

Magdeleine, Joscelyn; Maurer, Andreas

Working Paper

Measuring GATS mode 4 trade flows

WTO Staff Working Paper, No. ERSD-2008-05

Provided in Cooperation with:

World Trade Organization (WTO), Economic Research and Statistics Division, Geneva

Suggested Citation: Magdeleine, Joscelyn; Maurer, Andreas (2008) : Measuring GATS mode 4 trade flows, WTO Staff Working Paper, No. ERSD-2008-05, World Trade Organization (WTO), Geneva, <https://doi.org/10.30875/64c4d93d-en>

This Version is available at:

<https://hdl.handle.net/10419/26726>

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World Trade Organization

Economic Research and Statistics Division

Measuring GATS Mode 4 Trade Flows

Joscelyn Magdeleine, Andreas Maurer

WTO

Manuscript date: 08 October 2008

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Measuring GATS Mode 4 Trade Flows

Joscelyn Magdeleine and Andreas Maurer*

WTO

ABSTRACT

The paper discusses the research work which has taken place over recent years with respect to the measurement of GATS mode 4 – presence of natural persons, in the context of the revision of the Manual on Statistics of International Trade in Services.

Realistic estimates of mode 4 trade are virtually non-existent. Based on the GATS legal definition, the paper introduces the statistical conceptualization of mode 4. While showing that balance of payments labour related flows indicators, such as worker's remittances and compensation of employees, cannot be used as substitutes, the paper discusses relevant balance of payments transactions in individual services sectors for estimating the value of this trade. Given the complexity of many services contracts (one service contract may involve the use of more than one mode to supply services to consumers), it provides simplifying assumptions that help build these measures of mode 4 trade in services. The paper recognizes that the proposed simplified statistical approach to modes of supply does not strictly adhere to GATS provisions and explains that it has been designed as a first guidance to provide relevant information for GATS while ensuring feasibility and consistency with statistical frameworks. Examples are given, showing the interest of some economies to estimate the size of mode 4 trade. The paper also presents how existing migration and tourism statistics could be used to assess the physical mode 4 movement (flows) and presence (stocks) in terms of number of persons. It introduces necessary extensions (separate identification of relevant mode 4 categories of persons, breakdowns by origin/destination, occupations, length of stay etc.) of these statistical frameworks in order to conduct a proper assessment of mode 4.

Keywords: Mode 4, statistics, GATS, trade in services

JEL Classifications: C82, F13, F2

* The authors work in the Economic Research and Statistics Division of the WTO Secretariat. All views expressed are those of the authors and cannot be attributed to the WTO Secretariat or WTO Members. Many thanks are due to Rolf Adlung, Barbara D'Andrea, Antonia Carzaniga, Hubert Escaith and Patrick Low for their useful comments on initial drafts; any remaining errors are the authors' responsibility.

INTRODUCTION

Various papers and articles in the economic literature aim at showing the benefits of mode 4 by analysing labour migration.¹ Computable General Equilibrium (CGE) simulation studies, such as those of Winters and Walmsley state that restrictions on temporary labour migration are inducing costs to developed and developing countries alike in the range of about 150 billion US dollars, about 1 per cent of world trade in 2006.² Other literature use income measures such as compensation of employees or worker remittances to prove positive effects of temporary movements of natural persons on merchandise trade and services trade under modes 1 and 3.³ They argue that temporary movements, like permanent movements, would for example reduce transaction costs for merchandise trade and thus create additional trade.⁴

The beneficial effects mentioned above are mirrored in the developing countries' requests for liberalising the movement of persons in the current Doha Development Agenda (DDA) negotiations where they seek improved commitments on market access for their nationals.⁵ While economic literature is attempting to explain the economic impact of liberalising mode 4 using tools applied in migration, statisticians in contrast struggle with the "adequate translation" of GATS mode 4 legal texts into statistical concepts to appropriately measure the size of related trade flows, that is, to determine the relative importance of mode 4 vis-à-vis other modes of supply. Measuring these trade flows would be important for a proper assessment of the international supply of services.

The central question to compare mode 4 trade with other modes is what is its relative importance (i.e. value) compared to modes 1, 2 and 3?⁶ Realistic estimates of mode 4 trade are virtually non-existent, and the little information available seem to indicate that at the global level it is the least important mode in value terms.⁷

Given the lack of reliable information, the economic literature often uses balance of payments labour-related flows (compensation of employees, workers remittances and/or migrant transfers) to provide rough estimates. This paper will show that these indicators are not a substitute for measuring the value of trade in services. Based on the GATS legal definition, it will introduce the statistical conceptualization of mode 4. It will discuss mode 4 transactions in individual services sectors and indicate how existing migration and tourism statistics could be used to assess the physical movements and presence of persons.

GATS mode 4 in statistical frameworks

The Manual on Statistics of International Trade in Services (MSITS), adopted by the United Nations Statistical Commission in 2002⁸, introduced for the first time an internationally agreed framework for measuring international trade in services. It is based on existing statistical frameworks such as the IMF's 5th edition of the Balance of Payments Manual (BPM5) and the System of National Accounts 1993 (SNA 1993) and also develops a new framework for measuring the activities of foreign affiliates (Foreign Affiliates Statistics – FATS), which can help assess the size of commercial presence.

¹ Handbook of International Trade in Services, Mattoo, A. et al., p. 42.

² Relaxing the Restrictions on the Temporary Movement of Natural Persons: A Simulation Analysis. Terrie L. Walmsley and L. Alan Winters, Journal of Economic Integration, Volume 20, Number 4, December 2005.

³ The Impact of Mode 4 on Trade in Goods and Services, Marion Jansen, Roberta Piermartini, WTO Staff Working Paper ERSD-2004-07.

⁴ The Impact of Mode 4 Liberalization on Bilateral Trade Flows, Marion Jansen, Roberta Piermartini, WTO Staff Working Papers ERSD-2005-06.

⁵ Elements required for the completion of the services negotiations, report issued by the Chairman, 26 May 2008, <http://www.wto.org>.

⁶ Guide to the GATS, WTO Secretariat, Presence of Natural Persons, Kluwer Law International, 2001, p.629

⁷ International Trade Statistics, WTO, 2005, p. 8

⁸ Manual on Statistics of International Trade in Services, United Nations, ST/ESA/STAT/Ser.M/86, 2002

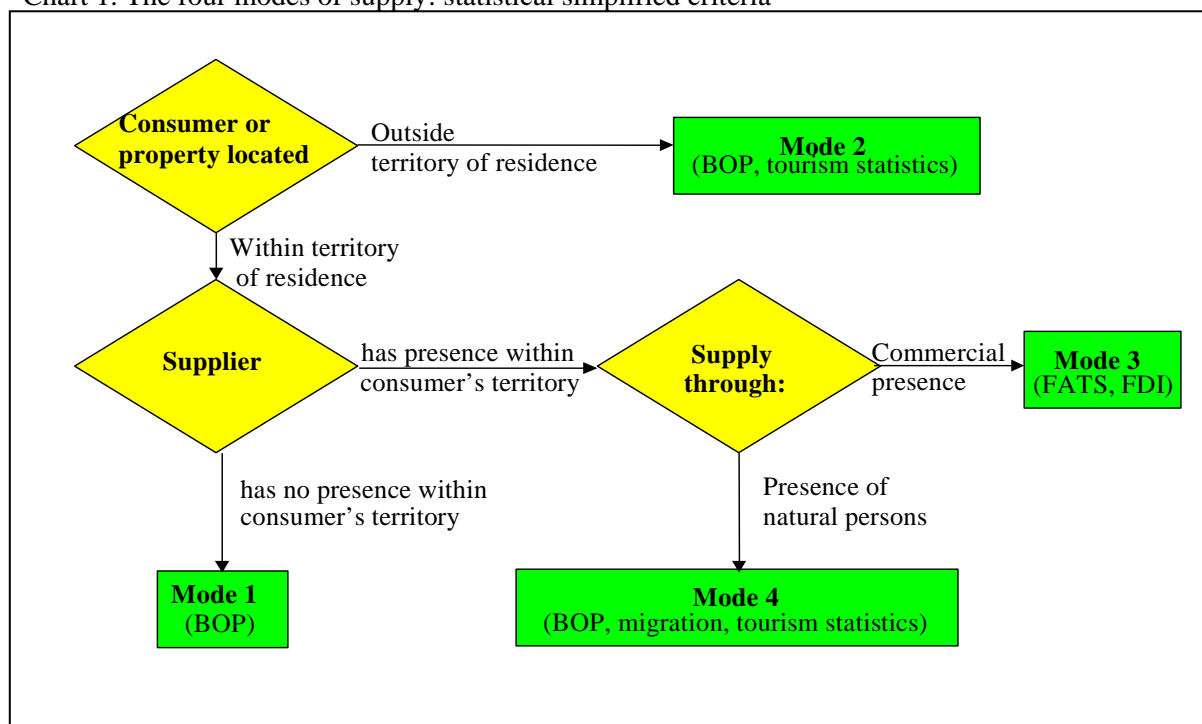
It should be stressed that the MSITS guidelines on the compilation of statistics on the international supply of services are laid out for statistical purposes and that they do not exactly correspond to trade in services as defined in GATS. For instance GATS defines the supply of services as including "the production, distribution, marketing, sale and delivery of services" whereas international statistical guidelines mainly focus on the production and delivery aspects for valuing services trade.⁹

Although MSITS adopts simplified criteria for measuring international supply of services by mode (see Chart 1), it stops short of developing a conceptual framework for measuring mode 4 trade flows. However it opens the way to the development of statistics for assessing mode 4 in an Annex on the Movement of Natural Persons supplying services under GATS. It identifies elements of relevance in the BOP, FATS, migration and tourism statistical frameworks which could serve as a basis for measuring mode 4.

While both the balance of payments (BOP), through the introduction of the Extended Balance of Payments Classification (EBOPS, see annex I), and FATS have allowed to improve the coverage and refine measures for trade in services, in particular for approximating modes 1, 2 and 3, today no reliable estimate exists on the value of mode 4 trade which renders any quantitative assessment difficult.

Following the revision processes of the Balance of Payments Manual (BPM6) and the System of National Accounts (2008 SNA) due to be finalized early 2009, MSITS is also being revised.¹⁰ The revised MSITS draft accounts for revisions introduced in the above two international statistical frameworks and in FATS and also includes a chapter that discusses the measurement of trade flows by mode of supply, in particular mode 4, and provides new recommendations. This paper which focuses on mode 4 is based on these new proposed recommendations.

Chart 1. The four modes of supply: statistical simplified criteria



Source: WTO Secretariat based on draft revised Manual on Statistics of International Trade in Services (2008).

⁹ BPM5 and MSITS define services transactions as "an economic flow that reflects the creation, transformation, exchange, transfer or extinction of economic value involving the provision of services"

¹⁰ At the time of writing the draft revised MSITS was being reviewed by compilers and users of trade in services statistics through a worldwide consultation. For more information see <http://unstats.un.org/unsd/tradeserv/msitsintro.htm>.

Remittances and GATS mode 4 trade -- Can one measure the other?

The balance of payments items compensation of employees and workers remittances (and in some instances migrant transfers) are often used in economic literature as statistical indicators to estimate the size of GATS mode 4 trade. However, compensation of employees and workers remittances are both labour income measures.¹¹ Compensation of employees covers the wages, salaries etc. received by an employee, in an economy other than the one in which he/she is resident, paid for the work performed for his employer resident of that economy.¹² Workers remittances cover the part of the salary of a migrant (i.e. a migrant is defined as a person who comes to an economy and stays or intends to stay for a year or more) remitted to his/her home economy. Both indicators provide income flows originating from the movement of people or migration; as such, they cannot substitute BOP indicators which measure trade flows (transactions) that are specified and originating from service contracts between service suppliers and consumers.

For appropriate indicators to measure GATS mode 4, information needs concentrate on two basic aspects: first, **the value of the service provided** for categories of people that fall under the mode 4 regime and, second, the **number of natural persons** moving (flows) and temporarily present (stocks) in the context of the supply of a service.¹³ Before detailing the respective statistical frameworks that can be used to estimate these indicators, the coverage of GATS mode 4 needs to be defined in statistical terms.

The statistical conceptualization of mode 4

Mode 4, presence of natural persons, occurs when an individual is present in the territory of an economy other than his own to provide a commercial service. GATS defines mode 4 as the supply of a service by "a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member".

The *Annex on the Movement of Natural Persons supplying Services under the Agreement* specifies that the agreement does not apply "to measures affecting natural persons seeking access to the employment market" nor does it apply "to measures regarding citizenship, residence or employment on a permanent basis."

If the service supplier is defined as being located in member B, and the service consumer is located in A, then mode 4 may be considered as covering the following major categories of natural persons:¹⁴

- *Contractual service suppliers - self-employed*: a self-employed person of member B enters member A in the context of a service contract with a service consumer in A.¹⁵ For example, legal advice is delivered to foreign consumers by a self-employed lawyer. Some self-employed persons may also establish themselves in the host market and supply services from within this territory: although a mode 4 commitment guarantees the right for this person to be present in this territory, it is considered that the supply of the service is carried out through a commercial presence. It may not always be straightforward to determine if the specialist is a self-employed person or if an employee-employer relationship exists between this person and

¹¹ In addition worker's remittances often cover all remittances made by residents as in many cases data collection systems are unable to separately identify the amounts originating from labour income.

¹² Residence is a basic concept of the balance of payments framework. It is notably defined in terms of interest and duration (or intention) of stay in the host economy on the basis of a one-year guideline.

¹³ As far as possible this information has to be further broken down in terms of countries of origin/destination, type of service supplied, duration of stay etc.

¹⁴ These categories are the major groupings of persons moving abroad in the context of mode 4 used in this statistical framework. In trade negotiations, schedules may refer to these major groupings but may also use different naming or refer to more specific categories of persons. To ensure the international comparability and transparency of the data, compilers are encouraged to use the categories identified in this statistical framework and break down information according to the more specific needs identified.

¹⁵ Trade negotiators often refer to this category as "independent professionals".

the "client" (see box 1). If an employer-employee relationship exists then the individual would not be included in this statistical framework.

- *Contractual service suppliers as employees* of a juridical person: employees of the service supplier in member B are sent to member A in order to supply a service in the context of a contract between their employer and a service consumer in A. For example, computer services are supplied to consumers of A by an employee of a foreign IT services firm of B who is sent to A to deliver this service;
- *Intra-corporate transferees and foreign employees directly recruited by foreign established companies*: the service supplier of member B has a commercial presence in member A and sends its employee to its affiliate in A or the affiliate recruits directly foreign employees.¹⁶ The supply of the service to the consumer is however taking place through the affiliate (mode 3). For example, a surgeon is transferred temporarily to work in a branch of his employing hospital in an economy abroad. The mode 4 commitment guarantees the right of the supplier in B to send staff to A (or the affiliate to recruit foreign staff) in order to supply a service through its local affiliate.¹⁷ Intra-corporate transferees are a particularly relevant sub-group as many commitments are made and negotiations carried out with respect to this category of persons.
- *Services sellers* who are attempting to establish contractual relationships for a service contract, and *persons responsible for setting up commercial presence*: these persons enter member A in the context of the negotiation for a service contract or for setting up the establishment of an affiliate in member A.¹⁸ Initially, there is no trade in economic terms and consequently no accompanying transaction taking place. Their movement in order to conduct negotiations is guaranteed by commitments under mode 4. The negotiations will then eventually lead to the future provision of services through either of the modes of supply.

The GATS provides for the possibility that commitments, and therefore access conditions, be scheduled according to different categories of natural persons. Members' commitments in Mode 4 have been undertaken largely on the basis of the above categories. However, a number of WTO members refer to particular categories such as "installers and servicers", artists, sportspersons or other suppliers of services taking part in public performances, graduate trainees etc. For statistical purposes, these categories may be seen as falling under one of the four above categories (e.g., "installers and servicers" may be considered as contractual service suppliers or intra-corporate transferees, artists as contractual service suppliers, graduate trainees as intra-corporate transferees, etc.).

¹⁶ For foreigners directly recruited by the foreign affiliate there may be ambiguity with respect to their coverage under mode 4 as one could consider, in particular for foreigners recruited from within the host economy, that these individuals are seeking to access the employment market of the host economy.

¹⁷ Note that the mode 4 presence is not always necessary to supply a service via mode 3. This is just a possibility. Many services will be delivered by foreign affiliates without a mode 4 component involved. In the GATS text the definitions of modes of supply are mutually exclusive and it is through scheduling that these relationships are created.

¹⁸ Trade negotiators often refer to these categories as "business visitors". Business visitors as generally understood by WTO Members in a GATS context are not the same as business visitors or travellers as defined in international statistical frameworks.

Box 1. Self-employed or employee?

“Self-employed” and “independent” service suppliers are terms that are often used interchangeably. Statistical recommendations describe these individuals (hereafter named self-employed) as deemed to operate their own unincorporated enterprises, and sell output they produce. Self-employed persons, who may also employ others, are generally responsible for decisions on markets, scale of operations and finance, and are also likely to own, or rent, machinery or equipment on which they work.

An employer-employee relationship exists when there is an agreement, which may be formal or informal, between an enterprise and an individual, entered into voluntarily by both parties, whereby the individual works for the enterprise in return for remuneration in cash or in kind. The remuneration is normally based on either the time spent at work or some other objective indicator of the amount of work undertaken. If an individual is contracted to produce a given result, it suggests a service contract relationship between the enterprise and a self-employed.

It may not always be clear whether an employer-employee relationship exists between the individual and the enterprise or whether the individual is a self-employed and is supplying a service to the client enterprise. Provision of several types of services may pose such problems because enterprises may choose either to purchase a service from a self-employed worker or to hire an employee to perform the job. The status of the worker has important implications. If an employer-employee relationship exists between the worker and the enterprise for which the work is being done, the corresponding payment constitutes compensation of employees. If the individual is self-employed (i.e. an employer-employee relationship does not exist), then the payment constitutes a purchase of services.

Several factors may have to be considered in determining whether an employer-employee relationship exists. An important test is that of control. The right to control or to direct, both as to what shall be done and how it shall be done, is a strong indication of an employer-employee relationship. The method of measuring or arranging for the payment is not important as long as the employer has the effective control both on the method and the result of the work undertaken by the individual. However, a certain control on the work being undertaken may also exist for the purchase of a service. Therefore, other criteria should also be used to define more clearly the employer-employee relationship. For example, an individual being solely responsible for social contributions would suggest that it is a self-employed service provider. In contrast, payment of social contributions by the employer is an indication of an employer-employee relationship. If the individual is entitled to the same kind of benefits (e.g. allowances, holidays, sick leaves, etc.) that the enterprise generally provides to its employees, this may indicate an employer-employee relationship. Payment of taxes on the provision of services by the individual is an indication for a self-employed service provider.

Source: Draft of the 6th edition of the IMF's Balance of Payments Manual and draft revised Manual on Statistics of International Trade in Services.

In their commitments, WTO members have in general indicated the length of stay of natural persons by the respective categories. For example, in the case of contractual services suppliers, whether self-employed or employees, the duration ranges between 3 months to one year, rarely exceeding 2 years; for intra-corporate transferees it is generally limited to 2-5 years; for services sellers/persons responsible for setting up commercial presences it is normally limited to 3 months.

All these issues make the task of estimating values of trade in services by modes of supply challenging. Accounting legislations, conventions and conveniences will also affect the way enterprises, banks and compilers report related payments by services items and modes and may have implications on the recording (or not) of associated payments and receipts in the balance of payments or in FATS.

The **value of services** as measured in the balance of payments refers to international transactions between residents and non-residents with an underlying contract as the basis for this transaction. Whereas certain transactions are clearly associated with specific modes, for example, a physician providing medical diagnosis to a patient via e-mail transactions as mode 1, others involve a combination of modes of supply. For example, under a single transaction between a computer services supplier and its client to develop a customized software, the supplier may need to send a computer specialist to the "host" economy (client) to develop part of the software while the other part is developed in the "home" economy of the supplier and subsequently forwarded to the specialist via e-mail, who will then take care of the finalization of the project with other specialists who stayed in the home economy.. It is for these cases of contractual service suppliers where there is a need to

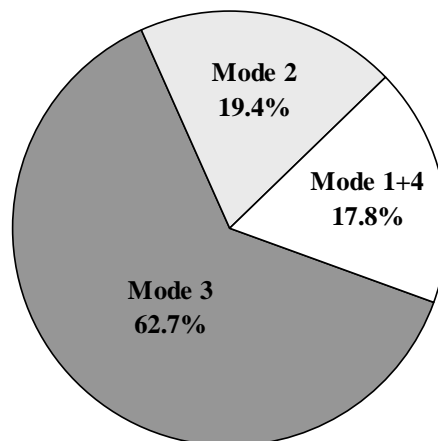
identify the relevant part in services transactions considered mode 4. This is difficult because it mainly requires identifying in existing balance of payments cross-border services transactions the share of trade delivered through mode 4.

In addition to the value of trade in services, information on the **number of persons** (flows and stocks) would be of interest for all categories of natural persons. Although once again this type of information is not separately available and conceptual work is underway, existing statistical frameworks such as tourism or migration statistics combined with various data sources (enterprise surveys, border or passenger surveys, administrative sources such as visa records) may help in assessing the size of mode 4 movement and presence.

GATS mode 4 trade flows in an economy's balance of payments?

A few economies have started assessing the possibility of measuring their trade in services according to the GATS modes of supply. For example, Australia has provided an initial breakdown by mode of supply of its services trade for the fiscal year 2002-03 (based on balance of payments and foreign affiliates data – see Chart 2). While it provides a first indication of the relative sizes of modes, that is, mode 2 (19.4 per cent) and 3 (62.7 per cent), it groups services transactions referring to mode 1 and mode 4 under a single heading representing 17.8 per cent.

Chart 2. Australia, international supply of services broken down by mode, 2002-03
(Percentage)



Source: WTO calculations based on *Trade in Services, Australia 2003-2004*, Australian Department of Foreign Affairs and Trade (2005) and ABS (2007), *International Trade in Services by Country, by State and by Detailed Services Category, Financial Year, 2006-07*.

Australia's example reveals that international transactions may actually be allocated to a single mode or a single transaction may be composed of several modes of supply including for instance a mode 4 component. For example, a single service contract between an architect and his client may cover the design of the construction project, its delivery to the client through electronic mail and occasional visits to the economy of the client at the implementation phase. In such a case the supply of the service involves a mode 1 and mode 4 component.

For a statistical assessment of trade in services by modes, the question is how to allocate for balance of payments statistics transactions the respective parts that are relevant to different modes. Examples where services are delivered through a combination of modes, especially mode 4, may frequently

appear in various types of services, however computer services, other business services (professional services such as lawyers, architects, services incidental to agriculture, mining, etc.) or personal, cultural or recreational services will most likely involve much mode 4 related trade.¹⁹

Where to find mode 4 in balance of payments trade in services transactions?

Clarifying the coverage of mode 4 in statistical terms for a conceptualization of mode 4 indicators shows that the value of services trade is relevant only in the case of contractual service suppliers, whether these services are supplied by an employee of the service supplier or if the service supplier is a self-employed and supplies the service himself. The information is not needed for intra-corporate transferees and foreign employees directly recruited by the foreign affiliate, nor for services sellers/ persons responsible for setting up commercial presence. For the former the service transaction between the service supplier (i.e. the juridical person) and the consumer is taking place through mode 3 (the mode 4 commitment enables the presence of the person in order for the service supplier to supply the service via mode 3) and for the latter there is no service transaction (the transaction takes place at a later stage).

Ideally, each international service transaction as recorded in the balance of payments, should be allocated among the different modes. However, as in many cases a single service transaction may involve more than one mode of supply, it is difficult for data compilers to identify a transaction's full complexity. To simplify, each type of service can be allocated either to one dominant mode or, where there is no single dominant mode, to the most significant mode of supply. Examples are communications services (mode 1) or travel which is used to approximate mode 2. Other examples are services incidental to agriculture and mining which are deemed to be provided predominantly through mode 4.

For other types of services the picture may be more complex as individual transactions might involve significant elements of different modes. To take a simple example, a consultant resident in the compiling economy providing services to a non-resident client may supply the service *either* on-site (mode 4) *or* from the office of the consultant transmitting reports cross border (mode 1) *or* a combination of those two. For construction, companies may want to establish either a commercial presence-mode 3 (which would not qualify as a branch being created and which may involve a mode 4 presence) for a short period of time (a few months) and/or post own workers in the host economy under mode 4.

For the more specific case of mode 4, as stated above, information is only needed for contractual service suppliers (either employees of a foreign-based service supplier or self-employed service suppliers) who are present in the host economy in order to supply a service. Depending on the category of person and the length of stay of this person abroad, the value of the services trade is in principle recorded in the balance of payments as follows:

- (a) Contractual service suppliers as employees of the foreign-based service supplier: a service supplier obtains a service contract with a consumer in another economy. He sends his employee to that other economy in order to supply the service. The transaction corresponding to the service contract will be recorded as an export or import in the respective type of services regardless of the length of stay abroad of this person. In the majority of cases considered the presence of contractual service suppliers as employees will not imply substantial operations that can be identified separately from the overall operations of the service supplier. A group of persons *per se* cannot be considered to constitute a branch or representative office (if this was the case the trade would fall under mode 3, commercial presence).

¹⁹ Table 1, MSITS, page 24.

- (b) Self-employed service suppliers: a **self-employed** person obtains a **service contract** with a consumer in another economy or this foreign person is established in a host economy and supplies services to consumers.²⁰ For the former he/she moves abroad in order to supply that service. If the person stays less than 12 months, the corresponding transaction should be recorded as an export/import of services. If it is possible and if the amounts are believed to be significant, information on self-employed persons under mode 4 should be provided separately. However if he/she is established in the host economy (i.e. more than 12 months), the transaction corresponding to the service contract will no longer be defined as a balance of payments transaction. This particular issue is further discussed in the box below.

Box 2: The case of resident foreign self-employed individuals

Most transactions falling under mode 4 are covered in the balance of payments service components. However, self-employed service suppliers staying (or intending to stay) more than 12 months in the host economy will become residents of this economy and the transactions corresponding to the services contracts will no longer be international transactions. The only transactions that may appear in the balance of payments for resident foreign self-employed service suppliers will be the amount they remit to their home economy (recorded under personal transfers) and/or an increase in assets in the home economy (if the person is saving in the home economy).

In general, these persons will represent a small proportion of the overall mode 4 population in the host economy. However, compiling countries for which the category of self-employed persons established in an economy other than their own (the compiling economy on the "imports" side or abroad for "exports") is believed an important share of the mode 4 population, may wish to estimate the value of services sales/output of these self-employed service suppliers.

These persons may be remitting part of their earnings to their home economy. Again compiling countries for which this category of persons is believed an important component of personal transfers receipts/payments may wish to estimate the amounts they remit to home economies. Although this information cannot be used to measure services sales/output, it may be used for analytical purposes. However it will often be difficult to identify their specific personal transfers as they will often represent a small proportion of the total personal transfer transactions.

(i) *Mode 1 and mode 4*

Combined mode 1 and 4 transactions are often found in *telecommunication, computer and information services* (mainly *computer services*), *other business services* and *personal, cultural and recreational services*. For these components, further analysis and empirical information is needed to determine how they can be separately identified or estimated. In particular, the knowledge of the presence of the supplier or his employees in the client's economy at the time when major transactions are delivered would be critical for a proper assessment of the share of modes in these balance of payments components. A first proposal to estimate separately these modes within payments (at least for major transactions) is provided below. If research were to indicate that for certain components a particular mode of supply provides only a small proportion of the total supply, then all supplies might be allocated to the dominant mode.

If detailed statistics are compiled, it may be easier to allocate some of the items where mode 1 is deemed to be the dominant mode and then subsequently concentrate on the remaining items. Chart 4 presents the services categories that are believed to be delivered through either dominant mode and those where more refinement is necessary.

(ii) *Mode 2 and mode 4*

Within other business services, for *waste treatment and de-pollution*, international transactions can involve significant mode 4 (pollution cleaned up by workers, etc.) and mode 2 components (treatment of radioactive and other waste).

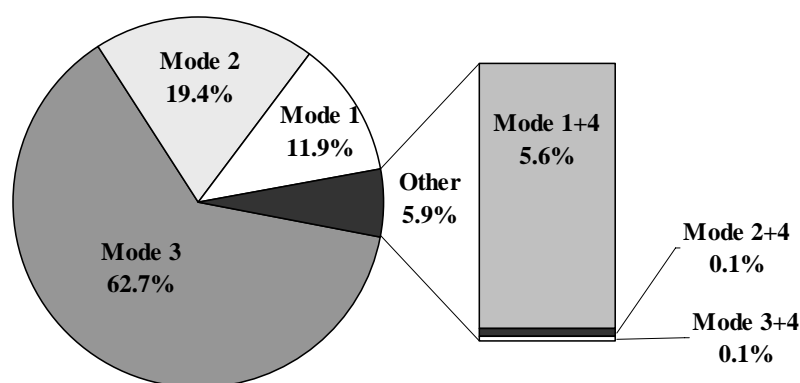
²⁰ See box 1.

(iii) *Mode 3 and mode 4*

For a number of services items it may also be difficult to distinguish mode 3 from mode 4. Commercial presence (mode 3) concerns mostly domestic sales of services of foreign affiliates covered in FATS, which will not be described in this paper. There are cases, however, where a commercial presence is not covered by the FATS framework but under balance of payments transactions. Transactions involving foreign entities established on a short-term basis (less than one year, e.g. an unincorporated site office carrying out a short-term construction project or providing consulting services) or operations based from the home territory rather than a local office, to supply services are recorded under exports/imports of services in the balance of payments. However do these transactions correspond to mode 3 or mode 4? For the sake of simplification, it is recommended to limit this issue to construction services, unless the specific situation of an economy requires another treatment. Whether or not these mode 4 transactions are minor relative to the mode 3 transactions in this category will depend on the compiling economy's situation and the type of arrangements for the different projects (does a site office statistically qualify as a branch or can it be considered that the operations are conducted from the home territory?).

As shown above the Australian DFAT estimated that services exported through a combination of mode 1 and mode 4 represented some 19 per cent of the total international supply of services by Australia (Graph 2). Following the new draft MSITS recommendations this preliminary breakdown could be refined by distinguishing specifically transactions which are deemed to be provided predominantly through mode 1 (such as transportation, communication, financial and insurance, etc. 12%), from those where mode 4 is deemed to be a significant element of the export (computer services, miscellaneous business, technical and professional services, construction, and personal, cultural and recreational services: 6%). The issue would then be to identify items where a further breakdown for a specific identification of mode 4 elements would be needed.

Chart 3. Australia, international supply of services broken down by mode, new recommendations, 2002-03 (Percentage)



Source: WTO calculations based on ABS (2007), *International Trade in Services by Country, by State and by Detailed Services Category, Financial Year, 2006-07*

How to develop practices to separately identify modes of supply information within balance of payments services transactions?

With a view to facilitating the analysis and compilation of service balance of payments transactions by modes of supply, the MSITS recommends that, if estimates cannot be provided for the subdivision of the transaction value by modes, the transaction be allocated to the most important mode in terms of time and resources associated with it. To allocate transactions to modes, a number of compiling guidelines need to be elaborated on the basis of rules of national legislation and/or accounting

conventions. From a general point of view, the possibility of estimating mode 4 flows within the balance of payments services account would also help improve the estimations of in the international supply of services by modes. To collect further information with respect to mode 4, current surveys need to be modified or complemented with a clear list of questions to help survey respondents and compilers to identify whether the payment for a service contract or a single payment could be classified as mode 1, 2, 3 or 4 supply of services. The rules applied to compile these estimates by mode of supply and the list of items where estimates of mode 4 are necessary should be established depending on each economy's interest, and this list should not strictly be limited to the services items identified in this document.

Given the complexity of services contracts (i.e. several modes for supplying the service), the allocation should be made on a broad basis. Compilers should concentrate on services categories relevant in the context of their economy and not necessarily attempt to differentiate mode 4 from other modes for services where this mode of supply is not believed to be an important component.

There are various options which could help determine whether a transaction should be allocated to mode 4 or not:

- (a) Indicate if the provision of the service involved the physical presence of non-resident individual(s), whether as self-employed or as employee(s) sent to the compiling economy by their non-resident company (This question alone seems appropriate for collecting this information for the first time). If it involved the presence of the(se) person(s), how was most of the value of the service delivered (e.g. time and/or resources involved)? That is, if most of the service was provided by fax, email etc., with the supplier remaining in its own economy and the person(s) just went to supervise a final stage, it is mostly mode 1 (or 2), but if the embodied knowledge went with the person(s) and was transmitted directly to the client, it is mostly mode 4.
- (b) Another option could be to define in surveys the four modes of supply as defined in the GATS and ask respondents to allocate transactions to modes of supply. If it involves various modes of supply, the questionnaire could suggest allocating the transaction to the most important mode in terms of time and resources associated with it. While this option will be costly and very burdensome for respondents, it could be used for specific service sectors for which countries have a particular mode 4 interest.
- (c) Another possibility could be to add a question related to the estimated share of the services inputs for the services trade related to the presence of the service supplier or his/her employees.

Given its interest in the international supply of computer services, the Reserve Bank of India (RBI) collected in 2005 for the first time data on computer/software services international supply according to the four modes of supply as indicated in option b.²¹ According to available figures, it is estimated that mode 4 exports represent 13 per cent (approximately 900 million USD) of India's total international supply of computer services. However, for the companies which have international transactions of a value of at least USD 20 million, the share is around 14.5%. This share is even higher for the first ten computer services firms, representing almost 15% of computer services provided to foreign markets. These preliminary results have provided the Indian government with a first approximation of the size of its Mode 4 computer services exports²², and shows that although it is

²¹ This follows the 2001 Indian National Statistical Commission recommendation to envisage another methodology to collect information on Indian software services exports. It was recommended that this survey be conducted every three years and that a quarterly representative survey be also implemented. The software services data currently published by the Reserve Bank of India is not in conformity with international guidelines, but the new information collected by RBI should improve the international comparability of this information.

²² At the time of writing it is not clear if this would only cover services provided by contractual service suppliers or if intra-corporate transferees are also covered.

estimated that it is the smallest mode of supply, it still represents a significant share of the balance of payments transactions for this sector: mode 4 represents 25% of mode 1+4 computer services transactions. Of course this information should be interpreted with caution and should be improved through future surveys.

Table 1. Indian international supply of computer services by mode, 2002-03

Size of Transactions (million USD)	Amount (million USD)					Per cent Share in Total			
	Mode 1	Mode 2	Mode 3	Mode 4	Total	Mode 1	Mode 2	Mode 3	Mode 4
< 0.2	82	1	15	7	105	77.96	1.18	14.17	6.69
0.2-2	205	5	56	31	297	69.12	1.60	18.92	10.36
2-20	358	1	288	52	699	51.18	0.12	41.27	7.43
> 20	1850	0	2706	775	5332	34.71	0.00	50.75	14.54
Total	2495	7	3065	865	6432	38.79	0.11	47.65	13.45
Top ten companies	1553	0	1750	573	3876	40.08	0.00	45.14	14.78

Source: Reserve Bank of India (2005), *Computer services exports from India*. (converted to US dollars by the WTO Secretariat).

The simplifying assumptions for the allocation by mode of supply set out above could be regarded as a guide to first steps in the estimation process and be subjected to periodic review and empirical testing of their validity and appropriateness. This allocation may vary from economy to economy and should be adapted to each compiling economy's specific situation and information needs. For particular important services sectors of an economy compilers may invest further to improve the estimation of these items by mode of supply, and this is particularly true for mode 4. Box 3 provides an example of recent achievements of the Australian International Legal Services Advisory Council in the field of the international supply of legal services.

Box 3. ILSAC Survey of Australian Export Market for Legal Services

Although not entirely consistent with statistical guidelines and the GATS definitions of modes of supply, the Australian International Legal Services Advisory Council (ILSAC) published results of a Survey it conducted on the Australian Export Market for Legal Services for financial year 2004-05. These results, which also cover the revenues generated through commercial presence of Australian legal firms abroad, showed that one quarter (approximately 100 million USD) of its international supply of services was supplied "Fly in-fly out", which could be considered as an approximation for mode 4 trade. According to reports, ILSAC is planning to conduct a second survey for 2006-07, in collaboration with ABS in order to better align definitions used and improve the quality of the data published for legal services.

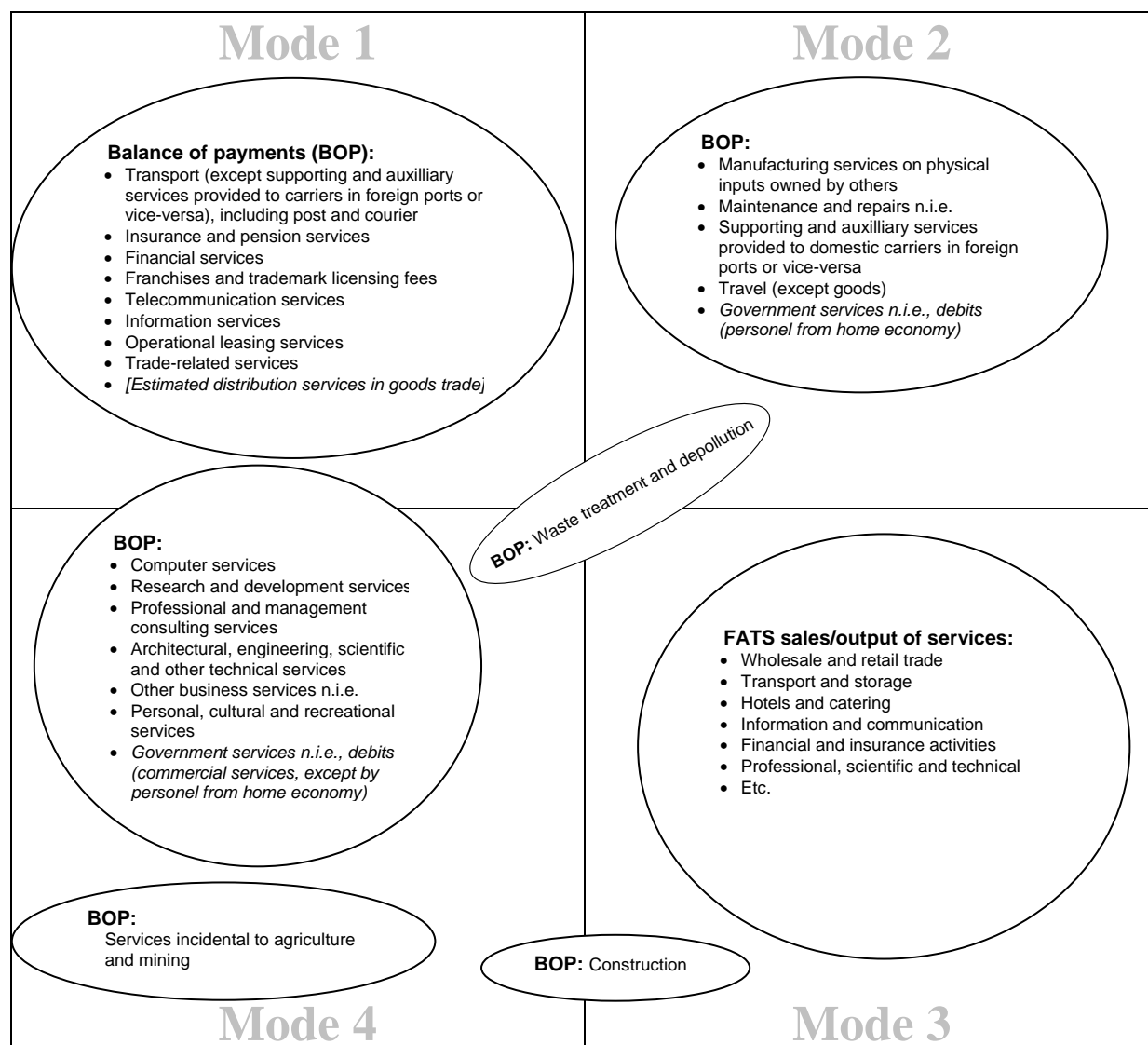
Source: *Trade in Services, Australia 2006-2007*, Australian Department of Foreign Affairs and Trade (2008).

Estimation could be improved over time according to the information obtained by compilers, notably on the way service sectors operate. For instance the simplified allocation could be amended by the use of partial or anecdotal information on a number of specific sectors. If identified as an information need of the compiling economy, these estimates would also be improved for specific services sectors if practices were developed to separately identify modes of supply in relevant services transactions as presented above.

Chart 4 summarizes the recommended allocation of statistics which can serve as a first guidance to estimate the value of in the international supply of services broken down by modes. It identifies the dominant mode(s) of supply used for balance of payments services transactions. If for a compiling

economy allocation does not necessitate the separate identification of modes or if it has difficulties in implementing the allocation according to this chart (too burdensome or costly for compilers or reporters), the rules can be simplified by concentrating on the 10 most relevant BPM6 service transaction aggregates, FATS and if possible the estimated value for distribution services associated with cross-border merchandise trade.

Chart 4. Simplified allocation of FATS and balance of payments data to modes of supply²³



GATS, tourism and migration statistical systems

For a more global analysis of services industries or market opportunities there exist a number of additional useful statistics that can be drawn from various statistical frameworks. With respect to mode 4, information on the number of persons moving and present abroad will be found in tourism or migration statistics. Information on flows and stocks of natural persons could be derived from the definitions used in these frameworks, that is the International Recommendations on Tourism Statistics – IRTS 2008; Tourism Satellite Accounts: Recommended Methodological Framework – TSA-RMF 2008; and the Recommendations on Statistics on International Migration, Revision 1 – RSIM, Rev. 1.

²³ The allocation may vary from economy to economy (general needs of economy , as well as taking into consideration more specific sectoral needs, data collection systems in place, resources, etc.). Items in italics are not separately available in BPM6/EBOPS.

While rough aggregated mode 4 information may be drawn from these statistical systems, a more complete picture will require additional breakdowns in relevant categories. Although such statistics will not perfectly mirror the definitions of GATS, they would provide a reasonable indication of the number of mode 4 persons crossing borders and present abroad in the context of trade in services.²⁴

International Recommendations for Tourism Statistics 2008 and Tourism Satellite Accounts: Recommended Methodological Framework 2008

The IRTS 2008 is a comprehensive methodological framework for the collection and compilation of tourism statistics. An extension of the IRTS2008 is the tourism satellite account by which tourism statistics are linked with the mainstream of macroeconomic analysis (see TSA-RMF 2008). Statistics compiled according to these frameworks would mainly be a useful complement for an in-depth analysis of the tourism sector from a trade perspective, covering all modes of supply, however these frameworks also provide for the possibility to compile information on the flows of persons entering an economy other than their own for short periods of time in order to supply services.

Tourism statistics identify international visitors as being characterized by the fact that they are on a tourism trip, traveling in an economy other than in the one in which they usually reside and that they must not be employed by an enterprise of the economy visited. The number of international visitors can be broken down according to the main purpose of the trip: personal (holidays, leisure and recreation, education and training, health and medical care, etc.) and **business and professional purposes**. Although very aggregated, collecting data on the latter is useful to conduct an analysis of flows of mode 4 persons. It includes the activities of self-employed and employees as long as they do not correspond to an employer-employee relationship with a resident producer in the economy visited, as well as those of investors, businessmen, and any other type of professional purposes (participating in conferences, etc.).

The table below shows the number of "mode 4 arrivals" (i.e. inflows) for a selection of economies. This information could serve as a rough estimation as this indicator may on the one hand underestimate the mode 4 flows of persons by not including arrivals for the purpose of being employed within the economy visited and on the other hand over estimate these flows by including some persons on trips where the purpose is not covered by mode 4.²⁵ In addition these figures should be taken with caution as many economies do not entirely follow international recommendations in terms of the coverage of visitors.

²⁴ Although not detailed in this paper, data on foreigners employed in foreign affiliated firms could also be compiled through the FATS framework.

²⁵ The general definition currently used for visitors is that they are "any persons travelling to a place other than that of his/her usual environment and whose main purpose of trip is other than the exercise of an activity remunerated from within the place visited". This may raise a number of ambiguities with respect to the status of self-employed, the employee-employer relationship etc.

Table 2. Arrivals for business and professional purposes, selected economies, 2006 (thousands)

United Kingdom	9 717	Canada	2 651
Spain	6 084	Saudi Arabia	1 603
United States *	5 569	Japan	1 523
China **	5 548	Brazil	1 410
Poland	4 240	Australia	1 218
Hong Kong, China	3 862	Argentina	599
Russian Federation	3 233	Chile	442
Ukraine	3 040	South Africa	324
Singapore	2 925	Morocco	164

Source: UNWTO(2008)

* Excluding Mexico ** Excluding Hong Kong, China, Chinese Taipei and Macao and overseas Chinese

These figures show that European Union members tend to have a high number of visits for business and professional reasons in particular when compared to economies such as the United States and China, which could be an indication of the degree of liberalization of the movement of such types of persons and the services market amongst European Union members. It is also interesting to note the high number of arrivals for business reasons in a number of developing economies such as Hong Kong, China, Saudi Arabia, Brazil, South Africa, etc.

If relevant for the compiling economy compilers could further disaggregate the category business and professional into contractual service supplies (of which self-employed); intracorporate transfers (only those for which the employer-employee relationship remains with the parent company) and other foreign staff; and services salespersons and investors. However, unless supplementary information is considered, statistics resulting from this framework will not cover cases where there is a change of usual residence (from one economy to another) and intra-corporate transfer and direct recruitments by the foreign affiliate where the employer-employee relationship is with a producer resident in the host economy.

GATS and UN Recommendations on Statistics of International Migration, Revision 1

The statistical framework for the compilation of migration statistics (RSIM, Rev. 1) defines two main groups of internationally mobile persons: non-migrants, and international migrants, of which short-term migrants (more than three months and less than 12) and long-term migrants (a year or more). It also provides a framework for the compilation of statistics on inflows and outflows of these groups of persons.

Although some of these categories cover persons of interest in the context of trade in services, a one-to-one correspondence is not possible. Identifying persons falling under mode 4 within other categories proposed in the RSIM Rev.1 (foreign migrant workers, migrants for settlement, for free establishment etc.) is a difficult task. These definitions were not destined for trade in services analysts. However, similar to tourism statistical guidelines, recommendations on migration statistics could also be useful to compile statistics on mode 4 flows and stocks of persons notably by looking at the non-migrant category corresponding to business travelers (refers to the category business and professional in tourism statistics).²⁶ By adopting a number of assumptions and simplifying rules it will be possible to derive more meaningful and detailed mode 4 estimates from migration statistics, i.e.: (i) the best source of information on mode 4 persons is the category of non-migrants and (ii) intra-corporate transferees and other foreign employees maintaining an employer-employee relationship with the affiliated entity in the host economy fall largely under the migrant categories. In other words,

²⁶ Business visitors as defined in a GATS context are not the same as business visitors or travellers as defined in international statistical frameworks.

- For non-migrants moving for less than one year, the category of business travelers would need to be broken down as follows: contractual service suppliers (further broken down into self-employed and others), services sales persons or responsible for the establishment of commercial presence, intra-corporate transferees (those for which the employer-employee relationship remains with the parent company) and other foreign employees and other business travelers.²⁷ If necessary, supplementary statistics (i.e. beyond the RSIM Rev.1 guidelines) could be compiled to include, for the same categories identified, persons who have changed their economy of usual residence (i.e. staying for more than 12 months) but for whom the employer-employee relationship remains with an enterprise located outside the host economy or who are self-employed (note that there can be an overlap with some categories identified under migrants);
- For migrants, identify within short-term and long-term migrants employed in the host economy, those persons who have been transferred within the same company (i.e. the intra-corporate transferees which are remunerated from within the economy visited) and those foreign employees which are directly recruited by the foreign affiliate. Where there is a need identified, supplementary statistics (beyond the RSIM guidelines) could be compiled, extending the length of stay to cover also moves of less than three months (of which those involving intra-corporate transferees).

If possible this information should be broken down according to the type of service supplied, the activity of the enterprise employing the person or the activity performed by the self-employed, the occupation/skills of the persons moving and their length of stay in the host economy. Information on the number of visits during last months could also be collected, as well as an indication of the value of services supplied and/or purchased.

Table 4 summarizes links between the coverage of RSIM, Rev. 1 and IRTS 2008 in terms of the purpose and duration of stay. It identifies in bold the purposes of stay that are relevant for mode 4 analysis. The list of purposes of stay, which is derived from the categories of RSIM, Rev. 1 and the IRTS 2008 classification of tourism trips according to main purpose has been built to show how these tourism and migration data sources can be used to collect and compile information on the number of persons crossing borders in the context of mode 4 (flows and stocks). Rows presented in italics are not separately available in RSIM, Rev. 1 and IRTS 2008 but are indicated in this table as a possible future breakdown that would better serve information needs of GATS. All purposes of stay are covered by RSIM, Rev.1, as it deals with migrant as well as non migrant categories. They are further broken down into non-migrant (white cells, the majority of purposes corresponding to stays of less than three months) and migrant categories (grey cells). In RSIM, Rev. 1 the migrant categories are further broken down into short-term migrant (stays between three and twelve months) and long-term migrant categories (more than 12 months). Visitors as defined by IRTS 2008 are grouped in this table in the box with thick borders. As shown in this table there are two overlapping items between both statistical systems: personal visits for less than twelve months but more than three, for the purpose of education and training and other personal reasons. "X" and "x" indicate respectively the minimum and complementary mode 4 information requirements as indicated above. Finally the highlighted "X" shows that in the absence of a further disaggregation the category business and professional stays (corresponding to business travellers in RSIM, Rev.1) could be used as a first approximation for total flows and/or stocks of mode 4 persons staying abroad in the context of mode 4 trade in services (but excluding the vast majority of mode 4 movements and presence related to the supply of services through mode 3).

Various sources exist for collecting tourism and migration statistics on the number of persons, such as data obtained from migration authorities or other administrative sources (population registers, permit data, visas), census data (which could be used as a benchmark), household, enterprise, labour force

²⁷ The category "business travellers" as defined in RSIM, Rev. 1 does not refer explicitly to the employer/employee relationship but states that the persons are on "short visits related to business or professional activities not remunerated from within the economy visited."

surveys or border/passenger surveys. The UNWTO developed a model border survey which combines administrative data (entry/exit cards) and statistical data obtained from surveys when travelers leave the economy visited. In order to be operative, such a proposal, as for other types of data collection, would require a clear co-operation between national tourism administrations and migration authorities.

Table 3. Links between RSIM Rev. 1, IRTS 2008 and GATS mode 4: classification of persons by purpose of stay

Purpose of trip or migration	Length of stay of individuals				
	Less than 3 months	3 to 12 months	more than 12 months		
Visitors	IRTS 2008				
Personal					
Holiday, leisure and recreation					
Visiting friends and relatives					
Education and training					
Health and medical care					
Religion/pilgrimages					
Shopping					
Transit entering eco./legal territory					
Other					
Business and professional					
(no employer-employee relationship with entity established in compiling economy)				X	x
<i>Contractual service supply</i>				X	x
- <i>self-employed</i> ^a				X	x
- <i>employed</i>				X	x
<i>Intra-corporate transfer</i>	X	x			
<i>Serv. salespersons/ commercial pres.</i>	X	x			
<i>Other</i>					
Employment (migrant workers, employment-based settlement)					
<i>Intra corporate transfer</i>	x	X			
<i>Directly recruited by a foreign established company</i>	x	X			
International civil servants					
<i>Other</i>					
Trainees					
Family reunification/formation					
Family based settlement					
Ancestry based settlement					
Retiree settlement					
Entrepreneurs and investors settlement ^a					
Humanitarian reasons (refugees, etc.)					
Border workers					
Frequent border crossers					
Nomads					
Transit not entering economic/legal territory					
Diplomatic and consular personnel					
Military personnel					

^a In the case of self-employed staying more than 12 months, there can be an overlap with entrepreneurs and investors in services-producing industries.

Non-migrant categories
 Migrant categories

Source: Draft revised Manual on Statistics of International Trade in Services (2008).

The table below presents the total number of intra-company transfers for 2003-05. Please note that these concern persons employed in both services and goods producing companies, the latter not been covered by the definition of mode 4. Despite its overestimation it provides an idea of the levels involved with respect to mode 4 intra-corporate transferees.

Table 4. Intra-corporate transfers in selected OECD countries, 2003-2005 (thousands)

	2003	2004	2005
Austria	0.2	0.2	...
Canada	3.8	4.2	4.5
Germany	2.1	2.3	...
Japan	3.4	3.6	4.2
Korea	7.8	8.5	8.4
Switzerland	14.4	7.5	1.8
United States	57.2	62.7	65.5

Source: OECD (2007), *International migration outlook: SOPEMI 2007 Edition*.

Conclusion

The statistical conceptualization of mode 4 shows that international transactions related to the supply of services through the presence of persons are already largely included in a country's balance of payments services items. The main issue is to separate the mode 4-related trade flows from the other modes of supply. Examples such as India's measuring of international supply of computer services or Australia's special survey carried out by the Legal Services Advisory Council show that such a split is feasible, however, it depends on the countries' needs, willingness and resources to do so.

While it is important to build such studies across countries and individual service sectors, it is nevertheless interesting to identify the size of global mode 4 trade flows. An approximation could be built on the basis of the new recommendations included in the draft revised MSITS. If we were to apply as a starting point an approximate share of 25 per cent of mode 4-related trade flows in relevant balance of payments transactions, combined with other balance of payments and mode 3 estimates, this would result in a new approximation of the relative importance of modes of supply, showing that mode 4 represents less than 5 per cent of total international supply of services.

Table 5. Statistical approximation of modes of supply, 2005 (percentage)

Mode 1 Cross-border supply	25 – 30
Mode 2 Consumption abroad	10 – 15
Mode 3 Commercial presence	55 – 60
Mode 4 Presence of natural persons	less than 5

The simplified statistical approach to modes of supply does not strictly adhere to GATS provisions. It has been designed as a first guidance to provide relevant information for GATS while ensuring feasibility and consistency with statistical frameworks. Using this simplified approach would enable a valuation of mode 4 at the global level. However, specific studies on services sectors of importance for an economy would greatly improve the knowledge of trade negotiators and analysts on mode 4 related trade. Collecting additional information on the flows and stocks of persons present abroad on a systematic and comparable way would also enhance the monitoring and assessment of in the international supply of services beyond the financial transactions involved when trading. Statistical frameworks such as tourism and migration statistics, with possible extensions of these frameworks if necessary, would permit the collection of this more detailed and reliable information.

Annex 1 Extended Balance of Payments Services Classification 2010, Draft Proposal (extract)

1.	Manufacturing services on physical inputs owned by others
2.	Maintenance and repair services not included elsewhere
3.	Transport
3.1	• Passenger
3.2	• Freight
3.3	• Post and courier services
3.4	• Other
4.	Travel
5.	Telecommunication, computer and information services
5.1.	• Telecommunication services
5.2.	• Computer services
5.3.	• Information services
6.	Construction
7.	Insurance and pension services
8.	Financial services
9.	Charges for the use of intellectual property
10.	Other business services
10.1.	• Research and development services
10.2.	• Professional and management consulting services
10.3.	• Technical, trade-related and other business services
10.3.1.	– Architectural, engineering, scientific, other technical services
10.3.2.	– Waste treatment, de-pollution, agricultural, mining services
10.3.2.1.	○ Waste treatment and de-pollution
10.3.2.2.	○ Services incidental to agriculture
10.3.2.3.	○ Services incidental to mining
10.3.3.	– Operational leasing services
10.3.4.	– Trade-related services
10.3.5.	– Other business services, not included elsewhere
11.	Personal, cultural and recreational services
12.	Government goods and services not included elsewhere