and telehealth opportunities through network externalities, reputation effects, upgraded skills and knowledge, and portability of health insurance (due to recognition of their qualifications by foreign health insurance providers).

(i) *Apollo Group of Hospitals*²⁸

48. The Apollo group of hospitals, India's first corporate hospital chain, performs activities that span all four modes: medical tourism (modes 2 and 3), telemedicine and e-health (mode 1), franchises in several countries in Asia and Africa and partnerships with overseas hospitals (involving mode 3 possibly or mode 4), back office operations (mode 1), education and training (modes 1, 2, 4), hospital project management (mode 4), and clinical and diagnostic services (mode 1).

49. In the last three years, the Apollo group treated over 60,000 overseas patients, or 7-9 percent of all its patients, at its various hospitals for procedures such as face-lifts, transplants, and bypass surgery. These mode 2 exports have been facilitated by other modes. For example, Apollo has set up marketing offices in London and Dubai (closest to mode 3 though perhaps not strictly mode 3 in the GATS sense) to attract patients. It has established referral systems in the UAE, Saudi Arabia, Oman, Kuwait, Mauritius, Tanzania, UK, Sri Lanka, Bhutan, Nigeria, Pakistan, and Bangladesh whereby it partners with hospitals in these countries, providing them with management and project consultancy services through the deployment of health and management professionals to the partner institutions. For instance, Apollo provides operational management services to Lagos-based Hygeia Nigeria, one of the largest health care groups in West Africa and has provided consultancy services for the setting up of a 100-bed multi-speciality hospital in Ghana. It has also provided management services for health projects in Kuwait, Yemen, Sudan, Ethiopia, UAE, Bangladesh, Nepal, Sri Lanka, and Malaysia. The provision of health and health management professionals (mode 4) is in part used to tap these regional markets for its medical tourism exports (mode 2).

50. Apollo also engages in joint ventures with overseas hospitals to expand its exports of healthcare services under modes 1 and 2. For instance, it has formed a joint venture with Singapore based health care giant, Parkway Holdings Limited to form the Apollo Gleneagles Hospital in Kolkata, India. This hospital is now exporting services to patients from neighbouring countries like Bangladesh, Nepal, Bhutan, and Myanmar. In addition, the hospital provides telemedicine services to patients in these countries, including medical consultation, diagnostic, telepathology, teleradiology, and scanning services, and uses telemedicine to provide pre-treatment advice, to follow up and keep in touch with its overseas patients after the treatment, and to facilitate transfers from overseas partner institutions to its Indian hospitals. Thus, commercial presence in the form of joint ventures in health care is facilitating consumption abroad based exports in the form of medical tourism, which in turn is both facilitating and being supported and facilitated by telehealth exports (mode 1).

former movement is motivated by short-term considerations while the latter starts out with long-term objectives, the latter would not constitute mode 4.

²⁸

See, for example, <http://www.apollohospdelhi.com/news/html>,
http://www.pgh.com.sg/Press_Rel_201103_Apollo_Gleneagles_Kolkata.jsp,
<http://www.economicstimes.indiatimes.com/articleshow/214698.cms>
<http://www.expresshealthcaremanagement.com/20010101/hospinews1.htm>,
<http://www.cbc.ca/news/background/healthcare/medicaltourism.html>
http://www.khaleejtimes.com/Displayarticle.asp?section=subcontinent&xfile=data/subcontinent/2003/september/subcontinent_september557.xml, <http://www.prweb.com/releases/2002/9/prweb46628.php>,
<http://www.sundayobserver.lk/2002/05/05/new28.html>,
<http://www.equitymaster.com/detail.asp?date=10/3/2002&story=2>

51. In Central Asia, Apollo is using telehealth services and commercial presence in conjunction to promote medical tourism exports to the region. It has set up a telemedicine centre in Karaganda Oblastu in Kazakhstan (which would come closest to mode 3, though in the absence of additional information on exact foreign capital participation, it is difficult to say whether this exactly fits the GATS definition of mode 3), for providing telediagnostic and teleconsultation type exports to the region. This centre is also serving as a Central Asian base for attracting patients from the CIS countries to Apollo hospitals in India, and thus consumption abroad. So, commercial presence based exports are helping to create export opportunities through cross border supply and consumption abroad.

52. Similarly, the establishment of a hospital in Colombo by the Apollo Group has facilitated medical tourism exports by Apollo to third countries. The hospital in Colombo is a \$65 million venture owned by the Apollo Group Hospital in India, clearly a case of commercial presence based exports by Apollo. This hospital in Sri Lanka has emerged as a hub for treatment to patients from other Asian countries, such as Malaysia and Indonesia, and thus medical tourism exports to third countries. In addition, the treatment of Sri Lankan patients at the Colombo hospital is being supported by telemedicine services from the Apollo hospitals in India, i.e., mode 1. Complicated surgeries are enabled by satellite and videoconference based expert services from the Apollo hospitals in India (mode 1) and in emergency cases doctors are flown via helicopter between the two countries, as the hospitals are equipped with special helipad services (mode 4). (While the primary form of commercial transaction in this case is the medical tourism export, and the supporting telehealth and on-site professional services do not constitute trade, they are nevertheless important in the *course of service trade* and in some sense a part of the overall medical tourism export package from the company's perspective). Apollo is also providing contract research services and medical education and training services through its overseas subsidiaries, again through a combination of cross border supply (on-line training and research services) and temporary on-site deployment of professionals at its subsidiaries (intrafirm movement or mode 4).

53. Apollo is also diversifying into back office operations in the health care sector. For example, it is partnering with two global players, Health Services America and Medstaff International insurance company in the US for billing, documentation of clinical and administrative records, coding of medical processes, insurance claims processing for Medicare policy holders, and third party administration. It is also undertaking clinical trials and research services at its labs for Western pharmaceutical companies like Pfizer, Eli Lilly and Co. and doing remote evaluation of X-Rays and CT scans for overseas hospitals. Here, there has been a facilitating effect of medical tourism exports on back office health services exports through cross border supply in supporting finance, insurance, and research activities.

Box 2: Health services – two country examples

Thailand

The Thai experience with medical tourism exports exhibits the strong linkages between consumption abroad and movement of service suppliers. One of the biggest Thai hospitals, Bumrungrad hospital, provides treatment at one-fifth to one-tenth of the costs in the US due to lower labour and insurance costs. A third of the hospital's 750,000 patients a year are foreign, most being expatriates living in Thailand or South East Asia (a possible link to mode 4, though not necessarily mode 4). The hospital has help desks and marketing offices in various countries (possibly mode 3), which help with the referral and medical tourism packages (mode 2). Moreover, almost half of the doctors at the hospital were trained in the US, thus helping the hospital to meet recognition requirements for foreign insurance companies. Thus, consumption abroad related imports of medical education and training services by Thai nationals as well as imports of foreign health care professionals by the hospital facilitates consumption abroad related exports of health services by the establishment. The cross sub-sectoral linkage with tourism services is also present as special packages covering stay at spas and holiday resorts, cultural and recreational activities, and massage therapy are provided to foreign patients.

Cuba

Health exports are an important source of foreign exchange in Cuba, generating revenues of around \$40 million per year. There are a number of specialist hospitals, clinics, health spas and resorts catering to foreign visitors. The unique Cuban treatment for retinitis pigmentosa, often known as night blindness, attracts many patients. Due to the special problems faced by Cuba in penetrating western markets, the policy has been to find joint venture partners and there are currently joint ventures with Canadian, German and Spanish companies. These help in attracting patients from these countries, showing once again the link between commercial presence and consumption abroad. Cuba's reputation as a provider of specialized health care services and the reputation of its scientists and health professionals have also led to contracts for clinical and research services in areas like neck and breast cancer research. Thus consumption abroad has in turn facilitated cross border supply of research and testing services. It has also assisted its emergence as a hub for telemedicine (teleconsultation and teliagnostic services) to the Central American and Caribbean countries (i.e., mode 2 has facilitated outsourcing of other services, or mode 1). There are also the usual linkages with the tourism sector as companies like the Servimed Group provide medical tourism packages, with stay at special hotels, spas, and resorts, cruises, and other recreational services.

Cuba's reputation in medical tourism (mode 2) has in turn led to overseas establishment of specialized Cuban clinics in Central and Latin America (mode 3). The success in treating vitiligo has not only attracted patients from over 100 countries but has also led to the opening up of seven clinics abroad, in Brazil, Argentina, Uruguay, Colombia, and Mexico. Moreover, at these overseas clinics, Cuban physicians and nurses apply the same therapy (mode 4). The case of Cuba in the global health care market demonstrates the links between all four modes, as facilitators, complements, and to some extent as substitutes (mode 3 exports abroad substituting for mode 2 exports) as well. The spillover effect on trade in related areas like R&D, insurance and tourism services is also present.

Sources: See <http://www.sfgate.com/cgi-bin/article.cgi?f=/chronicle/archive/2002/12/15/TR51858.DT>; See Chanda (2001), <http://news.bbc.co.uk/2/hi/business/3284995.stm>, and http://www.caribbean-trip.com/cuba/salud_eng.asp

4. Negative linkages across modes

54. There are also negative spillovers and linkages across modes, which are essentially the dual of the positive linkages highlighted in the preceding section. Here trade is impeded rather than facilitated across modes on account of the basic complementary relationship that exists across modes. This negative spillover or linkage may result in two ways. First, a restriction on one mode may curtail the scope for trade through another mode or distort the way in which a service is delivered. Second, there may be a common restriction that cuts across modes and thus impedes trade through more than one mode at a time.

55. It is harder to discuss cases of negative linkages across modes as the very absence of trade in a particular mode or the choice of one mode over another may be the consequence of such a linkage. However, since the trade does not occur at all or occurs in a particular way, one can only infer the existence of negative linkage. Often the negative linkage can be inferred from the impact of liberalization in one mode of services trade on the opportunities for trade through another mode, which then suggests that in the absence of such liberalization, services delivery through both modes would be negatively affected. There are a few cases where there is explicit evidence of such trade restricting effects across modes. The following discussion is based on a mix of concrete evidence on firm operations, where available, and generally known information about certain kinds of barriers that affect services trade. Each of these cases is highlighted using examples from different sectors, though the discussion is not as detailed as in the case of positive linkages for want of explicit evidence.

4.1 Constraints on one mode affecting other modes

56. Policy induced or physical capacity and technical constraints on one mode can curtail the scope for trade through another mode.

(i) Restrictions on cross border supply affecting consumption abroad

57. A case in point is the limited frequency of flights to and from certain countries and between certain regions. This constraint on trade through cross border supply in air transport services (mode 1) is often due to the limited number of aircraft owned/leased by the national airline, which makes it unable to serve many routes or to serve only at low frequency.²⁹ Subsequently, under the reciprocity based bilateral air service agreement system, landing rights are often not extended to foreign airlines, to protect the national carrier which is unable to utilize landing rights it would reciprocally obtain in other countries. But the resulting effect of the constraint on air transport services to and from the country is that consumption abroad (such as mode 2 in tourism services) and potentially even business travel across various sectors (mode 4) is negatively affected. According to the World Tourism and Travel Council (WTTC), there is a strong link between liberalization of civil aviation policies (air cargo, increased frequency of flights) and tourism promotion. Available evidence indicates that bilateral cooperation through increased flights between member countries results in increased tourism. The same holds true for other transport services, where expansion of cross-country rail and road transport services and easing up of state monopoly and other restrictions (which effectively increases the scope for mode 1) helps promote bilateral/regional tourism links (mode 2).³⁰ Thus there restrictions on cross border supply of air or other transport services restrict trade through modes such as consumption abroad and affect trade opportunities in other sectors such as tourism and travel services.

58. The case of Apollo highlighted earlier also illustrates this negative linkage between cross border supply and consumption abroad. Company sources note that flights to and from India are not frequent enough to promote health tourism exports in a big way and have been lobbying for more frequent direct flights into and out of the country. In particular, they note the huge market for health tourism in Africa and the lack of direct flights between India and African countries as limiting their ability to capitalize on that region.

59. Factors that impede the scope for internet-based transactions (could be infrastructural, technical, policy related), such as on-line ticketing, reservations, billing, cross-border payments can likewise have a negative impact on trade in tourism services through consumption abroad. WTTC sources again point to the importance of cross border supply (mode 1) transactions in a variety of travel support and back office services for promoting tourism trade (mode 2).

(ii) Restrictions on commercial presence affecting movement of service suppliers

60. Requirements or restrictions concerning commercial presence can affect the scope and nature of movement of service suppliers between countries. This negative linkage can occur in three ways.

61. Firstly, overseas commercial presence may be subject to conditions such as local staffing and management requirements, akin to local content requirements on foreign enterprises in the manufacturing sector. In some services, it may be specified that a certain proportion of the staff be employed locally. Such requirements potentially impact negatively on the scope for mode 4.

²⁹ It should be noted that air traffic rights are excluded from the GATS.

³⁰ In the case of India, capacity constraints at airports combined with shortage of fleet of the national carrier, Air India, and therefore inability to utilize its bilateral air service agreements effectively, has resulted in measures to protect Air India. These include restrictions on private domestic air carriers from flying overseas (until recently) and limitations on the rights of foreign airlines to service the Indian market (also altered only recently). Given the growing economy and tourism both to and from the country, these constraints have affected the tourist and business traffic in India and related earnings, according to experts.

62. Secondly, there may be restrictions, which affect the possibilities for commercial presence itself, and thus indirectly limit the possibilities for cross border movement of service providers that would have been required to support the commercial establishment overseas. For instance, there may be restrictions on foreign ownership in some services, such as in energy, legal, and distribution services, or on the nature of this foreign ownership, such as through local incorporation only or through partnership only. Such conditions also affect the associated movement of natural persons, such as the movement of managerial and technical personnel that would have accompanied the foreign commercial presence. Likewise, restrictions on foreign participation in real estate development and stringent conditions on land use, zoning, and urban development specifications can affect associated movement of architects, planners, and specialized personnel in related services. Government procurement policies, which affect the presence of foreign firms in areas like energy, environmental, and construction services also impede the scope for associated movement of specialist and engineering personnel. Restrictions in the form of economic needs and other necessity tests, discriminatory/very stringent authorization requirements for foreign commercial establishments can likewise limit the scope for associated movement of service providers.

63. Thirdly, negative linkages may arise between commercial presence and temporary movement of service suppliers due to the existence of policies, which favour mode 4 that is linked to commercial presence rather than in an individual capacity. For instance, immigration laws often make it easier for a firm to temporarily deploy foreign service providers overseas if the firm has commercial presence in the host country. Thus, to the extent that many developing country firms are unable to establish commercial presence in developed countries, due to the high capital requirements associated with such presence, the scope for providing on-site services or for exporting services that require temporary deployment of persons overseas, can be reduced, made much costlier and cumbersome in terms of administrative and other procedures, and in extreme cases could be altogether negated.

(iii) Restrictions on commercial presence affecting cross border supply and consumption abroad

64. Restrictions on foreign equity participation, or on presence of foreign establishments in certain services may impede trade in related activities. Most significant in this case are infrastructure/input services such as telecommunications, transport, port, and real estate services.

65. For example, FDI restrictions in value added telecommunication services such as internet provision and government monopoly in such areas can result in high internet connectivity costs, low bandwidth, and poor quality of telecom services, which in turn affect the scope for IT-enabled services exports. One of the factors that has contributed to India's success in exporting IT and BPO services has been the opening up of the telecom sector to foreign equity participation (mode 3-now permitted unto 74%) and the subsequent fall in connectivity costs and increased speed of data transfer. The example of Vietnam given earlier also highlighted the potential negative effect of FDI restrictions in key infrastructure services such as telecom for exports of IT and IT enabled services, through mode 1. In the case of South Africa, the state run monopoly in telecommunications has hurt the offshore call centre business according to experts as the state cannot supply the necessary bandwidth and the lines themselves are very expensive. It has been noted that opening up the sector to foreign direct investment, especially in areas like voice over internet protocol and internet provision is required to give a stimulus to the offshore call centre business in South Africa. Thus, restrictions on commercial presence in telecom services are impeding the prospects for exporting BPO services through mode 1.

66. Similarly, FDI restrictions on the establishment of hotels and restaurants or on entry of foreign tour operators and agencies (mode 3 restrictions), can potentially hurt the prospects for tourism exports (through mode 2) due to their adverse impact on quantity (infrastructural and resource constraints) and quality (lack of professionalism, limited expertise and competition). Restrictions on the setting up of foreign law offices or accountancy firms can likewise curtail the scope for cross border trade in related

support services (advisory, audit), to the extent that the latter cannot be outsourced and must be done in-house due to client confidentiality type considerations. Restrictions on the entry of foreign health insurance companies impede the portability of health insurance and can negatively impact the scope for health services exports through consumption abroad (mode 2). One of the demands by the Indian healthcare establishments interested in exporting through mode 2 has been to liberalize foreign equity participation in the health insurance segment of the insurance sector so as to increase the portability of health insurance services and enable these establishments to reach out to patients in developed countries. Similarly, restrictions on foreign vessels and on FDI in port services (mode 3) limit capacity and can have a negative impact on trade and efficiency in maritime transport services (mode 1).

(iv) *Restrictions on movement of service suppliers affecting cross border supply*

67. Quantitative restrictions or more burdensome administrative procedures concerning entry and presence of foreign service suppliers can have a negative impact on cross border supply of BPO services. Given the complementary relationship outlined earlier between movement of service suppliers and cross border supply (modes 4 and 1) in the knowledge migration process, restrictions on the former can affect the ease with which the latter can be executed. Recently, calls for restrictions on intracompany visas (through quantitative ceilings and specifications on the scope of work under such visas) aroused concern in the Indian IT and BPO industries regarding the impact such barriers would have on the cost and ease of deputing professionals for the complementary on-site component of outsourced projects.

68. Restrictions on foreign management, consultants, and other technical personnel in areas such as port services in countries where such know-how and associated technologies are required, can impede trade in maritime services (through mode 1).³¹

4.2 *Cross-modal limitations and resulting inter-modal distortions*

69. Negative linkages between modes also arise due to regulations that cut across different modes. One such issue is recognition of qualifications. In the accredited and licensed professions, such as healthcare, accountancy, legal, and architectural services, movement of service suppliers is often subject to meeting recognition requirements in the host country.³² In cases where there is no mutual recognition agreement between the host and home countries but professionals do meet the necessary education and experience requirements, if recognition requirements are administered in a manner that is not “reasonable, objective, and impartial”, they can themselves act as market entry barriers.³³ In some cases the scope of the service that is provided may be restricted to certain activities only or entry to the overseas market may be denied altogether. Although it may be possible to provide some of these services through offshoring, recognition requirements may even affect the scope and nature of such offshore delivery through cross border supply. For instance, doctors may only be able to provide referral and second opinion type services

³¹ Arkell (February 20, 2003).

³² Note that the first level of market access barriers is work permits and other immigration regulations, as discussed in the previous example. Qualification related regulations are subsequent to meeting these other administrative regulations on entry, though in terms of how recognition requirements are administered, they may become market access barriers in practice as well. However, in this example the focus is on restrictions that apply simultaneously to more than one mode of supply, while in the previous examples of negative linkage, the restrictions were on one mode specifically which then effectively limited the scope for trade through other modes of supply.

³³ The GATS discipline on recognition allows countries to use such regulations in consumer interest but to administer such regulations in a transparent and objective manner. Hence, it is important to recognize that the recognition requirement itself is not a regulatory barrier but it is in the nature of their implementation that it can become a market access barrier.

over the internet, but may not be able to sign/authorize diagnoses or scanned images over the internet, if their degrees are not recognized in the importing country. This would effectively limit the scope for telemedicine exports. Moreover, insurance portability is subject to recognition of qualifications of the healthcare provider by the foreign health insurance company, thus potentially affecting consumption abroad in the case of patients who are not paying out of pocket. So, recognition requirements can negatively affect three different modes of supply (modes 4, 1, and 2). Similarly, recognition requirements in audit services may prevent both movement of accountancy professionals (mode 4) and remote offshore-based delivery (mode 1) by foreign licensed accountants. It is worth noting, however, that mutual recognition agreements and recognition requirements more generally, are framed to ensure service quality and to protect consumers. Such agreements or conditions are not in themselves entry barriers and are justified on public policy grounds, but in the course of their administration, they may give rise to discretionary entry barriers. Also, in several services, such as healthcare, accountancy, and legal services, recognition requirements may only have relevance if there is first commercial presence, as movement of service suppliers may be subject to having some form of commercial establishment in the overseas market. Thus, commercial presence related constraints might constitute the primary barrier rather than recognition requirements or the absence of a mutual recognition agreement.

70. Inter-modal distortions occur due to cross cutting limitations across modes. For example, establishments that are engaged in exports of medical services overcome recognition barriers by employing foreign-trained health care professionals, as the Thai example illustrated. In the case of audit services, accountancy firms often set up overseas subsidiaries and use these to locally employ qualified professionals or to subcontract out work to local service providers. Stringent conditions on movement of natural persons in an independent capacity, lead some firms to establish subsidiaries and offices overseas to facilitate the deputation of on-site personnel (as illustrated by several of the earlier examples) due to the relative ease of moving personnel when the latter is linked with some juridical entity, i.e., with commercial presence. Hence, this causes a shift towards intra-company visas as opposed to other more stringently controlled non-immigrant visas and also leads to misrepresentation of temporary admissions.

71. Inter-modal distortions also occur due to regulations such as data privacy and consumer protection laws, which affect both movement of service suppliers and cross border supply (modes 1 and 4). For example, in sectors such as accountancy and legal services, data and consumer protection regulations are stringent in developed countries on public policy grounds. Hence, movement of service suppliers in certain types of activities or without associated commercial presence is often not permitted. Such regulations may also apply to offshore delivery of such services. National data protection legislation may be required in the offshore location to enable a firm in that economy to deliver the service through cross border supply. To circumvent this constraint, firms may set up captive subsidiaries in the offshore location to render the service remotely. This is common in areas like financial and health care services where data privacy and consumer confidentiality issues are important. Hence, the restriction results in the use of commercial presence overseas through a captive offshore unit of the parent company, in order to provide the service through cross border supply. To the extent that overseas commercial presence is difficult to establish (for cost or other reasons), the scope for trade through other modes of supply is also negatively affected.

72. Restrictions on commercial presence in the case of distribution services tend to distort entry strategies of firms in this business. For instance, governmental restrictions on greenfield developments, particularly in developed economies, often make it difficult to establish local stores and franchises for retail companies. Such restrictions are often overcome by entering the overseas market through online retailing. Thus restrictions on mode 3 distort the choice of trade in retail distribution services towards mode 1.

5. Substitution across modes

73. In several of the sectors discussed earlier, along with the positive linkages, there were also substitution effects present across certain modes. The case of IT enabled services is provided below to show the inter-modal substitution effect between on-site delivery through movement of service suppliers and offshore delivery through cross border supply. The case of education and health services are provided to illustrate the substitution between modes 2 and 3.

(i) *Substituting temporary movement of service suppliers with cross border supply*

74. One of the most prevalent cases of substitution across modes is between on-site and offshore delivery of services. As many of the earlier cases earlier highlighted, while there is a complementary relationship between these two modes in the execution of IT-enabled outsourced projects, the ability to deliver a service virtually also reduces the need for on-site presence. For example, TCS explicitly notes that high speed data lines, satellite links and videoconferencing facilities at its major development centres have reduced the need for temporary on-site presence. Previously, when undertaking systems development work relating to financial services and data processing for several banks in the US or UK, TCS would send a large team of programmers to the client site to work on the project. Now, TCS does the bulk of the work through email and videoconferencing from its offshore development centre in India and leases a channel on private satellite to provide the work remotely. While there is a complementary presence of engineers and project coordinators on site, the temporary movement of service suppliers tends to smaller in volume (mainly for the transition phase and for liaising with the client) and shorter in duration.³⁴

75. This substitutability is also suggested by the gradual shift that has occurred in IT exports of countries like India, where the share of on-site exports (mode 4) in total exports by the sector, has declined from around 50 percent a few years ago to about 40 percent, while the share of offshore services exports (mode 1), has simultaneously increased.³⁵ Thus, offshore or cross border supply substitutes for on-site provision or movement of service suppliers, especially when low value and high volume activities like call centre services or other back office services are involved, to the extent that on-shore provision would have otherwise been met through temporary movement of service suppliers.

76. Discussions with experts in India's IT sector suggests that there has indeed been such a substitution between these two modes of supply and a resulting reduction in the share of travel costs in total revenues of the industry. This reduction has been both in terms of the volume of movement by service suppliers as well as the time that needs to be spent by service suppliers at the client site. Also, as highlighted earlier, the type of movement that is required is also influenced, as it is typically the managerial and higher level technical and supervisory personnel who need to go to the client site to understand the project specifications and migrate the process to the offshore centre. Thus, there is also a substitution away from the lower and middle level personnel and towards higher level and specialized personnel.

(ii) *Substituting consumption abroad with commercial presence*

77. In the case of education and training services, exports or imports through commercial presence can substitute for consumption abroad based exports and imports, respectively. For instance, overseas franchises and twinning arrangements set up by many higher educational and technical or management institutions from developed countries like the UK and Australia in countries like Malaysia, Vietnam, India, and the Middle East tap the unmet demand for higher education services and for foreign degrees in the

³⁴ See <http://www.computerworld.com/news/1994/story/0,11280,16742,00.html>.

³⁵ See, Nasscom (2002).

latter countries. Courses are often run in partnership with local institutions, with a combination of local and visiting faculty and a foreign degree is granted. Many of those enrolling for such programmes would otherwise have gone overseas to get these same degrees. Thus the overseas commercial presence (mode 3 exports) by these higher educational institutions from developed countries in part substitutes for consumption abroad based exports of education services that would otherwise have taken place by these institutions. It is worth noting that movement of scholars and instructors (mode 4) may also be involved across affiliated institutions and franchises in different countries.

78. The same also holds for some developing country institutions that are establishing campuses in Dubai, Abu Dhabi, and other locations in the Gulf to provide specialized programmes in management education or executive training, often in collaboration with a local institution or other foreign institutions. Again, potential exports of education via consumption abroad are substituted for by commercial presence based exports. There is also the associated temporary movement of personnel for imparting training and there could be resulting inflows of foreign students for follow up courses or demand for distance education services that results from the overseas franchises and subsidiary presence. Thus, the direct substitutive relationship between the two primary modes of consumption abroad and commercial presence may result in trade opportunities through other modes.

79. Similarly, commercial presence based exports of health services can substitute for consumption abroad based exports of health services. For example, the aforementioned case of the fully owned Apollo hospital in Colombo has enabled Sri Lankan patients who used to previously come for treatment to Apollo Hospital in Chennai to be treated at the Apollo facilities in Colombo.³⁶ Similarly, movement by patients from Latin American countries to Cuba has been partly substituted by treatment at established overseas centres in the region, with movement of Cuban doctors and nurses playing a complementary role in providing this treatment.³⁷ Thus overseas commercial presence in the form of subsidiaries and joint ventures has the potential to substitute for medical tourism based exports of health services by the source countries of the investment. Again, the substitutive relationship gives rise to opportunities for trade through other modes of delivery, such as through movement of service providers in the Cuban and Indian health care examples.

(iii) Substitution commercial presence with cross border supply

80. In retail distribution services, there is some evidence of commercial presence being substituted by e-commerce, or cross border supply, with the virtual supply online of customer services rather than through the physical presence of franchises or subsidiaries overseas. Given the thin line between the virtual suppliers and the virtual consumer in the case of e-commerce activities, this could also be seen as a substitution of commercial presence by consumption abroad. One such example is that of Amazon.com, which in 2004 acquired the largest online retailer in China, Joyo at the cost of \$75 million to expand its online business with China. Here, instead of opening a local franchise to supply the Chinese market, Amazon will be supplying through cross border supply. Hypermarkets substitute for actual physical establishment of local supermarkets as the same transactions can be done online. In general, there will be substitution of traditional channels of distribution to online. Moreover, such cross border transactions would also result in online credit card payments and financial services being done electronically, indicating a linkage to online trade in other services.

81. Another example of substitution between modes 1 and 3 is in accountancy services, where the establishment of branches overseas by accounting firms is substituted for by the provision of these services via the internet. A firm like Pricewaterhouse Coopers is spending more than \$400 million on e-business

³⁶ See <http://www.sundayobserver.lk/2002/05/05/new28.html>.

³⁷ See http://www.caribbean-trip.com/cuba/salud_eng.asp.

initiatives to make greater use of information and communication technology to do what it has traditionally done through commercial presence. Implicitly, mode 1 is also substituting for the deployment of professionals to subsidiaries in other countries, and thus also for mode 4 given the complementarity between modes 3 and 4 in the provision of such business services.

6. Policy considerations at the domestic and international levels

82. If countries want to maximize the benefits from services trade, they need to recognize the inter-modal linkages and take them into consideration through domestic policies and through international negotiations. At the domestic level, policy coordination is required across different service sectors where there are synergies and spillover effects and between export and import policies. At the international level, negotiating frameworks such as the GATS as well as regional and bilateral agreements that cover services could be used to exploit the positive linkages and minimize the negative linkages so as to address both market access as well domestic reform objectives in services.

6.1 Internalising through domestic policy measures

83. There are three broad areas for domestic policy action. Firstly, governments could facilitate the central modal source of the positive linkage where it can be identified, by removing various domestic constraints to this mode. Secondly, they could facilitate and increase the effectiveness of the main channels by which the positive linkage arises and influences other modes. Thirdly, governments could address the domestic policy-based, infrastructural, and other constraints that affect trade opportunities in related modes so that the positive linkages are realized and negative linkages are reduced. Hence, attention needs to be paid to all four modes of supply, although certain modes may be given greater priority, for instance due to their central role or due to a country's relative comparative advantage in a particular mode. So, domestic policy could be targeted at (1) the source of the intermodal dynamic and (2) the process by which the inter-modal dynamic occurs.

(i) Facilitating the key drivers

84. The government has an important role to play in facilitating the key modes, which tend to drive the entire process of inter-modal dynamic in the case of positive linkages.

85. In several of the examples, commercial presence emerges as the key driving force that enables/ impedes cross border supply and movement of service providers. Hence domestic policies can play an important role by facilitating both inward and outward commercial presence. For instance, liberal investment policies (mode 3) in sectors like telecommunication and software services can facilitate prospects for mode 1 exports of IT and IT enabled services. Opening up of energy services can facilitate trade in construction and engineering services. Conducive investment policies (mode 3) in the health and tourism services can help promote medical tourism exports (mode 2) as well as telemedicine exports (mode 1). Policies to support overseas commercial presence, such as policies that enable firms to easily raise capital for investment in overseas markets or to avail of targeted loan schemes, or streamlining of authorization procedures for undertaking overseas capital investments, can subsequently promote export opportunities in other modes (such as modes 2 and 4). Investment policies across different service sectors or clusters of services may need to be considered in conjunction, given the types of cross-sectoral linkages discussed earlier. For instance, opening up of the insurance sector to foreign investment can have a bearing on export opportunities through mode 2 in the health services sector. Thus, export-import linkages both within and across sectors need to be considered in framing such policies.

86. Removal of restrictions on commercial presence, in terms of relaxing foreign equity ceilings in key infrastructure services such as telecommunications, energy, and insurance, and relaxation of other

establishment norms, would also need to be supported by various regulatory measures. These could include setting up of regulatory commissions, framing of competition policy legislation to safeguard consumer and social interests, and the development of an appropriate legal framework. Foreign firms are unlikely to invest without sound institutional and regulatory frameworks for accounting, corporate governance, intellectual property, and a competitive and well-regulated financial services sector. (A point worth noting is that such regulatory issues are not only pertinent when a service is opened up to foreign commercial presence but also generally in the context of privatisation of such services and participation by domestic private players). There is, however, a tradeoff between liberalization of FDI, which may enable services trade, and the regulatory burden that may arise from the establishment of such regulatory bodies, which may possibly discriminate between domestic and foreign players.

87. In cases where temporary movement of service suppliers constitutes the main source of the intermodal linkage, domestic policies could try to facilitate the movement of service suppliers. One relevant issue to address in this context is that of standards and the quality of service providers. The extent to which countries can exploit their potential to export through this mode depends not only on the availability and cost of its manpower but also on the quality of this manpower. The latter is in turn determined by the standard of training, availability of related infrastructure, the norms for licensing and accreditation, and also the extent of competition in the domestic market. Thus, governments may need to invest appropriately in education and training and in upgrading relevant infrastructure to raise standards and in establishing regulatory mechanisms to enforce standards. Even in unaccredited sectors such as *software services*, the government may need to move towards quality control and establishment of some minimum standards across training institutions. In some service sectors where there tends to be regulatory capture by professional associations, efforts to improve quality and competitiveness of domestic service suppliers would also require greater market competition within the domestic sector, to help these sectors move closer to international standards.

88. Governments may also need to enter into mutual recognition agreements with selected destination markets and in selected services of interest. As noted earlier, discriminatory and burdensome *application* of recognition requirements in the absence of mutual recognition agreements can result in market entry barriers in sectors like health, legal, and accountancy services and can create an uneven playing field vis à vis third country service suppliers (though as noted earlier, such requirements are justified on public policy grounds and not barriers per se). Entry into MRAs would help overcome such constraints, though this would still require the government and relevant professional bodies to benchmark to international standards and the aforementioned steps towards ensuring standards, quality, and adequate investments in training and related infrastructure.

89. Where cross border supply is the main source of trade opportunities in other modes, domestic policies would need to address factors such as telecommunication links, data protection issues, internet service provision, setting up of teleworking establishments, other infrastructure requirements for e-work, and even development of human resource capabilities to suit the needs of this sector.

90. In essence, the totality of modal and sectoral trade opportunities needs to be considered in framing policies to facilitate services trade. It is worth noting here that introduction of supporting domestic regulations (such as on data protection) needs to be carefully balanced so that such measures do not become overly burdensome and end up impeding rather than facilitating trade.

(ii) *Facilitating the channels for linkages*

91. In addition to facilitating the main modal sources of positive linkages, policies also need to support the process or channels by which these linkages take shape. For instance, the channels of skill and knowledge transfer or reputation and network effects, could be made effective where cross border

movement of service suppliers is important in attracting investment flows or creating opportunities for outsourcing, as discussed earlier. This could include government/firm level policies to integrate returning service providers more effectively into the economy/firm and to make better use of their experience, skills, networks, and financial capital. In the context of commercial presence, the channels of technology and skill transfer, upgrading of standards, and reputation and confidence building effects that can result from capital flows, could similarly be made effective to subsequently enable trade in other modes of supply.

6.2 *Internalising through the GATS and other negotiations*

92. The negotiating strategy in multilateral, regional, and bilateral fora could also reflect the aforementioned three broad elements, namely, facilitating the key drivers, promoting the channels by which linkages are propagated across modes, and liberalizing all modes in general. In the context of the GATS negotiations, certain modifications in approach and modalities may also be worth considering in order to maximize cross-modal and cross-sectoral externalities and to ensure consistency between negotiating strategy and domestic policy objectives. Such approaches would exist within the overall GATS framework, which provides considerable flexibility in the commitment process. Countries will retain the right to choose sectors for scheduling and the extent of liberalization they wish to commit to in particular modes and subsectors/activities, in keeping with the GATS' flexible architecture and Article IV of the GATS, which is aimed at facilitating the participation of developing countries in services trade. The GATS flexibility also allows countries to retain the ability to regulate services sectors as they deem necessary.

93. In order to promote the channels, by which linkages are propagated across modes, the approach under the GATS could be to address cross-cutting barriers across modes and also ensure that GATS commitments across modes are consistent and mutually supportive. For instance, lack of recognition affects not only mode 4 but also mode 1 as foreign service suppliers may not be able to deliver a service in a legally binding way unless their credentials are recognized in the importing country. Hence, in discussing the need for greater transparency in recognition norms and facilitating greater participation in mutual recognition agreements under the GATS, this cross modal implication of recognition barriers could be kept in mind. Similarly, as the discussion has indicated, modes 1 and 4 are complementary in nature, especially with movement up the outsourcing value chain. This could be reflected in a complementary negotiating strategy for modes 1 and 4, whereby the focus categories under mode 4 include those that are important for conducting mode 1 based exports, both in the horizontal commitments and in selected sectors of export interest. Likewise, market access issues in mode 1 could be seen in conjunction with market access under mode 3 in areas like financial, accountancy, and engineering and R&D services, where mode 1 exports are often undertaken by captive subsidiaries and offshore centres of outsourcing multinationals. Similarly, overseas restrictions on mode 3 may also need to be addressed, not only because of their inhibiting impact on this particular mode, but also because of their limiting effect on exports through other modes of supply, for instance, through modes 2 and 4. Thus, essentially the complementary relationship between the various modes needs to be captured in the GATS commitments and offensive and defensive interests, i.e., the negotiating strategies for seeking as well as binding greater market access, may often need to be seen in conjunction.

94. The discussion on linkages throws up two important issues concerning the modalities and potential focus areas in GATS negotiations. The first issue relates to the importance of three modal combinations in terms of linkages, namely modes 3 and 4, modes 3 and 1, and modes 1 and 4 often facilitated by mode 3. Thus, greater focus may be required in the negotiations on restrictions that specifically affect these modes or which cut across these modes. In several respects, modes 3 and 1 present the best opportunities for liberalization given the general trend towards global dispersion of firm activities and liberalizing foreign commercial presence in developing countries in the case of mode 3 and the rise in global outsourcing and thus converging interests between host and home country firms and industry associations in the case of mode 1. To the extent that these two modes are addressed, export

interests in movement of natural persons in the case of skilled contractual service suppliers, independent professionals, and intracompany transferees, are likely to get addressed, given their supporting role in overseas commercial presence or in enabling outsourcing operations. It may be, however, difficult to significantly liberalize mode 4, especially in the case of low skilled persons, given social concerns and labour market, cultural, and other sensitivities, and mode 4 may be better addressed bilaterally or regionally rather than multilaterally.

95. The second issue relates to the existence of clusters of services, which tend to exhibit trade linkages across modes. For instance, telecom, software, and other business services are linked in terms of trade opportunities and modes of supply, as shown in the various examples. There is also a prevalent enabling role played by certain sectors.

96. Some possible clusters and associated modes that could be considered are listed in the table below. These are based on the GATS W/120 classification and the corresponding UN CPC (provisional) is also provided to facilitate negotiations and collection of information. The clusters noted here are by no means comprehensive, either within individual clusters or across the clusters, but are meant as indicative groupings of services and modes that can be used in the GATS negotiations. The earlier discussion has already indicated the types of relationships that are present across these modes.

Cluster of services	Relevant modes of supply	GATS W/120	UN CPC (provisional)
Cluster 1			
(i) Tourism and travel related services <ul style="list-style-type: none"> • Hotels and restaurants • Travel agencies and tour operators services • Tourist guides services 	Modes 2, 3, 1	9. A, B, C, D	641-643, 747, 7472
(ii) Transport services <ul style="list-style-type: none"> • Passenger transportation under Maritime, Air Transport (computer reservation systems), Rail Transport, Road Transport Services 	Modes 1, 3	11. Aa., Ca., Ea, Fa	7211, 731, 7111, 7121, 7122
(iii) Recreational, cultural, and sporting services <ul style="list-style-type: none"> • Entertainment Services • Other cultural services • Sporting and other recreational services 	Modes 3, 4	10. A, C, D	9619, 963, 964
(iv) Financial services <ul style="list-style-type: none"> • Accident and health insurance services • All payment and money transmission services, consumer credit 	Modes 1, 2, 3	7. Aa, Ab (under all insurance and insurance-related services) 7. Bb, Bd (under banking and other financial services excluding insurance)	8121, 8129 8113, 81339

structure of the GATS, which allows countries to apply discretion in choosing the sectors for scheduling and in the nature of commitment for a particular mode and activity.

99. Thus, the cluster approach would enable countries to link the market access they seek in certain services from other countries, with the market access offers they make in related services. For instance, the market access being sought in business process outsourced services via mode 1 would need to be supported by appropriate foreign investment and competition policies in sectors such as telecommunication services, under mode 3. Also, countries could use the cluster to make commitments across modes both within and across sectors, in an operationally meaningful manner. For instance, to truly realize the benefits of opening up hotel and tour operator services to foreign commercial presence, supporting commitments might be required on movement and presence of service suppliers in tour and travel services, in construction services, and even architectural and engineering services.

100. There is one classification issue that would need to be resolved though, especially in the ICT cluster negotiations. This concerns the modal classification of e-services. As noted at the outset, this paper has defined e-services trade under mode 1, but there is some debate about classifying such services under an altogether new mode (mode 5) or to redefine mode 2 to require physical presence and improve the market access commitments in mode 1 (from unbound to partial or full market access). But progress on intermodal and intersectoral issues would depend on whether countries are willing to make substantially improved mode 1 commitments for e-services. Thus, it is important to note that due to unresolved classification issues concerning certain modes, the cluster approach to negotiations may not necessarily progress that smoothly and that associated liberalization in related services may also get delayed in the process. But whatever approach is adopted and whatever redefinition is done across modes, the GATS architecture must not be undermined. Mutual exclusivity would need to be maintained across sectors and modes even though modal and sectoral linkages are reflected in the negotiations, and flexibility in the commitment process would remain.

101. Similar issues and approaches need to be considered in the context of regional and bilateral agreements that cover services. It might in fact be easier to pursue market access interests in sensitive areas such as movement of natural persons by the low and semi-skilled under such arrangements. Agreements such as APEC and NAFTA have already addressed issues such as regional investment and cross-border mobility of service providers in the case of professionals and business visitors (such as the APEC business visitor card and the NAFTA's TN visas. But there remains scope for bilateral and regional liberalization of such movement and of capital flows in agreements that involve developed and developing countries and among developing countries. Again, an appreciation of the kinds of linkages discussed in this paper would require countries to keep in mind both defensive and offensive interests within and across different service sectors and modes and synergies across different service activities when negotiating such agreements.

Box 3: Key points

There are facilitating and complementary relationships among modes, which suggest that facilitation of one mode has positive spillover effects on other modes of supply. So larger gains than normally perceived may be realized by encouraging trade in the modes that tend to have the most positive externalities.

There are substitution relationships between modes as well as cross-cutting and distortionary effects across modes due to restrictions on a particular mode of supply. Again, removal of such restrictions can yield larger gains than normally perceived by enabling trade in other related modes.

The most significant modes appear to be modes 3 and 4, i.e., movement of capital and temporary movement of service suppliers, with mode 1, particularly information and communication technology acting as an intermediary in such flows. Greater symmetry in market access conditions is required between modes 3 and 4.

Inter-modal linkages are often coupled with inter-sectoral linkages, particularly due to the use of information and communication technology in delivering services. Thus, cross modal and cross sectoral issues may often need to be considered in conjunction. Similarly, linkages can run from exports to imports or vice versa within a sector and across sectors. Strategies for seeking markets and opening markets domestically need to be considered in conjunction.

Both domestic policies and international negotiations are required to capitalize on the positive linkages that exist across modes and to minimize the constraints imposed by the negative linkages that exist across modes. This may involve looking at domestic market opening and overseas market seeking strategies in a coupled and holistic manner and considering new ways and modalities for committing/seeking commitments across service sectors and modes.

The discussion also highlights that it is predominantly larger multinational companies whose operations tend to exhibit linkages across modes. This is necessarily the case as their activities span multiple locations and types of services, involve a mix of commercial presence with supporting temporary movement and presence of service providers, and use of associated information and communication technology to provide operations around the world. Thus, looking ahead, inter-modal dynamics and spillover effects are likely to increase, given growing transnationalization of production and services, further advances in information and communication technology which will enable disintermediation and remote delivery of even more services, and the emergence of many more countries in services trade. Hence, inter-modal linkages in services are likely to become more widespread, more complex, and multidirectional, to span a growing range of activities, companies, and countries in future.

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