



9 September 2004

UNITED NATIONS  
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION

**Meeting of the Technical Subgroup of the  
Task Force on International Trade in Services,  
Movement of Natural Persons – Mode 4  
Paris, 15-16 September 2004**

**Statistical Framework for the Measurement of Mode 4 - a proposal (draft)**

**Alessandra Alfieri, Ivo Havinga, Jurgen Schwarzler with the assistance of Ralf  
Becker,  
UNSD**

**STATISTICAL FRAMEWORK FOR THE  
MEASUREMENT OF MODE 4  
A PROPOSAL**

**DRAFT**

Alessandra Alfieri, Ivo Havinga, Jurgen Schwarzler  
with the assistance of Ralf Becker<sup>1</sup>

---

<sup>1</sup> The paper represents the views of the authors and not those of the United Nations.

## TABLE OF CONTENTS

A.	Introduction.....	3
B.	Need for a statistical framework to measure Mode 4 .....	4
C.	The General Agreement on Trade in Services.....	5
1.	Mode 4 and the other modes of supply .....	6
	Mode 1 and Mode 4 .....	6
	Mode 2 and Mode 4 .....	7
	Mode 3 and Mode 4 .....	7
D.	Persons covered in Mode 4 as defined in GATS and in the proposed statistical framework .....	7
1.	Mode 4 persons in GATS .....	7
2.	Mode 4 persons in the statistical framework .....	9
E.	Time reference .....	10
F.	The concept of residence.....	11
1.	BOP/SNA definition of residence.....	11
2.	Migration Statistics and Mode 4 .....	15
3.	Tourism Satellite Account (TSA) and Mode 4 .....	16
G.	Statistical framework for measuring Mode 4.....	17
1.	Introduction.....	17
2.	Universe .....	18
3.	Classifications .....	19
	Classification of activities ISIC 3.1 .....	20
	Classifications of products CPC EBOPS and GNS/W/120 .....	21
	ISCO-88 and ISCED .....	22
	Other classifications .....	24
	The use of cross-classifications in the Mode 4 framework.....	25
4.	Economic variables for Mode 4.....	25
	Number of Mode 4 persons.....	25
	Remittances .....	26
	Saving/Consumption expenditures .....	27
	Migrants' transfers .....	28
	Net wealth.....	28
5.	Social Accounting Matrix (SAM).....	29
6.	Labour accounts .....	30
H.	Future work.....	34
	References	35
Annex I.	Definition of natural and juridical person in the GATS .....	38
Annex II.	Relationship between ISCO-88 and ISCED .....	39
Annex III.	Definitions of the categories included in the taxonomy of Migration statistics ....	40
Annex IV.	Relationship between concept of residence of BPM5, TSA and Migration statistics .....	41
Annex V.	Social Accounting Matrices.....	44
Annex VI.	National accounts SAMs and labour accounts.....	53

## A. Introduction

1. The aim of this paper is to propose a statistical framework for the measurement of the movement of natural persons– Mode 4. The objective of the framework is to obtain a more in-depth picture of the economic impacts of temporary movement of persons in the home and host countries as well as more reliable estimates of economic indicators, such as gross domestic products (GDP), remittances and by extension, gross national income (GNI) and Gross National Disposable Income (GNDI). As such, the framework proposed has a broader scope than Mode 4 as defined in GATS, which focuses exclusively on services and service providers.

2. It is well known that movement of natural persons has positive as well as negative impacts in both the home and host countries. In the home countries, a direct effect of Mode 4 is the reduction in the number of workers, often this reduction is of highly skilled workers (“brain drain”). This could lead to a reduction in tax revenue to the government as well as low returns from education, since the highly skilled workers were trained in the home countries and left when they became economically active. However, these negative effects in the home country are often offset by positive effects on productivity and growth. Positive effects include:

- (a) Remittances sent by migrants to family members left in the home countries;
- (b) Positive impact on employment and wages (e.g. reduction of excess supply of labour and downward pressure on wages (for low-wage movements));
- (c) Transfer of knowledge or technology from migrants back to the home countries;
- (d) Increases in trade and investment between home and host countries;
- (e) New skills experience and investments from returning migrants.

3. Despite that the positive effects of migration often outweigh the negative ones, host countries are often reluctant to open their borders as this decision is often not very well accepted politically. For this reason, GATS makes the provision for the host countries to regulate the type and number of workers that can be admitted temporarily in the country. This allows countries to meet the demand for labour that cannot be supplied by the domestic market. This demand has in general covered low and high end of the labour market, with developed countries targeting high skilled labour and resource rich countries targeting the bottom end of the labour market, allowing on a temporary basis workers to develop their mineral wealth (South African Reserve Bank 2003) or to provide services in the house (Debabrata and Kapur 2003).

4. The framework proposed in this paper uses the national accounts framework and in particular the social accounting matrices which are linked to labour matrices (in volume and prices). The challenge in developing such a framework is to integrate different world of statistics, namely economic statistics, (national accounts, balance of payment and tourism statistics) and parts of social statistics, in particular migration and labour statistics. This is achieved through cross-classifying workers on the basis of (a) the economic activities to which they provide labour services, classified by ISIC; (b) the products

resulting from their labour input, classified by CPC and GNS/W/120<sup>2</sup>; (c) skill and education level classified by ISCO-88 and/or ISCED; (d) category of worker (e.g. business visitor, working for a foreign owned company, etc.); (e) length of stay and (f) country of citizenship. The workers are then allocated to the household sector where income is received from various sources, including the rest of the world and then used for consumption, saving or investment. The framework can be expanded to analyze also the social impacts of the temporary movement (e.g. poverty, returns on education and health in the home country and social services that the host country may have to provide to the temporary workers).

5. There is general recognition that Mode 4 has become and increasingly important mode of supply of services and no statistical framework currently exist for its measurement. Discussions during the revision of the Balance of Payment Manual (BPM5) and the Task Force on International Trade in Services have recognized the need to further work in this area, both in terms of the development of a theoretical framework as well as of practical guidelines. In response to this request, this paper was prepared by UNSD to stimulate discussion on the topic by national accountants, balance of payment experts, migration, labour and tourism statisticians.

## **B. Need for a statistical framework to measure Mode 4**

6. Rapid technological advances in the past few decades in transport, computing and telecommunications, including the development of internet and electronic commerce, have resulted in enterprises availing themselves of more distant resources for production and enabled them to serve wider markets. This trend toward globalization, reinforced by liberalization policies and the removal of regulatory obstacles to economic activities has fuelled the growth of international investment and trade in goods and services (MSITS para 2.3).

7. The growth of trade in services and the internationalization of services production have led to an increase in the movement of natural persons as service providers across borders. The development of lower cost transport services and communication networks are changing the way services are delivered internationally, making Mode 4 an increasingly important Mode of supply. Technological change is also creating demand for skilled labour which cannot be met from within the domestic labour market.

8. Mode 4 is also emerging as a key issue in the Doha Development Agenda negotiations, with developing countries increasingly pressuring for liberalizing the movement of natural persons. A number of proposals on Mode 4, which have relevance from a measurement point of view, have been made in the Doha Development Agenda negotiations (Nielson 2003). They include:

---

<sup>2</sup> GNS/W/120 is the Service Sectoral Classification List which was developed by GATT in 1991 and is the list used for GATS negotiations.

- (a) *Greater clarity and predictability in WTO member's commitments.* This requires for example: a) agreeing on common definitions for the main categories of personnel included in many WTO members' commitments (e.g. using an adapted International Standard Classification of Occupations (ISCO-88)); and; b) providing information on economic needs tests. In this regard the statistical framework which brings information from different sources in a common framework with consistent definitions and classifications as well as that makes it possible to make analysis looking at different scenarios will prove very useful.
- (b) *Greater transparency.* This requires informing all member countries of the requirement and procedures required by each country for allowing the entry of mode 4 suppliers.
- (c) *GATS visa.* From a statistical point of view, this would facilitate the identification of the universe of Mode 4 service suppliers. However, the coverage of GATS visa will depend on who will be covered under Mode 4, which is still under debate (see discussion below).

9. Maybe add a paragraph on the importance of the economic significance of Mode 4 (from World Bank report/WES)

10. The need for measuring the new phenomenon of temporary movement of persons to supply services in another country is becoming increasingly important. Governments need a tool to accurately measure the significance of Mode 4 and its impact on economic growth for economic analysis, policy making as well trade negotiations.

### **C. The General Agreement on Trade in Services**

11. GATS is a legal framework governing countries trade measures (e.g. laws, regulations, administrative actions and other decisions) in services. It comprises:

- (a) *general obligations* which apply to every country (e.g. most favoured nations, which forbids any form of discrimination between services and service suppliers originating in different countries);
- (b) *specific commitments* resulting from negotiations, whose scope is limited to the sector and transactions in which a member has undertaken access obligations. This may include: (a) market access limitations such as quota-type ceilings on the number of service suppliers, their operations or employees, etc. ; and (b) national treatment limitations such as non-eligibility of foreign suppliers for subsidies or restrictions on foreign land ownership.
- (c) *annexes* covering specific sectors or trade-related matters such as the Movement of natural persons.

12. Trade in services is defined in GATS as the supply of a service:

- (a) from the territory of one [WTO] Member into the territory of any other Member (Mode 1);

- (b) in the territory of one [WTO] Member to the service consumer of any other Member (Mode 2);
- (c) by a service supplier of one [WTO] Member through commercial presence in the territory of any other Member (Mode 3);
- (d) by a service supplier of one [WTO] Member through presence of natural persons of a Member in the territory of any other Member (Mode 4).

13. Mode 4 has been, in the past, the Mode of supply which received less attention, both because the absolute numbers, as compared to the other modes, are relatively low and because its difficulty in measurement as it runs across different areas of statistics. However, because of the increased attention that this area is receiving from policy makers and trade negotiators, it is very timely to develop a new conceptual framework for measuring it. The Manual on Statistics of International Trade in Services (MSITS) (United Nations et al. 2002) stops short of developing such a framework. It reviews existing statistical frameworks in order to identify useful aspects that might provide relevant measures for mode 4 services.

## **1. Mode 4 and the other modes of supply**

14. Supply of services often involves several modes of supply. Service supplier may choose to set up foreign affiliates as a means to sell their services in foreign markets as a complement of mode 1. Moreover the delivery of services through mode 1 often requires the presence of natural persons and part of consumption abroad relates to the consumption of natural persons who are abroad on “temporary basis” to deliver a service. MSITS discusses ways to allocate service transactions to the different modes of supply, mostly within the framework of FATS and BPM5. The approach taken in the manual is based on the territorial location of the transactors (consumer or supplier) at the time the service is supplied, as well as on the type of supplier (“natural or juridical person as defined in GATS”<sup>3</sup>). The manual suggests two simplification rules for the allocation: a) separate identification of modes of supplies which are marginal is not recommended; and b) if it is not possible to disaggregate different transactions by modes, which occur for the delivery of a service, the transactions should be allocated to the most important mode in terms of time and resources associated with it.

15. MSITS examines the relationship between the various modes of supplies, mostly in terms of transactions in the BPM5. In the framework we propose in this paper we adopt a broader approach and thus look not only at the transactions between residents and non-residents in BPM5, but also at national accounts aggregates (see discussion below).

### *Mode 1 and Mode 4*

16. Mode 1 applies when a service is delivered abroad to a consumer in his/her own territory of residence. The delivery of this service may involve the presence of natural persons, for short (less 1-3 months, 2-12 months) or longer terms.

---

<sup>3</sup> The definitions of natural and juridical person in GATS are provided in Annex I.

### *Mode 2 and Mode 4*

17. Mode 2 corresponds to consumption abroad and occurs when a consumer moves outside his or her home territory and consumes services of another country. It includes all services supplied (excluding goods bought by travelers). Mode 1 and Mode 4 apply for example in the case of a short-term migrant, a business traveler or a seasonal worker who moves temporarily (less than one) year to another country. As suggested in MSITS, the consumption abroad should be allocated to Mode 2.

### *Mode 3 and Mode 4*

18. Mode 3 applies to commercial presence of the service supplier in another WTO member to provide the service. It concerns mostly domestic sales of foreign affiliates as described in FATS statistics<sup>4</sup>. It also applies to short-term services (e.g. short-term construction projects), where the commercial presence is not considered to be resident (according to SNA definitions) of the country. Nonpermanent employment of foreign staff in foreign affiliates is particularly relevant to mode 4 as a subcategory of natural persons often referred to in countries schedules commitments. A more in depth discussion of the coverage of Mode 4 in GATS and in the framework proposed in this paper is presented below.

## **D. Persons covered in Mode 4 as defined in GATS and in the proposed statistical framework<sup>5</sup>**

### **1. Mode 4 persons in GATS**

19. Mode 4 is defined in Article I.2(d) of GATS as “the supply of a service... by a service supplier of one Member through the presence of natural persons of a Member in the territory of another member.” Article XXVIII(k) specifies that this definition applies to nationals as well as, in certain circumstances, permanent residents of WTO members seeking to supply services abroad (permanent residents are covered where the Member does not have nationals or accords substantially the same treatment to permanent residents and nationals).

20. Further elaboration is provided in the GATS Annex on Movement of Natural Persons supplying services under the agreement. The Annex applies to “persons of a Member who are employed by service supplier of a Member in respect of the supply of a service”. The first category is clear - "natural persons who are service suppliers of a Member" covers self-employed or independent service suppliers who obtain their remuneration directly from customers. However, there is some confusion about what is covered by the second category ("natural persons of a Member who are employed by a service supplier of a Member").

---

<sup>4</sup> FATS is defined as an incorporated or unincorporated enterprise in which a direct investor who is resident in another economy owns more than 50 percent of the ordinary shares or voting power (MSITS para 4.19).

<sup>5</sup> This section has been taken from Nelson 2003.



21. The WTO Secretariat background note on mode 4 (WTO 1998) has noted that this wording could be read to suggest that foreigners employed by host country companies are also included under mode 4. However, as Article I.2(d) seems to cover only foreign employees of foreign firms established in another Member, the Secretariat background note concludes that foreigners working for host country companies would fall under GATS mode 4 if they worked on a contractual basis as independent suppliers for a locally-owned firm, but would not seem to be covered if they were employees of that firm. Nonetheless, another member of the WTO Secretariat has observed that some GATS specific commitments (i.e., the market opening commitments made by WTO Members) actually refer to short-term *employment*. As specific commitments also form part of the GATS, there is thus a certain degree of legal uncertainty with regard to coverage (Karsenty 2000). Indeed, the situation is further complicated by the fact that some WTO Members deem all types of foreign temporary workers to be employees for the purposes of bringing them under domestic labour law (with implications for their wages, conditions and social protection).

22. Although more and more countries are implementing commitments on Mode 4, the interpretation of what is covered by it is not clear-cut, with different countries interpreting the GATS in different ways.

23. In general GATS mode 4 is seen as covering:

- Persons providing services where a foreign service supplier obtains a contract to supply services to the host country company and sends its employees to provide the services;
- Independent service providers abroad: an individual selling services to a host country company or to an individual;
- Intra-corporate transferees: persons employed abroad by foreign companies established in the host country (but excluding nationals of the host country);

24. The following categories of persons seem to belong to a grey area, with countries interpreting the GATS agreements in different ways:

- Foreigners employed by locally-owned and controlled companies producing services on a contractual basis or as employees.
- Foreigners employed by locally-owned and controlled companies producing goods on a contractual basis or as employees;

25. The following categories of persons are excluded from GATS:

- Graduate corporate trainees, whose main purpose is receiving education/training, but who however may, as part of their training work in the company;

- Border workers: persons commuting between their country of usual residence (usually their country of citizenship) and their place of employment abroad (United Nations 1998a)
- Commute doesn't have to occur on a daily basis (United Nations 1998a)
- Special cases: students, diplomats, foreign military staff, etc.

26. The above categories of persons have been excluded from the GATS agreements because they are not considered temporary workers in the sense that either their primary objective is not working (e.g. trainees and students), or they are considered as entering the labour market of the country (e.g. border workers) or are covered by other type of agreements (e.g. diplomatic personnel, staff of international organizations, etc.).

## **2. Mode 4 persons in the statistical framework**

27. The framework that we propose in this paper takes a broader approach to the measurement of Mode 4 than the one in GATS. Nevertheless, it tries to maintain the link with GATS, in the sense that it will allow for separate identification of the categories of persons that are covered by GATS.

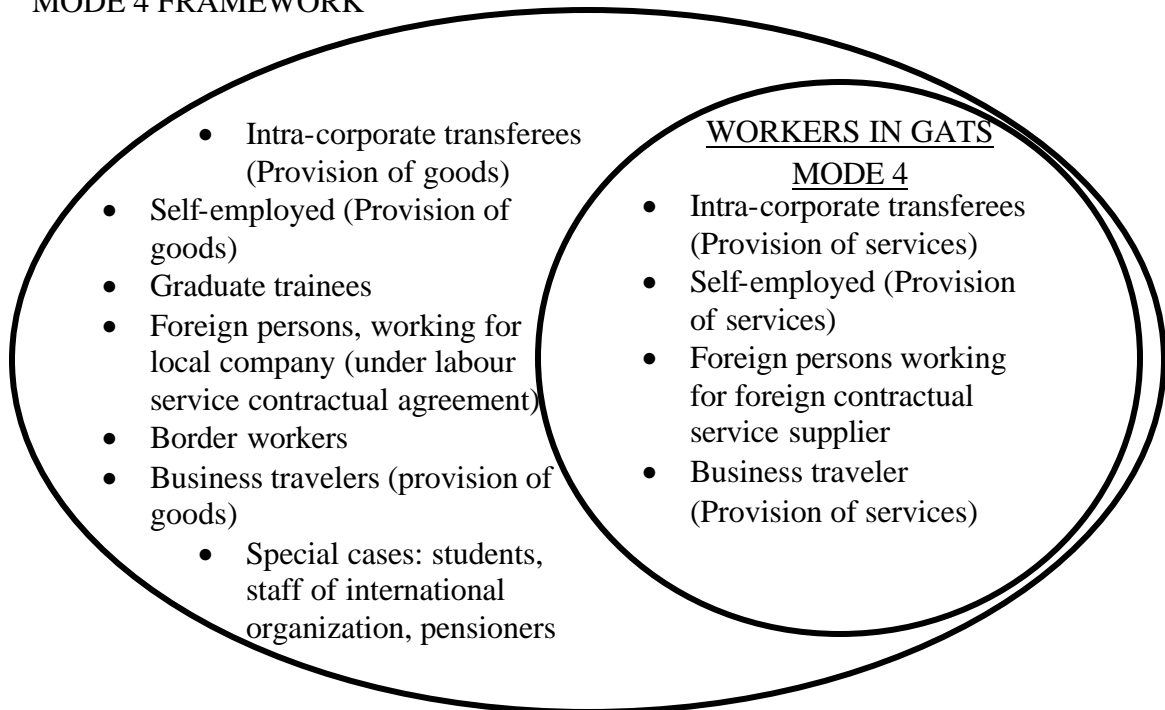
28. As mentioned earlier, the objective of the framework is to provide a more in-depth picture of the economic impacts of the movement of natural persons in the host and home countries including improved measures of the contribution to GDP and GNI of non-citizens. Therefore, it includes all categories of persons mentioned in Section D.1. Figure I shows the relationship between the coverage of Mode 4 as defined in GATS and as defined in the extended statistical framework proposed in this paper.

29. As in the case of the FATS framework, the extended Mode 4 framework proposed here covers persons working, as independent service providers or as employees, for companies supplying services as well as producing goods. Foreigners working in goods producing companies (e.g. fruit pickers, miners, blue collars in manufacturing companies, etc.) are not clear cut cases for what concerns GATS coverage. GATS focuses on service providers and persons working in goods producing industries can be thought of as providing labour input and thus be considered as providing services incidental to agriculture, mining or manufacturing.

30. It covers also border workers and graduate trainees as these categories of foreign workers are important to meet the demand for labour in the host country. Moreover, a category of special cases, that is of persons which are considered non-resident in the BOP/SNA (e.g. students, staff of international organizations, etc.) are also included in the extended Mode 4 framework as their identification is important for obtaining a more comprehensive measure of GNI and GNDI.

**Figure I. Coverage of Mode 4 in GATS and in the extended Mode 4 framework**

WORKERS in PROPOSED  
MODE 4 FRAMEWORK



**E. Time reference**

31. As defined in GATS, Mode 4 encompasses natural persons providing services in any of the services sectors on a "temporary" or non-permanent basis. Natural persons are defined in Article XVIII(k)<sup>6</sup> on the basis of a) legal residence; and on b) nationality. Moreover, there is no standard definition of temporary in the GATS and, for the purposes of specific commitments, WTO Members are free to interpret the term as they wish, and to set varying definitions for different categories of service providers.

32. "Temporary" is defined negatively in the GATS, in the sense that permanent migration is explicitly excluded. The Annex of Movement of Natural Persons Supplying Services under the Agreement states that GATS does not apply to measures affecting individuals seeking access to the employment markets of a Member nor to measures regarding citizenship, residence or employment on a permanent basis. The Annex also states that, regardless of their obligations under the Agreement, Members are free to regulate the entry and stay of individuals in their territory provided that the measures concerned "are not applied in such a manner as to nullify or impair the benefits accruing to any Member under the terms of a specific commitment". The operation of visa

<sup>6</sup> See Annex I.

requirements for natural persons from some Members but not others is not *per se* regarded as nullifying or impairing such benefits.

33. However, some commentators have queried the GATS' distinction between service providers and persons entering the labour market in a country. They argue that, given that temporary entry under GATS commitments can last for up to 3 years (or in some cases longer), the service provider has in effect entered the local labour market, even though they are not applying for citizenship, as they are providing a service which a local person could probably do (Young, 2000)<sup>7</sup>.

34. The concept of “temporary” as expressed in GATS is not clear-cut and it has to be translated into an agreed time frame that can be used for statistical purpose. Central to this is the concept of residence. For statistical purpose, internationally agreed frameworks for economic statistics (e.g. SNA 1993 and BPM5) as well as migration and tourism statistics use the one year rule. According to such frameworks, an individual or household has changed its (predominant) center of economic interest or his usual residence or his usual environment if the person/household intends to stay in another country for longer than one year. The one year rule, though, does not seem appropriate for the GATS agreements. The framework proposed here uses the same conventions of the other frameworks and it identifies the relevant flows, which will either be presented in the national accounts (in case the person works in the host country longer than 12 months) or in the balance of payments (if the person does not have the predominant residence in the country). Moreover, since the extended Mode 4 framework includes all categories of non-citizens working in the country on short or more longer term basis (up to 3 months, 3-12 months, 1-5 years, more than 5 years), it would not be advisable to change the international recommendations.

## **F. The concept of residence**

35. The concept of residence is central for the measurement of key economic variables relevant for the measurement of Mode 4. All internationally agreed statistical frameworks, namely the 1993 SNA, BPM5, the migration statistics and the tourism satellite accounts framework use, in general, the 1 year rule to define the residence however there are some differences among the various frameworks. Below we discuss in further detail the definition of residence in each of the mentioned frameworks and outline the major differences.

### **1. BOP/SNA definition of residence**

36. The BPM5 (BPM5 paras 63-72) and the 1993 SNA use the same concept of *residence* in order to define the limit between resident and non-resident institutional units (corporations, government units, households and non-profit institutions). For ease of reference, Box I reports the relevant paragraphs of the BPM5 on the residence of

---

<sup>7</sup> Julia Nielson 2003.

households. The concepts and definitions discussed in the paras 63-72 are central for the discussion of the universe of the statistical framework to Mode 4.

### Box I Concept of residency in the Balance of Payments Manual 5

63. In most cases, it is reasonable to assume that an institutional unit has a center of economic interest in a country if the unit has already engaged in economic activities and transactions on a significant scale in the country for one year or more, or if the unit intends to do so. The conduct of economic activities and transactions over a period of one year normally implies a center of interest, but the choice of any specific period of time is somewhat arbitrary. The one-year period is suggested *only as a guideline* and not as an inflexible rule.

....

66. A household has a center of economic interest when household members maintain, within the country, a dwelling or succession of dwellings treated and used by members of the household as their principal residence. All individuals who belong to the same household must be residents of the same country. If a member of an existing household ceases to reside in the country where his or her household is resident, the individual ceases to be a member of that household.

67. If a resident household member leaves the economic territory and returns to the household after a limited period of time, the individual continues to be a resident even if he or she makes frequent journeys outside the economic territory. The individual's center of economic interest remains in the economy in which the household is resident. Treated as residents are:

*travelers or visitors*—individuals who leave an economic territory for limited periods of time (less than one year) for business or personal purposes (see paragraphs 71, 243, and 244);

*workers or employees*—individuals who work some or all of the time in economic territories that differ from those of their resident households. Such individuals are:

workers who may, because of seasonal demand for labor, work part of the year in another country and then return to their households;

border workers who regularly (each day) or somewhat less regularly (e.g., each week) cross frontiers to work in neighboring countries;

staff of international organizations who work in the enclaves of those organizations;

locally recruited staff of foreign embassies, consulates, military bases, etc.;

crews of ships, aircraft, or other mobile equipment operating partly or wholly outside an economic territory.

68. An individual may cease being a member of a resident household when he or she works continuously for one year or more in a foreign country. If the individual rejoins his or her original household only for infrequent short visits and sets up a new household or joins a household in the country where he or she works, the individual can no longer be treated as a member of the original household. Most of the individual's consumption takes place in the country where he or she lives or works, and the individual clearly has a center of economic interest there.

....

70. The situation differs for military personnel and civil servants (including diplomats) employed abroad in government enclaves. Those enclaves—military bases, embassies and the like—form part of the economic territory of the employing government, and the personnel often live as well as work in the enclaves. Therefore, government employees working in such enclaves continue to have centers of economic interest in their home countries while, and however long, they work in the enclaves. They continue to be residents in their home countries even if they live in dwellings outside the enclaves.

71. However long they study abroad, students should be treated as residents of their countries of origin, as long as they remain members of households in their home countries. In these circumstances, their centers of economic interest remain in their countries of origin rather than in the countries where they study. Medical patients staying abroad are also treated as residents of their countries of origin, even if their stays are one year or more, as long as they remain members of households in their countries of origin.

72. Some individuals have several international residences where they may remain for short periods (e.g., three months in each of four countries) during a specific year. For these individuals, the centers of economic interest often are international rather than designated economies. While consideration should be given to such factors as tax status, citizenship (can be dual), etc., this *Manual* and the *SNA* do not recommend a specific treatment. The choice is left to the discretion of the economies concerned. The treatment should be coordinated, if possible, to foster international comparability.

Source: BPM5 paras 63-72.

37. The concept of residence is not based on legal criteria or on the geographical boundaries of a country but on the center of economic interest in the economic territory. The center of economic interest is defined as the place where household members maintain, within the country, a dwelling [...] used by members of the household as their principal residence. (BPM5 para 66) All members of the household must therefore have the same residence and be residents of the same country.

38. In the 1993 SNA and in the BOP the residence of all individuals of a household is defined so that all household members are within the same economy of residence. If an individual moves with the intention of staying abroad for a year or longer he/she ceases to be a member of the household in the country of origin. He establishes a new household in the host country (which could be a 1 person household) and becomes resident that country. The unit for establishing residence in the 1993 SNA and BPM5 is the household and not the individual. In this respect, the economic statistics frameworks differ from the migration and tourism statistics, which consider individuals rather than households as the basic units of measurement.

39. An individual who is working abroad but remains being employed and paid by an enterprise of his/her home country, is considered as a resident of the host country, if he/she works in that country for more than 1 year. The employee should be treated as an employee of a quasi-corporation owned by the enterprise and as a resident in the country where the work takes place. Similarly staff of international organizations are treated as residents of the host country after one year and are paid by compensation of employees by a body outside the economic territory of the host country. Also, locally recruited staff of embassies, consulates and army bases remains resident of the economic territory working for an entity within a non-resident enclave.

40. As indicated in Box I, the following categories are treated in BPM5 as resident:

- *travelers or visitors*: individuals who leave the economic territory for less than 1 year for business or personal purposes (including students, medical patients seeking treatment abroad, pilgrimage, etc.)
- *workers or employees*: individuals who work *some or all of the time* in economic territories that differ from those of their resident household
  - seasonal workers (work part of the year in another country of seasonal demand of labour: e.g. in winter/summer tourism employees, harvest aids like fruit pickers, etc.)
  - border workers who cross regularly frontiers to work in a neighbouring country
  - staff of international organizations
  - locally recruited staff of foreign embassies, consulates, military bases, etc.
  - crews of ships, aircraft, or other mobile equipment operating partly or wholly outside an economic territory.

41. The following categories are treated as non-residents in the BPM5, even if the individuals/households reside in the host country for more than 1 year.

- a) diplomats and their families and
- b) expatriate staff of foreign military bases and their families living abroad for more than 1 year would still be residents of the countries of origin
- c) students going abroad to study

- d) patients going abroad for medical treatment
- e) ship's crews
- f) employees of international organizations and their accompanying dependents who work in the enclaves of such organizations;
- g) locally recruited of embassies, consulates and military bases
- h) refugees

42. The Annotated Outline (IMF 2004) proposes to broaden the application of the one year rule to all the cases above except for a), b) and g). This will make the Balance of Payments recommendations in line with tourism and migration statistics. This would be particular relevant in the case of students who may enter the labour market taking up part time jobs in the country where they study and whose studies may be funded from the host economies. The other categories are less likely to enter the labour market and so less important in the context of Mode 4.

43. The Annotated Outline also identifies the issue of treatment of nonpermanent workers who stay in the host economy for one year or longer but expect to their home economy, and maintain other strong ties to their home economy such as having dependents there. It claims that classifying these workers as residents of the host economy means that they are treated identically to permanent residents of the host economy, which does not reflect their strong economic interest in the home economy.

44. The framework proposed in this paper does not recommend changing the concept of residence to better measure the impact of nonpermanent workers in the host and receiving economy. It suggests instead to separately identify the flows and stocks within the national accounts and balance of payments statistics related to these individuals/households. There are several reasons why changing the concept of residence in a framework to measure Mode 4 is not be recommended:

- (a) There is no agreed length of time for defining non-permanent workers. GATS commitment cover movement of people ranging from 3 months to 5 years. Using an arbitrary length of time is not operational, as countries would apply different time frames which will result in statistics which are not comparable across countries;
- (b) The variables to measure Mode 4 are derived from existing economic frameworks, namely the national accounts and balance of payments. The concept of residence for the Mode 4 framework should therefore be linked to that of those frameworks;
- (c) Adopting a different concept of residence would imply reclassifying transactions between resident-to-resident and resident-to-nonresident. This will have an impact throughout the sequence of accounts thus having implications on standard macro-economic aggregates such as consumption, savings, disposable income which may create confusion.

45. A third issue which is also raised in the Annotated Outline (IMF 2004) and it is of relevance for the measurement of Mode 4 is the issue of persons with several centers of economic interest (multiple residences), that is mobile individuals who have connections with two or more economies and who do not stay in any one economy for a year. The *Annotated Outline* (para. 4.33) proposed a change in the definition which should be expressed as “predominant center of economic interest” rather than “center of economic interest” as it is in the existing BPM5.

## **2. Migration Statistics and Mode 4**

46. An international migrant is defined as “a person who changes his or her *country of usual residence*”. (RSIM para 32) The “country of usual residence” is the country where the person lives and usually spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, business, medical treatment or religious pilgrimage does not entail a change in the country of residence.

47. Similarly to the 1993 SNA and BPM5, the Recommendations on Statistics of International Migration (RSIM) as well as Tourism Satellite adopt a definition of residence, which is not based on legal criteria but rather to the place of usual residence.

48. Some special cases are persons who maintain two or more residences (migrants between countries), students living away from the parental home (included in migration statistics, thus treated differently from 1993 SNA and BPM5), members of the armed forces living at military installations (excluded) and persons who sleep away from their home during the working week but return home for several days at the end of each week (e.g. border workers which are considered not relevant for migration).

49. A resident of a country is defined as “a person who i) has lived for most of the past year (12 months) in that country or ii) has lived in that country for a shorter period and intends to return within 12 months to live in that country.”

50. Migrants (treated as residents of the country of arrival) include *short term migrants* (those who change the country of *usual residence* for a period between 3 and 12 months with the exception of people going abroad for recreation, holiday, business, medical treatment or religious pilgrimage) and *long term migrants* (those who move to a country for at least 12 months).

51. Persons staying less than 3 months are not treated as migrants in the framework for migration statistics which nevertheless covers non-migrants as follows

- Border workers
- Persons in transit
- Visitors (tourists, excursionists, business travelers; inflow, outflow)
- Diplomatic personnel (diplomats and consular personnel; dependents and domestic employees)
- Military personnel (military personnel proper; dependents and domestic employees)



52. For reference, Annex III gives an overview of the categories included in migration statistics taxonomy.

### **3. Tourism Satellite Account (TSA) and Mode 4**

53. The TSA similarly to the migration statistics uses the 1 year rule to differentiate visitors from (long-term) migrants. Tourism Satellite Account (TSA) uses the concept of usual environment and defines the characteristics of a person to qualify as a visitor:

- Person is outside the usual environment for less than 1 year (for leisure, business, etc.)
- The main purpose of the travel is other than the exercise of an activity remunerated from within the place visited (TSA para 2.4).

54. The usual environment (which is different in the Recommendations of Tourism Statistics and the SNA/BOP) “consists of the direct vicinity of his/her home and place of work or study and other places frequently visited”, which has two dimensions and does not make a difference between places located within or outside the country of the (primary) residence:

- Frequency: places which are frequently visited by a person (on a routine basis) are considered as part of his/her usual environment even though these places may be located at a considerable distance from his/her place .
- Distance: places located close to the place of residence of a person are also part of his/her usual environment even if the actual spots are rarely visited. (TSA para 2.6)

55. While the place where a person works and the place of the residence are considered to be both places of usual environment in Tourism Accounts and applies to individuals, BOP/SNA gears to the place of residence (of a household) as the center of economic interest. This would imply for example that:

- Students are part of the family’s household and thus residents of the centre of economic interest of the household (BOP/SNA), but their usual environment includes the University, and/or place where they live (TSA),
- Sick persons, staying in a hospital for more than a year as well as prisoners are still residents of the household from which they come (BOP/SNA) while their usual environment is the hospital/prison (TSA). (TSA para 2.13)

56. In this regard tourism and migration statistics are consistent in the sense that students and tourists who stay abroad for more than one year are no longer resident of the country of origin. As discussed above, there is some discussion of harmonizing the economic statistics with the tourism and migration statistics by changing the concept of residence in SNA and BPM5 and apply more broadly the 1-year rule.

57. It appears that workers intending to stay only for a short period of less than 3 months are not covered neither by migration statistics - since migration statistics considers short-term migrants people who have the intention of stay in a country for more than 3 months; nor by tourism statistics – since they expect to be remunerated from within the country of destination. In theory, seasonal workers (e.g. in winter/summer tourism centers, as agricultural harvest aides) are not tracked by any of the two systems, even though their presence is fundamental in certain countries and an important part of the Mode 4 statistical framework proposed in this paper. The same holds true for own-account service providers (who expect remuneration for their services delivered in the country of destination), which are covered neither by migration nor by tourism Statistics. In practice however, the flow of this persons is recorded by tourism statistics through border surveys. Because of these contradictions and imbalance in treatment with BPM5, it would be useful to revisit the definition of visitor.

58. Annex IV includes a table which describes the differences in concepts and definitions between existing statistical frameworks, namely the BPM5/1993 SNA, the migration statistics, the tourism satellite accounts and links the concepts to Mode 4 as defined in the GATS by category of worker (as defined in BPM5). It also discusses the inclusion/exclusion from GATS of the various category of workers and shows the relevant variables in BPM5. In order to take into account the recent discussions of the IMF Committee on Balance of Payments Statistics the column “AO-BMP5 (International Monetary Fund 2004)” has been introduced to reflect possible changes in the treatment of certain groups of natural persons.

## **G. Statistical framework for measuring Mode 4**

### **1. Introduction**

59. The main objective of the framework for measuring mode 4 presented in this paper is to provide a consistent and comparable way across countries to measure the economic impact in the host and home countries of persons providing services on “temporary/non-permanent” basis. The framework is an internal satellite system of the national accounts and the balance of payments. “Internal” satellite accounts is a term which has been used to identify satellite accounts that do not change the core system, but expand it by separately identifying information which is relevant to the phenomenon being analyzed.

60. As discussed in the previous Section, there is not a clear-cut definition of (a) who is covered by GATS; (b) what are the types of services covered by mode 4 in the GATS; and (c) what is meant by “temporary”. The approach taken in the suggested framework is to broaden the scope of the Mode 4 as defined in the GATS by including all non-citizens working for goods producing and service providing companies not only on short-term but also on longer term basis. The expansion of the coverage of Mode 4, has lead to the choice of the national accounts framework, as longer-term workers (more than 12 months) are considered residents of the economy where they work and thus covered in the national accounts. The reasons for presenting a broader framework is to obtain a better

understanding of the economic impact of non-citizens on the domestic economy as well as of citizens residing abroad.

61. The idea of the framework is to identify the relevant flows and stocks, both in volume and money terms, that are relevant for the measurement of the Mode 4 by disaggregating the employees and the household sector to which they belong on the basis of social and demographic characteristics which are relevant for Mode 4. This is achieved through linking the social accounting matrix with the labour matrices, using classifications that are of interest for the analysis. The framework thus has the multiple objectives of providing a better measure of Mode 4, improve the estimates of the national accounts aggregates, which would benefit from the exercise of explicitly linking migration, tourism and labour data to economic data, and allowing for scenario modeling making use of the matrix presentation. This would be particularly interesting for policy makers to analyze the impact of certain policies on Mode 4 on the home and host country economies.

## **2. Universe**

62. The statistical framework that we propose in this paper has the broad objective of measuring the positive and negative impacts on the host and home economies of the movement of natural persons and improve statistics on remittances and hence obtain more reliable aggregates such as GNI and GNDI. For this reasons, the universe that we consider is rather broad, covering all non-citizens, whether working on temporary basis or residing for longer term in the host country. The flows of residents to non-residents in the host countries are mirrored in the flows from non-residents to residents in the home country. This paper takes the perspective of the host countries as it is easier to collect information on non-citizens residents and non-residents in the country where they work, rather than for a country to track down its citizens working abroad. Because citizens in one country are citizens of another country, exchanges of information among countries have the potential to provide home countries, which may not be able to collect information on their citizens abroad, with information on the flows from their citizens back to the home country and stocks held by their citizens abroad.

63. Table I shows a list of categories of persons (and their dependents) that are covered by the statistical framework to measure Mode 4. The categorization used is based on BPM5 and GATS. Not all categories considered in BPM5 are included. In particular, we exclude those categories of workers in BPM5 that will not be the object of GATS negotiations, namely diplomatic personnel, military people, refugees, etc. We include however certain groups, that although not part of GATS, have an impact in the labour market. This is the case of students who may enter the labour market taking up part-time jobs while studying. Although, this paper does not identify pensioners as a separate category, they are an important category. Pensioners tend to establish close links with the home country once they have retired and have a different consumption behaviour than people who are in the labour force.

**Table I. Mode-4 framework universe**

GROUP OF NON-CITIZENS	RESIDENT	NON-RESIDENT
1) Migrant (and its dependents) working in host country <i>Of which:</i> Intra-corporate transferees Self-employed Foreign employed Graduate trainees Staff of international organizations not working in enclaves	X (>12 months) X (>12 months) X (>12 months) X (>12 months) X (>12 months) X (>12 months)	X (<12 months) X (<12 months) X (<12 months) X (<12 months) X (<12 months) X (<12 months)
2) Persons who are not residents of the countries where they work <i>Of which:</i> Seasonal workers Border workers Short-term migrants		X X X X
3) Persons working for non-resident entities (locally recruited staff of consulates embassies and military bases)	X (>12 months)	X (<12 months)
4) Students (working in the host countries on a part-time basis)		X
5) Medical patients <sup>(1)</sup>		X
6) Persons, excluding transport cruise and excursionists, traveling for business purposes	X (>12 months)	X (<12 months)
7) Persons having external financial assets and/or liabilities	X (>12 months)	X (<12 months)

<sup>(1)</sup>Included as an exception, because of possible change treatment in terms of residence the revision of BPM5. The change in treatment will have a change in GNDI.

### 3. Classifications

64. Classifications are the backbone of any statistical system. In the framework for the measurement of Mode 4 proposed in this paper, economic classifications, commonly used in the national accounts/balance of payment statistics, namely ISIC and CPC are crossed with demographic and social classifications, which better qualify individuals and households they belong. Of particular importance for the framework is to define and measure who transacted (paid, received, transferred, etc.) with whom and further categorize the persons/households, which take part in the transactions on the basis of social and demographic characteristics to better identify their economic behaviour. For international comparability, it is important that the framework is based on common classifications and that broad standard groups are distinguished. Each country can then choose to use more detailed or alternative classifications on the basis of local considerations.

65. The classifications used in the framework are:

- (a) ISIC for classifying industries;
- (b) CPC, EBOPS and GNS/W/120 for classifying products;
- (c) ISCO-88 for classifying skill level of the persons employed;
- (d) ICSE-93 International Classification of Status of Employment for classifying persons employed;
- (e) ISCED for classifying the educational level of the persons employed;
- (f) Households and persons may also be disaggregated on the basis of:
  - (i) country of origin/citizenship;
  - (ii) nationality/ethnic background;
  - (iii) length of stay, etc.

Each classification is briefly discussed below.

### *Classification of activities ISIC 3.1*<sup>8</sup>

66. ISIC is a standard classification of productive economic activities. Its main purpose is to provide a set of activity categories that can be utilized for the collection and presentation of statistics according to such activities. Therefore, ISIC aims to present this set of activity categories in such a way that entities can be classified according to the economic activity they carry out. Defining the categories of ISIC is as much as possible linked with the way the economic process is organized in units and the way in which this process is described in economic statistics (UN 2004).

67. ISIC is not a classification of goods and services. The activity carried out by a unit is the type of production in which it engages. The characteristic of the unit according to which it will be grouped with other units to form industries is the type of production in which it engages (UN 2002). An industry is defined as the set of all production units engaged primarily in the same or similar kinds of productive economic activity. As it is not possible, even in principle, to establish a one-to-one correspondence between activities and products, ISIC is not designed to measure product data at any detailed level. For this purpose a separate classification was developed, namely, the Central Product Classification (CPC). Although each category in CPC is accompanied by a reference to the ISIC class where the goods or services are mainly produced (criterion of industrial origin), classification of products is based on the intrinsic characteristics of the goods or the nature of the services rendered (see below).

68. ISIC has also been used to group FATS variables according to ISIC Categories for Foreign Affiliates (ICFA). These categories cover all activities by with more detail provided for services than for goods.

---

<sup>8</sup> ISIC is currently being revised by the Technical Subgroup of the Expert Group on Economic and Social Classifications and will be submitted to the Statistical Commission in 2006 for approval after a second round of country consultations is completed. Anticipated changes in ISIC 4 include:

- Increase in top-level sections (from 17 in ISIC 3.1 to 21 in ISIC 4)
- Additional aggregate level (less than 10) of the 21 top-level Sections. This will not be part of the official classification
- Separate identification of repair and maintenance of capital goods under Manufacturing
- Separate identification of an “Information and Communication” Sector;
- Combined presentation of “Water supply; sewerage, waste management and remediation activities”
- Separate identification of “Administrative and Support Service Activities”;
- Inclusion of “Professional, Scientific and Technical Activities”, “Arts, entertainment and recreation” in the top-level
- Merging “Agriculture, hunting, fishing and forestry” to one Sector

## *Classifications of products CPC<sup>9</sup> EBOPS and GNS/W/120*

### CPC

69. The main purpose of the Central Product Classification (CPC) is to provide a framework for the international comparison of statistics dealing with products and was developed primarily to enhance harmonization among various fields of economic and related statistics. CPC constitutes a comprehensive classification of all goods and services. It presents categories for all products that can be the object of domestic or international transactions or that can be entered into stocks. It includes products that are an output of economic activity. The CPC in general follows the definition of products within the SNA.

70. The principles of classifying goods and services in CPC are the physical properties, the intrinsic nature of the products (raw material input, stage of production, purpose or user category and typical prices) as well as industry of origin. The CPC classifies products based on the physical properties and the intrinsic nature of the products as well as on the principle of industrial origin. It is split into two parts - a goods part (Sections 0-4) which uses HS (Harmonized Commodity Description and Coding System) as building blocks and a service part (Sections 5-9).

71. The correspondence between ISIC and CPC is not intended to be a strict one-to-one relation, but a useful tool to identify main industries of origin for product classes. It has to be recognized that the products industries produce vary, that typical economic products are very often bundles that include both goods and services (e.g. books: service of the author, retail sale service, publishing service; meals and drinks in restaurants; computer software, etc.).

72. CPC was used as a source in the preparation of the General Agreement on Trade in Services (with a resulting correspondence between the GNS/W/120 List and CPC, 1.0) and is harmonized with the Extended Balance of Payments Services (EBOPS) (United Nations 2002).

### EBOPS

73. EBOPS is a more detailed classification than of BPM5 for international trade in services between residents and non-residents etc.) (MSITS). The classification includes a number of memorandum items which are not always confined to services transactions but are included to provide more information on the transactions to be recorded.

74. A further detail is recommended in EBOPS. This is in response to the recognition of detail necessary for GATS negotiations as well as the importance of services in globalization. There is no one-to-one correspondence between CPC and EBOPS. In some cases CPC calls for more details than EBOPS, in other it is the opposite.

---

<sup>9</sup> CPC is going to be revised in parallel to the update of ISIC by the Technical Subgroup of the Expert Group on Economic and Social Classifications.

## GNS/W/120

75. The GATS negotiations are done on the basis of the Service Sectoral Classification List (GNS/W/120), which was developed by GATT in 1991. Although there is a very close link between the service part of the CPC and GNS/W/120,<sup>10</sup> GNS/W/120 should be considered as a negotiating list rather than as a statistical classification. The 12 major categories of GNS/W/120 are:

1. Business services.
2. Communication services.
3. Construction and related engineering services.
4. Distribution services.
5. Educational services.
6. Environmental services.
7. Financial services.
8. Health-related and social services.
9. Tourism and travel-related services.
10. Recreational, cultural, and sporting services.
11. Transport services.
12. Other services not included elsewhere.

76. GATS recommends using a product rather than an activity classification for negotiating specific commitments. It may be difficult to obtain information on specific services, independently of the activity by which they were produced. For this reason, we propose to shift the focus from services to activities and cross-classifying the non-citizens workers on the basis of the industry (by ISIC) in which they are employed or to which they provide services..

### *ISCO-88 and ISCED*

77. The International Standard Classification of Occupations (ISCO-88) was developed as a classification system for occupational data from population censuses, statistical surveys or administrative records. The concept of the classification rests on two pillars, the type of work performed (job) and skill. Job is defined as the set of tasks or duties executed by one person; a set of jobs whose main tasks are characterized by a high degree of similarity constitutes an occupation. Skill is defined as the ability to carry out the tasks and duties of a given job and the skill concept was used to delineate and aggregate ISCO-88 groups. Skills have two dimensions:

- (a) skill level: a function of the complexity and range of tasks and duties involved;
- (b) skill specialization: defined by the field of knowledge required, the tools and machinery used, the materials worked on or with, as well as the kinds of goods and services produced.

---

<sup>10</sup> The correspondence was updated to incorporate the changes in CPC v.1.0 and can be found as Annex III in United Nations 2002.

78. The four broad skill levels as defined in ISCO-88 are based on the educational categories and levels which appear in the International Standard Classification of Education (ISCED 1976), which are:

ISCO skill level 1: primary education, usually beginning at the age of 5, 6 or 7 and lasting for 5 years (ISCED, cat. 1)

ISCO skill level 2: first and second stages of secondary education, covering ages about 11-18, including on-the-job training or apprenticeships (ISCED cat. 2 and 3)

ISCO skill level 3: comprises education beginning at age 17 or 18, lasting 3 or 4 years, leading to an award not equivalent to a university degree (ISCED cat. 5)

ISCO skill level 4: university or postgraduate university degree or equivalent (ISCED cat. 5)

79. Table A. I in Annex II shows the relationship between ISCED based skill level and the Major Groups of ISCO (1<sup>st</sup> level), including information on how the Major Groups are disaggregated on the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> level. Even though ISCO uses ISCED as an approximation for the skill level there is an inherent difference between the two classification systems. ISCED classifies education programmes while ISCO classifies jobs, whose required skills are approximated by the education a person typically needs. The education supposed to be needed and the formal education a person has can differ significantly. Academic qualifications (formal education) can in certain cases be substituted by experience or informal training and thus the academic education attained is only a proxy. Likewise it is also possible that people with higher academic qualifications carry out tasks where less qualifications is needed (“overqualification”). Thus, the decisive factor for determining how an occupation should be classified is the nature of the skills required for the job, not the way in which these skills have been acquired.

80. In principle, Mode 4, as defined in the GATS, includes service suppliers at all skill levels. In fact, GATS specifies “that qualifications, procedures, technical standards and licensing requirements should not constitute unnecessary barriers to trade in services” and therefore formal qualifications should not be the criteria for granting access to a service market (e.g. requiring a state-certified master craftsmen’s diploma by a national trade-union for foreign citizens could very likely count as an artificial burden to market access). However, WTO Members’ commitments have been generally limited to the “higher skilled” – managers, executives, specialists – although these terms are generally further defined. Examples of categories of occupations in existing GATS national schedules (Butkeviciene 2002):

- Legal services supplied by a lawyer or attorney
- Accounting, auditing and bookkeeping services supplied by an accountant
- Medical doctors and dentists
- Fashion models and those in specialist occupations
- Urban planner
- Senior computer specialist
- Systems analyst
- Programmers



- Software document analyst
- Field engineers
- Travel tour managers

81. The revision of ISCO-88, which is currently under way, would provide an opportunity to include in the classification additional categories of jobs<sup>11</sup> which are the object of GATS Mode 4 commitments. The technical subgroup on Mode 4 should follow closely the revision of ISCO-88 and provide input in the revision process.

#### *Other classifications*

82. The measurement of Mode 4, as defined in this paper, would require classifying non-citizens on the basis of social-demographic characteristics. Classifications based, for example, on length of stay, country of citizenship, type of households, nationality/ethnic background could assist to obtain a more precise picture of the economic behaviour of the foreign workers and the households to which they belong.

83. Citizenship is used as a classification variable of natural persons in censuses and migration statistics (in combination with country of birth). The terms citizen and citizenship are preferred over the terms nationals and nationality since the latter could also refer to the ethnicity of an individual. “Citizenship is the legal nationality of each person. A citizen is a legal national of the country of the census; a foreigner or alien is a non-national of that country.” (United Nations 1998). Because the country of citizenship of a person need not necessarily coincide with the country of birth of that person both items might be recorded for Mode 4 measurement. This may be particularly useful for traditional immigration countries e.g. Australia, Canada, USA. For such countries, the country of birth is an easily identifiable concept, which is the criterion most often used to identify international migrants in population censuses and also used in other demographic data sources, such as household surveys. (Bilsborrow et al. 1998).

84. In countries where ethnic background, defined in terms of country or area of origin as distinct from citizenship or country of legal nationality, race, colour, language, religion, customs of dress or eating, tribe or various combinations of these characteristics (United Nations 1998, para. 2.116), plays a role in terms of access to labour market and wages, workers may be classified as follows:

- citizens
  - by type of nationality/ethnicity (where applicable)
- non-citizens (=foreigners) by country of origin
  - short-term (0-12 months)
  - long-term (>12 months)
  - permanent (12 months –5 years, more than 5 years)

---

<sup>11</sup> There is a proposal for a change in the descriptive definitions for the unit groups for *nursing occupations*, a proposal for a new occupational group for *Medical physicist* and an extension e.g. for *Landscape architects*. Other new occupations not existing in 1988 would be webmasters, environmental engineers, convention managers, computer managers, etc. (U.S. Bureau of Labor Statistics 1998).

*The use of cross-classifications in the Mode 4 framework*

85. The classifications discussed above are used extensively in different parts of the framework. Each classification can be used to answer different questions. For example:

“In which sector is the person (foreign or citizen) working?” ⇒ ISIC

“What services are produced/consumed?” ⇒ CPC/EBOPS

“What are the skills of the worker?” ⇒ ISCO-88

“Is the foreign worker working in the country on a temporary basis (e.g. less than 12 months) or on a permanent basis?” ⇒ Migration statistics

“What type of contract does the foreign worker holds?” ⇒ Labour statistics

“What is his/her country of origin?” ⇒ Migration statistics

“What type of household does the person belong?” (e.g. household whose main source of income is wages and salaries, remittances or pension?)  
etc.

86. Cross-classifying different units on the basis of the economic as well as social and demographic characteristics is key in the measurement of Mode 4 and will prove a very powerful tool for an improved measurement of the impact of foreign workers (including Mode 4 workers, as defined by GATS) in the host and home economies.

#### **4. Economic variables for Mode 4**

87. The objective of the framework is to measure the positive and negative impacts on the host and home economies of the movement of natural persons. A wide range of economic variables may be pertinent for analytical and policy purposes. The selection of the variables to be collected is based on their usefulness for measuring global phenomena and their impacts in home and host countries. With such considerations in mind, the following variables are considered fundamental for the analysis of such impacts: (a) number of Mode 4 persons; (b) remittances; (c) imports and exports of services in relation to the deliveries of services by Mode 4 persons; (d) consumption expenditures; (e) migrants' transfers; (f) net wealth. These variables should be compiled by both the home and receiving economies. As a result, balancing items such as GNI, GNDI and saving would improve significantly.

*Number of Mode 4 persons*

88. In a Mode 4 context, the number of non-citizens classified by category of workers and industry would be an important variable for the analysis of the impact of Mode 4 persons on the host and receiving economy.

89. In particular, this information would be useful to construct more detailed information about the workers and analyze their contribution to the production processes for

productivity analysis (e.g. compile labour accounts and obtain information in terms of full-time equivalent (FTE)).

### *Remittances*

90. Remittances are defined as the total income flows in cash or in kind that are payable/receivable and transferred to/received from a non-citizen household<sup>12</sup> residing in another country and belonging to any of the groups in Table I.

91. In the case of non-citizens residents, remittances are defined as the part of the household income, which can be derived from various sources, domestic or from the rest of which is not consumed or invested but leaves the country where the household resides. The various sources of income include: (a) compensation of employees; (b) property income (e.g. interests on bonds, rents on land, etc.), (c) social contribution and benefits (e.g. unemployment, maternity, and child support benefits, etc.) and (e) other current transfers (e.g. workers remittances and other remittances).

92. In the case of persons who are non-resident (e.g. business travelers and short term workers), remittances are defined as the difference between gross compensation of employees received, including benefits in cash and in kind, which is not consumed and travel expense (e.g. hotels, food, transportation, etc.) in the country where the person worked.

93. Remittances as defined above explicitly cover hand-carries goods by friends or family members, or in-kind remittances of jewelry, clothes, and other consumer goods. It also includes transfers through informal channels—hawala<sup>13</sup>. Information on this may be difficult to obtain.

94. The definition of remittances used here is broader than the definition used in BPM5 which defines *workers remittances* as covering current transfers by migrants who are employed in new economies and considered residents there. (A migrant is a person who comes to an economy and stays or is expected to stay for a year or more). Workers remittances often occur between related persons (BPM5 para 302). This definition seems to cover only persons who are employed within the country of residence. The definition we propose, instead does not make the distinction of the origin of the income, which could also, for example be a pension. Some of these flows are covered in BPM5 under *other current transfers*.

95. The definition used here is also broader than the definition used in GDF 2003 (world Bank 2003). Remittances are defined in GDF 2003 as the sum of three components: (a) workers' remittances recorded under the heading "current transfers" in the current account

---

<sup>12</sup> Non-citizens households we intend those households in which at least one member is non-citizen.

<sup>13</sup> "Hawala" (also referred as hundi) is an alternative remittance system, which allows transferring money without actually moving it. Money changers ("Hawaladar") receive cash in one country and correspondent hawaladars in another country dispense an identical amount (minus minimal fees and commissions) to a recipient or, less often, to a bank account. E-mail, or letter ("Hundi") carrying couriers are used to convey the necessary information (the amount of money, the date it has to be paid on) between Hawaladars. It is based on a trust and the extensive use of connections such as family relationships or regional affiliations.

of the balance of payments; (b) compensation of employees which include wages and salaries and other benefits of border workers (such as local staff of embassies) and which are recorded under “income” subcategory in the current account; and (c) migrants’ transfers which are reported under capital transfers in the capital accounts. (World Bank 2003, Annex to Chapter 7 – Sources of remittance data) This broader definition is believed to capture the extent of workers’ remittances better than the data reported under the heading of workers’ remittances in the BPM5. Country practices have shown that remittances may be recorded either as compensation of employees – this is the case, for example, of the Philippines – or as workers remittances – this is the case, for example, of India. The above definition does not include transfers through informal channels—such as hand-carries by friends or family members, or in-kind remittances of jewelry, clothes, and other consumer goods, or through hawala, although they are recognized their significance (ranging from 10 to 50 percent of the total remittances defined above).

96. The GDF 2003 definition combines current transfers (workers’ remittances and compensation of employees (probably net, although not specified)) with capital transfers (workers’ remittances). Although this definition is broader than the BPM5 workers’ remittances, it is still a restricted definition in the sense as it does not encompass all the income flows discussed above. Moreover, Migrants’ transfer is an imputed one time flow in the capital account reflecting the change in net worth and it should not be mixed with the income concept of remittances. In our view migrants’ transfers warrant a separate category because they are a one-time flow – recorded only at the time the individual and his dependents leave the country. It is not a regular flow as it is the case of workers’ remittances.

97. Given the suggested broad definition of remittances, the most reliable source of information to identify remittances will lie in household budget surveys and specialized household surveys focusing on international migration. Such surveys could also be used to identify the factors affecting the use of remittances and by the recipient household as well as the factors motivating migrants to send remittances (Billsborrow et al.1997).

#### *Consumption expenditures*

98. Consumption expenditures in an indicator relevant for the measurement of Mode 4., saving can be obtained as a residual from disposable income and consumption expenditures. Consumption expenditure covers transactions on final consumption of goods a service for which the unit (in our case) households) bear the cost. In addition to consumption expenditures, one could also look at actual final consumption, which covers also goods and services regardless of the bearer of expenses. Actual final consumption includes also health, education and other services provided to the households in the form of social benefits in kind.

99. It is policy relevant for the analysis of Mode 4 to calculate these indicators by different categories of workers and further cross-classify the households on the basis of social and demographic characteristics. This will provide a better picture of the saving/consumption patterns across different households, which may vary significantly.

For the home economy, it would also be important to track down how remittances received are spent. Are they saved? Spent in final consumption goods? would the remittance have an impact for poverty analysis, etc.

#### *Imports/exports of services*

100. The increased importance of trade in services and the internationalization of services production have led to an increase in the movement of natural persons as service providers across borders. Imports and exports of services classified by type of service and by the category of worker delivering the services is an important policy indicator. It would allow to identify: (a) the impact of imports/exports of services by Mode 4 persons in the; (b) what are the types of services delivered/received (e.g. high tech, household services, etc.). This information is extremely relevant for policy as it would allow policy makers to take an informed decision about, for example, establishing training programmes within the countries so as to meet the demand of certain services internally.

101. Imports and exports of services of Mode 4 persons would only cover services provided by non-residents that is for persons who stay in/leave the host country for less than 12 months. This would provide an incomplete picture of the impact of Mode 4 persons on the economy as GATS covers “temporary” workers, where temporary does not refer to a definite length of time but could go up to 5 years. To obtain more detailed information of the impact on the host and home economy of the services provided by Mode 4 persons, it would be useful to obtain an indication of their contribution to value added in terms of value and volume of labour input (e.g. number of persons, wages and salaries, mixed income, etc.) of the country where they work. This could be achieved by classifying workers according to their length of stay and the industry in which they work.

#### *Migrants’ transfers*

102. They are defined in BPM5 as contra-entries to flows of goods and changes in financial items that arise from migration. If the migrant retains ownership of land or non-movable structures, these assets become foreign claim of the migrant and as a consequence a claim of the economies in which they have migrated. Those flows should be recorded at the time of migration, but in practice it may be difficult to record all assets upon entry in the new economy (BPM5 para 352-355).

#### *Net wealth*

103. Obtaining an indication of the wealth of the nations which is owned by non-citizens, possibly cross-classified by the length of stay is an important policy-relevant indicator. This would entail to the identification of assets (financial and non financial assets) and liabilities held by non- citizens. In part, changes in net worth are explained by migrants’ transfers.

104. Data on assets and liability positions are more easily obtained in the countries where they are held. For this reason, we recommend that information on this variable is obtained

for both residents non-citizens by country of citizenship and non-residents citizens by country of residence.

105. Net wealth and changes therein identified, in the host country, by non citizens residents reflects the strength of non-citizens in the development of the economy of the host countries. The same indicators identified in the home economy by citizens non-resident, indicate the contribution of migrants to the development of the home country economy

## **5. Social Accounting Matrix (SAM)**

106. In this context, the SAM is a tool to elaborate the inter-relationship between economic and social statistics, by linking the macro-statistics of national accounts with the micro-statistics of migration, labour and tourism. They focus on the role of people in the economy allowing for extra breakdowns of the households. The choice of the SAM as the framework to measure the movement of natural persons was dictated by the fact that the SAM is a flexible framework that integrates the national accounts and the BOP framework and allows expanding and condensing the accounts by: a) subdividing the economy into subgroups of units, which can be different for each accounts (e.g. units can be grouped by product groups, industries, primary input categories, by institutional sectors and by types of assets); and b) distinguishing sub-accounts, which will lead to analytically relevant balancing items (e.g. the distribution of income accounts can be subdivided into the generation of income, primary distribution and secondary distribution of income accounts leading to indicators such as gross national income (balancing item of the primary distribution of income account) and GNDI, the balancing item of the secondary distribution of income account.

107. The labour-oriented SAM allows for the descriptions in monetary and volume terms of both demand and supply of labour. The description on the demand side focuses on demographic, social and economic characteristics of employed persons and for the supply side on relevant breakdowns of employees and households.

108. The challenge of implementing this type of system is to integrate different data sources in a coherent framework. This requires a clearly defined coverage which is consistent in the various data sources and harmonized concepts and definitions. Although this demands additional efforts, the results will be consistent, coherent and credible indicators as a result of consistency checks built in the system.

109. The core of the SAM is the national accounts matrix, which presents the national accounts in matrix form at various level of detail. At the highest level of detail there is an aggregate national accounts matrix which distinguishes between the kinds of accounts. Figure II shows the aggregate national accounts matrix. The following types of accounts are distinguished: supply and use accounts (first two rows and columns in Figure II), distribution of income (further disaggregated into generation of income, allocation of primary income and secondary distribution of income), use of income, accumulation

account (in rows and columns 7,8,9), and rest of the world (current and capital in rows 10 and 11). The rest of the world account in the 1993 SNA is fully consistent with the BPM5.

110. A matrix presentation permits each transaction to be inferred from its position. Each account is presented by a row and column pair and the convention is followed that incomings, or resources are shown in the rows and outgoings or uses are shown in the columns.

111. The subdivision of the economy into groups of units is most useful as the most appropriate unit of classification for each account can be different. For example, difference accounts can be classified by product, by industries, by primary input categories, by institutional sectors, etc. These subdivisions allow highlighting links such as “who does what”.

112. The SAM allows for the expansion of the sub-matrices presented in the NAM. The expansion focuses on the role of people in the economy. For example, the household sector may be broken down into categories of households to show a detailed presentation of the labour market. Further, households may be grouped according to the nationality/ethnicity, education attainment or skill levels of the head of household. The interesting feature of the SAM is that it is possible to apply several classifications to the same group of transactors. For example households may be grouped by income class in the allocation of primary income account and by main source of income in the use of income account.

113. The SAMs are tools that several countries have been using to provide detailed information on the demand and supply of labour in monetary terms. This approach can be extended for the measurement of Mode 4. Annex V discusses how some of the sub-matrices presented in Figure II can be expanded for the measurement of the variables indicated in Section 4.

## **6. Labour accounts<sup>14</sup>**

114. The Labour Accounts can be described as a statistical system of core variables on labour acquired through integration. The Labour Accounts consists of a set of tables providing a systematic and consistent overview, mutually and over time, of the core variables. The task of the Labour Accounts is to address the problems mentioned above by combining various statistical data sources so as to enhance their strengths and overcome their weaknesses as effectively as possible, thus producing new statistical series which are superior in quality to the original data sources.

---

<sup>14</sup> Based on the paper by Buhmann, Luenis, Vuille and Wismer (2002).

Figure II Aggregate National Accounts Matrix

ACCOUNT	1. Goods and services	2. Production	3. Generation of income	4. Allocation of primary income	5. Secondary distribution of income	6. Use of disposable income	7. Capital	8. Gross fixed capital formation	9. Financial	10. Rest of the world, current	11. Rest of world, capital	12. Total
	product groups	industries	primary input categories	institutional sectors	institutional sectors	institutional sectors	institutional sectors	industries	financial assets			
1. Goods and services	Trade and transport margins 0	Intermediate consumption 1 904			Final consumption expenditure 1 371	Changes in inventories* 38	Gross fixed capital formation 376		Exports of goods and services (i.o.b.) 536			4 225
2. Production	Output (basic prices) 3 595	NET VALUE ADDED (basic prices) 1 469							Compensation of employees from the RoW 6			3 595
3. Generation of income			GENERATED INCOME, NET (basic prices) 1 473	Property income 341	DISPOSABLE INCOME, NET 1 096	Adjustment for the change in net equity of households on pension funds reserves 11			Property income and taxes less subsidies on production from the RoW 66			1 475
4. Allocation of primary income	Taxes less subsidies on products 133			NATIONAL INCOME, NET 1 633	DISPOSABLE INCOME, NET 1 604	SAVING, NET 233	Capital transfers** 68	Net incurrence of liabilities 603	Current transfers from the RoW 10			2 013
5. Secondary distribution of income							Net fixed capital formation 154		Adjustment for the change in net equity of households on pension funds reserves from RoW 0			2 739
6. Use of disposable income							Net acquisitions of financial assets 641		Adjustment for the change in net equity of households on pension funds reserves from RoW 0			1 616
7. Capital									Capital transfers from the RoW 1			905
8. Gross fixed capital formation		Consumption of fixed capital 222							Capital transfers from the RoW 1			376
9. Financial assets									Capital transfers from the RoW 1	NET LENDING OF THE ROW -38		603
10. Rest of the world, current	Imports of goods and services (G.L.L.) 497		Compensation of employees to the RoW 2	Property income and taxes less subsidies on production to the RoW 39	Current transfers to the RoW 39	Adjustment for the change in net equity of households on pension funds reserves to the RoW 0			Capital transfers to the RoW 4			577
11. Rest of the world, capital									CURRENT EXTERNAL BALANCE -41			-37
12. Total	4 225	3 595	1 475	2 013	2 739	1 615	905	376	577	-41	-37	

\* Including acquisitions less disposals of valuables.

\*\* Including acquisitions less disposals of non-produced non-financial assets.



115. The central variables in labour statistics are a) persons in employment and jobs b) unemployed and underemployed persons, c) vacancies, d) hours of work and full-time equivalents, e) income from employment and labour costs, f) organization of the labour market: statistics on collective labour agreements, strikes and trade-union membership figures, etc. Statistics describe variables and their characteristics (like age, sex, and education) in quantities (totals, averages and volumes) and follow them in time.

116. The fundamental relationships in the labour accounts are:

- a. *total population = employed persons + unemployed persons + persons outside the labour force;*
- b. *total number of posts = filled posts + vacant posts;*
- c. *employment national concept (living in the country) + non-resident workers employed in resident production units - resident workers employed in non-resident production units = employment domestic concept (working in the economic territory of a country)*

117. Linking labour accounts to the SAM is a powerful tool to the analysis of the economic impact of movement of natural persons in the home and host economies. The relationship between SAM and labour accounts is elaborated in Annex VI. Linking the two accounts will require that definitions and classifications in the two approaches are consistent. Box II provides the definitions used in labour accounts and in the 1993 SNA.

118. The definitions used by ILO and 1993 SNA are broadly consistent. 1993 SNA uses ILO definitions of employment, etc. and ILO uses 1993 SNA definitions for the production boundary. However, there are some small differences. For example, ILO has an age limit on people classified as employed, national accounts has not. The biggest challenge remains in the reconciliation of the various data sources (e.g. administrative sources, surveys, etc.) which may not use ILO or national accounts definitions.

119. There are no formal guidelines for the implementation of labour accounts. Only few countries have implemented, in somewhat different ways, focusing on different aspects. In general, the main objective of the labour accounts as implemented by a handful of countries is to measure the value and volume of labour underlying input in the economic system. This is done through labour matrices which cover not only the number of people of employed persons, but also the hours worked and full time equivalent employment. Disaggregating this information according to social and demographic characteristics yields to matrices similar to Table II and Table III in Annex V, having as unit volume rather than value. Expanding the labour accounts for the measurement of Mode 4 looks promising and should be further explored.

## Box II Definitions used in labour accounts and in 1993 SNA

### Labour accounts

*Post:* Set of tasks that are designed to be carried out by one person.

*Job:* Implicit or explicit contractual relationship between a specific person and a post.

#### 1993 SNA

*Employed persons:* "In order to be classified as occupied-i.e., employed or self-employed-the person must be engaged in an activity that falls within the production boundary of the System. (1993 SNA para 7.23). The relationship of employer to employee exists when there is an agreement, which may be formal or informal, between an enterprise and a person, normally entered into voluntarily by both parties, whereby the person works for the enterprise in return for remuneration in cash or in kind. (1993 SNA para .23). Employees receive compensation of employees (1993 SNA, para 7.24).

*Self-employed workers* are persons who are the sole owners, or joint owners, of the unincorporated enterprises in which they work, excluding those unincorporated enterprises that are classified as quasi-corporations. The self-employed are persons who work for themselves, when the enterprises they own are neither distinguished as separate legal entities nor separate institutional units in the System. Self-employed persons receive mixed incomes (1993 SNA, para 7.24). [Students in their capacity as consumers of educational or training services are not employees. However, if students also have a formal commitment whereby they contribute some of their own labour as an input into the enterprise's process of production-for example, as apprentices or similar kinds of worker trainees, articulated clerks, student nurses, research or teaching assistants, hospital interns, etc.-they are treated as employees, whether or not they receive any remuneration in cash for the work which they do. (1993 SNA, para 7.24).

*Jobs:* job is defined as an explicit or implicit contract between a person and an institutional unit to perform work in return for compensation for a defined period or until further notice (1993 SNA, para 17.8).

A job in the economic territory of country X is an explicit or implicit contract between a person (who may be resident in another economic territory than that of X) and an institutional unit (which may be itself acting as self-employer) resident in the economic territory of X to perform work in return for compensation (or to earn a mixed income) for a defined period or until further notice ((1993 SNA, para 17.26).

*Hours worked:* Total hours worked is the aggregate number of hours actually worked during the year in employee and self-employment jobs. (1993 SNA, para 17.12).

The truism, for employee jobs, that hours worked equal hours paid less hours paid but not worked, plus hours worked but not paid, is a useful one, since many establishment surveys record hours paid, not hours worked, so that hours worked have to be estimated for each job group, using whatever information is available about paid leave, etc.

Total hours worked in country X is the aggregate number of hours actually worked during the registration period in employee and self-employment jobs within its economic territory, including work outside that economic territory for domestic employer institutional units who have no centre of economic interest there, and excluding work for foreign employer institutional units who have no centre of economic interest within the economic territory of country X.

*Full time equivalent employment* is the number of full-time equivalent jobs, defined as total hours worked divided by average annual hours worked in full-time jobs. (1993 SNA, para 17.14).

Even if the data are good enough to permit an estimation of total hours worked, full-time equivalent employment should nevertheless also appear in the national accounts. One reason is that this facilitates international comparisons with countries which can only estimate full-time equivalent employment. The other reason is that, since the full-time annual hours of a job group vary through time, the two concepts carry a partially different message. If, for example, more sickness or annual leave is taken, both shortening average annual full-time hours and, ceteris paribus, reducing total hours worked, full-time equivalent employment will scarcely change, while total hours worked will fall. So if the former rather than the latter is used as the denominator in calculating productivity changes, productivity will rise less or fall more. A similar point applies to international comparisons. If, however, full-time annual hours did not exclude paid sick leave, but total hours worked continued to do so, more sickness would cause full-time equivalent employment to rise more or fall less than would an equal increase in annual leave, so that productivity would rise less or fall more. This would make good sense - sickness undesirably interferes with production, while annual leave is a desirable alternative to it. But if information on absence from work through sickness is not available for estimating full-time annual hours, it will not be available either for estimating total hours worked. (1993 SNA, para 17.16).

## H. Future work

120. Some of the issues raised in the paper and suggested proposal are listed below in the form of question for discussion at the meeting:

1. Do you agree that the universe of non-residents for the measurement of Mode 4 is appropriate?
2. Do you agree that the 6 economic variables for Mode 4, suggested in the paper are relevant to Mode 4? Would you suggest removing/adding new variables? Do you agree with the proposed definition of remittances?
3. Do you agree that in the current work towards harmonization of definition and classifications of tourism, migration and balance of payments statistics, focus should be given to the definition of visitor, the concept of residence?
4. Do you think that the classifications proposed in the paper are appropriate for the measurement of Mode 4? Do you think that other classifications of households should be used/developed? Should the households be classified on the basis of the characteristics of the head of household? Or of the highest paid member of the households? Or...?
5. Should the TSG provide an input in the current revision of ISCO-88 and so that to ensure that jobs that are the object of GATS Mode 4 negotiations are included in the revised classification?
6. Do you think that the Mode 4 oriented SAM (NAM+BOP) is an appropriate elaboration for a more in depth analysis of the economic impacts of Mode 4? Should the framework only be restricted to alternative definitions of BOP?
7. Should the possibility of using labour accounts for the measurement of Mode 4 be explored?

## References

- Bilsborrow, R.E., G. Hugo, A.S. Oberai, and H. Zlotnik (1997). *International Migration Statistics: Guidelines for Improving Data Collection Systems*. International Labour Organization.
- Butkeviciene, J. (2002): *Current regimes for temporary Movement of Service Providers Possible approach to negotiations from the developing countries' perspective*. [http://www.wto.org/english/tratop\\_e/serv\\_e/symp\\_apr\\_02\\_butkeviciene\\_e.ppt](http://www.wto.org/english/tratop_e/serv_e/symp_apr_02_butkeviciene_e.ppt)
- Buhmann, B., W. Leunis, A. Vuille and K. Wismer (2002). Labour Accounts: A Step Forward to a Coherent and Timely Description of the Labour Market. ILO website <http://www.ilo.org/public/english/bureau/stat/download/articles/2002-2.pdf>.
- Commission of the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank (1993). *System of National Accounts 1993*. United Nations publication Sales No. E.94.XVII.4.
- \_\_\_\_\_, Organisation for Economic Co-operation and Development, World Tourism Organization and United Nations (2001). *Tourism Satellite Account: Recommended Methodological Framework*. United Nations publications, Sales No. E.01.XVII.9. Luxembourg, Madrid, New York, Paris.
- \_\_\_\_\_. (2003). *Handbook on Social Accounting Matrices and Labour Accounts*. Prepared by the Leadership Group (LEG) on Social Accounting Matrices under the co-ordination of Statistics Netherlands.
- Debabrata, M. and M. Kapur (2003). India's Worker Remittances: A Users' Lament About Balance of Payments Compilation. Paper presented at the Sixteenth Meeting of the IMF Committee on Balance of Payments Statistics Washington D.C., December 1-5, 2003, BOPCOM-03/20.
- Dipplesman R. (2004). *Residence of Households*. Issue paper BOPTEG #8. To be presented at the IMF Committee of Balance of Payment Statistics. Balance of Payment Technical Expert Group (BOPTEG) in October 2004.
- El-Qorchi, M., S. M. Maimbo and J.F. Wilson (2002). *The Hawala Informal Funds Transfer System : En Economic and Regulatory Analysis*".
- Hoffmann, E. and S. Lawrence (1996). *Statistics on International Labour migration: A Review of Sources and Methodological Issues*. International Labour Organization Working Paper. Geneva.
- International Labour Organization (1990). *International Standard Classification of Occupations (ISCO-88)*. International Labour Organization. Geneva.
- International Labour Organization (1993). *An Outlines of the Main Concepts and Principles of a Labour Accounting System*" *General Report to the 15<sup>th</sup> International Conference of Labour Statisticians*. Geneva 19-28 January 1993.
- International Monetary Fund (1993). *Balance of Payments Manual*. Fifth Edition. Washington, D.C..

- \_\_\_\_\_ (1995). *Balance of Payments Compilation Guide*. Washington, D.C..
- \_\_\_\_\_ (2004). *Revision Balance of Payments Manual*, Fifth Edition (Annotated Outline). Washington D.C..
- Karsenty, G. (2000). Assessing Trade in Services by Mode of Supply. In *GATS 2000: New Directions in Services Trade Liberalisation*, Sauvé and Stern, eds. Center for Business and Government Harvard University/ Brookings Institution Press, Washington DC.
- Mata-Greenwood, A. (2004): *Updating the international standard industrial classification of occupations, ISCO-88*, ILO, paper submitted for Workshop on International Economic and Social Classifications, Beirut, 19-23 July 2004.
- Nielson, J. (2003). *A Needle in a Haystack: Migration Statistics and GATS Mode 4*. Paper presented at the ECE-Eurostat Joint Meeting on Migration Statistics, 28-30 April 2003.
- Puri, S. and T. Ritzema (1999). *Migrant Workers Remittances. Micro-Finance and the Informal Economy: Prospects and Issues*. Working Paper 21. Social Finance Unit. International Labour Organization. Geneva.
- South African Reserve Bank (2003). *The Concept of Residence with Special Reference to the Treatment of Migrant Workers in the Balance of Payments of South Africa*. Paper presented at the Sixteenth Meeting of the IMF Committee on Balance of Payments Statistics Washington D.C., December 1–5, 2003, BOPCOM-03/18.
- United Nations (1998). *Central Product Classification, Version 1.0*. Sales No. E.98.XVII.5.
- \_\_\_\_\_ (1998). *International Standard Industrial classification of All Economic Activities, Revision 3*. Sales No E.90.XVII.11.
- \_\_\_\_\_ (1998). *Recommendations on Statistics of International Migration, Revision 1*. Sales No. E.98.XVII.14.
- \_\_\_\_\_ (1998). *Principles and Recommendations for Population and Housing Censuses, Revision 1*. Sales No. E.98.XVII.8.
- \_\_\_\_\_ (2004). *International Standard Industrial Classification of All Economic Activities, Revision 3.1- Introduction*. 16 January 2004. UNSD website: <http://unstats.un.org/unsd/cr/registry/regdnld.asp?Lg=1>
- United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations Conference on Trade and Development and World Trade Organisation (2002). *Manual on Statistics of International Trade in Services*. Sales No.E.02.XVII.11.
- United States Department of Labor, Bureau of Labor Statistics (1998). *New Occupations Emerging Across Industry Lines*. Issues in Labour Statistics. U.S. Bureau of Labour Statistics.
- World Bank (2003). *Global Development Finance*. Chapter 7 Workers' Remittances: An Important and Stable Source of External Development Finance, prepared by Dalip Ratha. World Bank: Washington DC.
- World Trade Organization (1998). *Presence of Natural Persons (Mode 4): Background note by the Secretariat*. Council for Trade in Services, December 1998, S/C/W/75.

\_\_\_\_\_ (1995). General Agreement on Trade in Services. *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts*. Appendix 1B.

Young, A. (2000). What Next for Labor Mobility under GATS?. In *GATS 2000: New Directions in Services Trade Liberalisation*, Sauvé and Stern, eds. Center for Business and Government Harvard University/ Brookings Institution Press, Washington DC.

## **Annex I. Definition of natural and juridical person in the GATS<sup>15</sup>**

- (j) "person" means either a natural person or a juridical person;
- (k) "natural person of another Member" means a natural person who resides in the territory of that other Member or any other Member, and who under the law of that other Member:
  - (i) is a national of that other Member; or
  - (ii) has the right of permanent residence in that other Member, in the case of a Member which:
    - 1. does not have nationals; or
    - 2. accords substantially the same treatment to its permanent residents as it does to its nationals in respect of measures affecting trade in services, as notified in its acceptance of or accession to the WTO Agreement, provided that no Member is obligated to accord to such permanent residents treatment more favourable than would be accorded by that other Member to such permanent residents. Such notification shall include the assurance to assume, with respect to those permanent residents, in accordance with its laws and regulations, the same responsibilities that other Member bears with respect to its nationals;
- (l) "juridical person" means any legal entity duly constituted or otherwise organized under applicable law, whether for profit or otherwise, and whether privately-owned or governmentally-owned, including any corporation, trust, partnership, joint venture, sole proprietorship or association;
- (m) "juridical person of another Member" means a juridical person which is either:
  - (i) constituted or otherwise organized under the law of that other Member, and is engaged in substantive business operations in the territory of that Member or any other Member; or
  - (ii) in the case of the supply of a service through commercial presence, owned or controlled by:
    - 1. natural persons of that Member; or
    - 2. juridical persons of that other Member identified under subparagraph (i);
- (n) a juridical person is:
  - (i) "owned" by persons of a Member if more than 50 per cent of the equity interest in it is beneficially owned by persons of that Member;
  - (ii) "controlled" by persons of a Member if such persons have the power to name a majority of its directors or otherwise to legally direct its actions;
  - (iii) "affiliated" with another person when it controls, or is controlled by, that other person; or when it and the other person are both controlled by the same person;

---

<sup>15</sup> Annex 1B General Agreement on Trade in Services – Part IV – Article XXVIII – Definitions.

## Annex II. Relationship between ISCO-88 and ISCED

The table shows the relationship between ISCED based skill level (last column) and the Major Groups of ISCO (1<sup>st</sup> level), including the information how the Major Groups are disaggregated on the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> level.

**Table A. I. Relationship between ISCO-88 and ISCED**

	Major Groups (1 <sup>st</sup> level)	Number of Sub- major groups (2 <sup>nd</sup> level)	Number of Minor groups (3 <sup>rd</sup> level)	Number of Unit groups (4 <sup>th</sup> level)	ISCO skill level
1	Legislators, senior officials and managers (main tasks consist of determining and formulating government policies, as well as laws and public regulations, overseeing their implementation, representing governments and acting on their behalf, or planning, directing and coordinating the policies and activities of enterprises, or departments)	3	8	33	--
2	Professionals (main tasks require a high degree of professional knowledge and experience in the fields of physical and life sciences, or social sciences and humanities. Main tasks consist of increasing the existing stock of knowledge, applying scientific and artistic concepts and theories to the solution of problems and teaching about the foregoing in a systematic manner)	4	18	55	4 <sup>th</sup>
3	Technicians and associate professionals (main tasks require technical knowledge and experience in one or more fields of physical and life sciences, or social sciences and humanities. Main tasks consist of carrying out technical work connected with the application of concepts and operational methods in the above-mentioned fields, and teaching at certain educational levels).	4	21	73	3 <sup>rd</sup>
4	Clerks (main tasks require the knowledge and experience necessary to organise, store, compute and retrieve information. Main tasks include performing secretarial duties, operating word processors and other office machines, recording and computing numerical data, and performing a number of customer-oriented clerical duties, mostly in connection with mail services, money-handling operations and appointments).	2	7	23	2 <sup>nd</sup>
5	Service workers and shop and market sales workers (main task require the knowledge and experience necessary to provide personal and protective services, and to sell goods at shops or at markets. Main tasks include providing services related to house-keeping, catering, personal care, protection of individuals and property, and to maintaining law and order, or selling goods in shops or at markets.)	2	9	23	2 <sup>nd</sup>
6	Skilled agricultural and fishery workers	2	6	17	2 <sup>nd</sup>
7	Craft and related trades workers	4	16	70	2 <sup>nd</sup>
8	Plant and machine operators and assemblers	3	20	70	2 <sup>nd</sup>
9	Elementary occupations	3	10	25	1 <sup>st</sup>
0	Armed forces	1	1	1	--
	Total	28	116	390	

Source: ILO, *ISCO-88 with amendments from OECD*, Service Providers on the move: a closer look at labour mobility and the GATS, Annex VI, p.89. NOTE: no skill levels have been attributed to either category 1 (legislators, senior officials and managers) nor major group 0 (armed forces) as skills for executing task and duties of occupations belonging to each of these groups vary too much to be linked to ISCO skill levels.



## Annex III. Definitions of the categories included in the taxonomy of Migration statistics

### A. Categories of transients not relevant for international migration

1. *Citizens departing as border workers* → *Foreign border workers*: Foreign persons granted the permission to be employed on a continuous basis in the receiving country provided they depart at regular and short intervals (daily or weekly) from that country.

2. (a) *Citizens in transit*: Persons who arrive in their own country but do not enter it formally because they are on their way to another destination.

(b) *Foreigners in transit*: Foreign persons who arrive in the receiving country but do not enter it formally because they are on their way to another destination.

### B. Categories relevant for international tourism

3. *Citizens departing as excursionists* → *Foreign excursionists* (also called “same-day visitors”): Foreign persons who visit the receiving country for a day without spending the night in a collective or private accommodation within the country visited. This category includes cruise passengers who arrive in a country on a cruise ship and return to the ship each night to sleep on board as well as crew members who do not spend the night in the country. It also includes residents of border areas who visit the neighbouring country during the day to shop, visit friends or relatives, seek medical treatment or participate in leisure activities.

4. *Citizens departing as tourists* → *Foreign tourists*: Foreign persons admitted under tourist visas (if required) for purposes of leisure, recreation, holiday, visits to friends and relatives, health or medical treatment, or religious pilgrimage. They must spend at least a night in a collective or private accommodation in the receiving country and their duration of stay must not surpass 12 months.

5. *Citizens departing as business travellers* → *Foreign business travellers*: Foreign persons granted the permission to engage in business or professional activities that are not remunerated from within the country of arrival. Their length of stay is restricted and cannot surpass 12 months.

### C. Categories traditionally excluded from international migration statistics

6. *Citizens departing with the status of diplomatic or consular personnel or as dependants and employees of that personnel* → *Foreign diplomatic and consular personnel plus their dependants and employees*: Foreigners admitted under diplomatic visas or permits. Their dependants and domestic employees, if admitted, are also included in this category.

7. *Citizens departing with the status of military personnel or as dependants or employees of that personnel* → *Foreign military personnel plus their dependants and employees*: A category encompassing all foreign military servicemen, officials and advisers together with their dependants and domestic employees stationed in the country of arrival for a limited period.

8. *Nomads*: Persons without a fixed place of residence who move from one site to another, generally according to well-established patterns of territorial mobility. When their trajectory involves crossing current international boundaries they become part of the international flows of people. Some nomads may be stateless persons because, lacking a fixed place of residence, they may not be recognized as citizens by any of the countries through which they pass.

### D. Categories relevant for the compilation of international migration statistics

9. *Citizens departing to study abroad* → *Foreign students*: Foreigners admitted under special permits or visas allowing them to undertake a specific course of study in an accredited institution of the receiving country. If their dependants are admitted, they are also included in this category.

10. *Citizens departing to be trained abroad* → *Foreign trainees*: Foreigners admitted under special permits or visas allowing them to undertake training that is remunerated from within the receiving country. If their dependants are admitted, they are also included in this category.

11. *Citizens departing to work abroad* → *Foreign migrant workers*: Foreigners admitted by the receiving State for the specific purpose of exercising an economic activity remunerated from within the receiving country. Their length of stay is usually restricted as is the type of employment they can hold. Their dependants, if admitted, are also included in this category.

12. *Citizens departing to work for an international organization abroad* → *Foreigners admitted as international civil servants*: Foreigners admitted under special visas or residence permits as employees of international organizations located in the territory of the receiving country. If their dependants and employees are admitted, they are also included in this category.

13. *Citizens departing to exercise their right to free establishment* → *Foreigners having the right of free establishment*: Foreign persons who have the right to establish residence in the receiving country because of special treaties or agreements between their country of citizenship and the receiving country. Their dependants, if admitted, are included in this category.

14. *Citizens departing to settle abroad* → *Foreigners admitted for settlement*: Foreign persons granted the permission to reside in the receiving country without limitations regarding duration of stay or exercise of an economic activity. Their dependants, if admitted, are also included in this category.

15. *Citizens departing to form a family or join immediate relatives abroad* → *Foreigners admitted for family formation or reunification*: This category includes the foreign fiancé(e)s and foreign adopted children of citizens, the foreign fiancé(e)s of other foreigners already residing in the receiving country, and all foreign persons allowed to join their immediate relatives already established in the receiving country.

16. *Citizens departing to seek asylum* → *Refugees*: Foreign persons granted refugee status either at the time of admission or before admission. This category therefore includes foreign persons granted refugee status while abroad and entering to be resettled in the receiving country as well as persons granted refugee status on a group basis upon arrival in the country. In some cases, refugee status may be granted when the persons involved are still in their country of origin through “in-country processing” of requests for asylum. Refugee status may be granted on the basis of the 1951 Convention relating to the Status of Refugees and the 1967 Protocol, other pertinent regional instruments, or humanitarian considerations.

### E. Other categories relevant for the measurement of international migration but encompassing persons whose duration of stay in the receiving country is uncertain

17. *Citizens departing to seek asylum* → *Foreigners seeking asylum*: A category that encompasses both persons who are eventually allowed to file an application for asylum (asylum-seekers proper) and those who do not enter the asylum adjudication system formally but are nevertheless granted the permission to stay until they can return safely to their countries of origin (in other words, foreigners granted temporary protected status).

18. *Citizens departing without the admission documents required by the country of destination* → *Foreigners whose entry or stay is not sanctioned*: This category includes foreigners who violate the rules of admission of the receiving country and are deportable, as well as foreign persons attempting to seek asylum but who are not allowed to file an application and are not permitted to stay in the receiving country on any other grounds.

Source: United Nations (1998)

## Annex IV. Relationship between concept of residence of BPM5, TSA and Migration statistics

GROUP	Time frame of (intended) stay <sup>16</sup>	BPM5 (Residency)	AO-BMP5 (Residency)	Relevant variable (BPM5)	TSA (Visitor)	RSIM (Migrant)	GATS coverage
1) Migrants <sup>17</sup> , including workers who are residents but not nationals of the countries in which they work (including, intra-corporate transferees, staff of international organization not working in enclaves, self-employed and foreigners employed by local companies)	>12 months	Residents of the receiving country	No changes to BPM5	<ul style="list-style-type: none"> <li>workers' remittances</li> <li>migrants' transfers</li> <li>transactions in external financial assets and liabilities</li> <li>investment income on external financial assets and liabilities</li> </ul>	Travel from country of origin to country of destination doesn't count as tourism	Long-term migrants	<p>Migrants are not mentioned in GATS; GATS does not apply to measures which affect</p> <ul style="list-style-type: none"> <li>seeking access to labour market,</li> <li>citizenship,</li> <li>residence or</li> <li>employment on a permanent basis</li> </ul> <p>GATS applies for temporary movements, where 'temporary' is up to 2-5 years in countries' commitments</p>
2) Persons who are not residents of the countries where they work (border workers, seasonal workers, short-term migrants (<12 months))	Any duration	Remain residents of the home country	No changes	<ul style="list-style-type: none"> <li>Compensation of employees</li> <li>Travel expenses</li> <li>Current transfers (expenses and social contributions)</li> </ul>	Commuting to work is traveling, but is not considered as tourism activity	<p>Border workers: are considered non-migrant (RSIM Box2, A.1.)</p> <p>Seasonal workers are only covered if they stay longer than 3 months (short-term migrants) otherwise they are not covered.</p>	Border-workers are excluded from GATS itself, since these workers are part of the local labour market
3) Persons who work for entities that are not residents of the countries where the entities are located (e.g. locally recruited staff of foreign embassies, consulates, and military bases)	Any duration (usually these persons are residents of the country where the embassy, consulate, military base is located)	Residents of the host economy	No changes	<ul style="list-style-type: none"> <li>Compensation of employees</li> </ul>	Not applicable to Tourism Statistics	Not applicable for migration statistics	Excluded from GATS Mode 4

<sup>16</sup> Here we intend long-term migrants. Short term migrants are covered under 2) and 6).

<sup>17</sup> Defined for BOP (and SNA) purposes as persons who change the country of residence to live for 12 months or more in another country

GROUP	Time frame of (intended) stay <sup>16</sup>	BPM5 (Residency)	AO-BPM5 (Residency)	Relevant variable (BPM5)	TSA (Visitor)	RSIM (Migrant)	GATS coverage
4) Students studying in foreign countries	0-12 months	Students are treated as residents of their countries of origin, irrespective of the length of their studies abroad, as long as they remain members of their home country (BOP Manual, para 71)	Residents of country of origin	<ul style="list-style-type: none"> <li>Travel expenses includes tuitions, room and board, etc.)</li> <li>Compensation of employees (BOP) – in cases where students work</li> <li>Current transfers</li> </ul>	Tourists	Student (+dependents where applicable) are included as migrants; RSIM Box2, D.9, p.11); a student entitled to work counts as student	Excluded from GATS Mode 4
	>12 months		Residents of the host economy		Residents of the host economy, not within the TSA boundary		
5) Medical patients receiving treatment in foreign countries; prisoners in foreign countries	0-12 months	Medical patients are treated as residents of their countries of origin, irrespective of the length of the stay abroad, as long as they remain members of their home country (BOP Manual, para 71)	Residents of country of origin	<ul style="list-style-type: none"> <li>Travel expenses: including patient expenditures for medical services, goods and services in the host country</li> <li>Current transfers</li> </ul>	Tourists	Excluded from migration (RSIM, para 37 and Box1)	Excluded from GATS Mode 4
	>12 months		Residents of host country		Not within the TSA boundary		
6) Persons, excluding transport crews and excursionists, traveling for business or personal reasons	0-12 months	Residents of country of origin	No changes	<ul style="list-style-type: none"> <li>Travel expenses (purchase of goods and services)</li> <li>Current transfers/Compensation of employees (depending on where they are remunerated from)</li> </ul>	Included, as long as the main purpose is other than the exercise of an activity remunerated from within the place visited (TSA 2.4); otherwise, see case 2)	Excluded from migration (RSIM, para 37), but relevant for international tourism (RSIM, Box2, B.4-B.5, p.13)	Included in GATS
8) Persons having external financial assets and/or liabilities	Any duration	Primary residence is only criterion	No changes	<ul style="list-style-type: none"> <li>Transactions in and stocks of external financial assets and liabilities</li> <li>Investment income on external financial assets and liabilities</li> </ul>	Not applicable	Not applicable	Not applicable

GROUP	Time frame of (intended) stay <sup>16</sup>	BPM5 (Residency)	AO-BMP5 (Residency)	Relevant variable (BPM5)	TSA (Visitor)	RSIM (Migrant)	GATS coverage
9) Individuals with multiple residences; individuals leaving country of residence with intention to reside in two or more economies	Any duration	No specific treatment recommended (see SNA 14.21); tax status and citizenship as proxies	Residence will be determined by the predominant location during the period (in terms of time spent) [AO 4.40]	<ul style="list-style-type: none"> <li>Travel (expenditures for goods and services)</li> </ul>	Traveling between 'usual environments' doesn't count as tourism; see TSA 2.16, 2.17 for treatment of second homes	Not clear	is someone with multiple residences (who gets assigned to a country of primary residence) still a local service provider/local employment; see "Questions" below
10) Graduate trainees	0-12 months	Residents of the country of origin	No changes	Travel (expenditures for goods and services)	Included. Classified as students if their main purpose is studying or as business visitors if their main purpose is working	Included as short-term migrants (RSIM, Box2, D.10, p.14)	Graduate trainees' primary reason for relocation is education in another country (by an enterprise or a university); they could be seen as Mode 2 consumers of education service with labour service provision to the host economy
	>12 months	Residents of the host country	No changes	<ul style="list-style-type: none"> <li>migrants' transfers</li> <li>workers' remittances</li> <li>transactions in external financial assets and liabilities</li> <li>investment income on external financial assets and liabilities</li> <li>passenger fares and travel</li> <li>compensation of employees</li> </ul>	Excluded	Included as long-term migrants (RSIM, Box2, D.12, p.14)	

## Annex V. Social Accounting Matrices

The following accounts are particularly relevant for the measurement of the economic impacts of the movement of natural persons as they generate the indicators/variables mentioned before:

### *Supply and use table*

The first two rows and columns of Figure II represent the supply and use table. Column 1 presents the supply and use of goods and services. It includes several sub-matrices, the most relevant ones for the measurement of the movement of natural persons are:

(2,1) is the transposed sub-matrix of output valued at basic prices.

(10,1) represents imports by products it also includes the final consumption expenditure of resident households outside the economic territory. It includes taxes less subsidies on products by products paid to/received by the rest of the world.

We suggest that this row vector be further sub-divided by adding rows which separately identify information on:

certain goods which are often imported by migrants (e.g. gold, consumer durables, such as air conditioners, refrigerators, etc.), by mode of import (e.g. hand carried or transported);

households and personal effects of migrants, together with any movable capital goods from the old to the new economy. Contra-entries of these goods flows (together with changes in financial items) are offset in the migrants transfer flow in the capital account;

certain services (e.g. : travel services, by category of workers, including the special cases of students, border and seasonal workers, etc.)

final consumption expenditures by resident households outside the economic territory, by: (i) partner country; (ii) education/skill level; (iii) category of worker (including the special cases);

taxes less subsidies on products by products identified in (a) and (b).

(1,2) corresponds to intermediate consumption (products by industries). This includes reimbursement paid by the employers for travel, removal and related expenses made by employees when they take up a new job in another country.

(1,6) corresponds to final consumption expenditure (products by institutional sectors). It would be useful to further disaggregate final consumption expenditures for those households whose head of household is a foreign worker possibly by (i) partner country; (ii) skill and education level and (iii) category of worker. This variable is particularly important for the estimation of remittances. It would also be useful to

split the column related to the government into collective final expenditure and individual final expenditure.

(1,10) corresponds to the exports by products. It also includes the final consumption expenditure of non-resident households in the economic territory. As indicated for the sub-matrix (10,1), we would suggest a similar disaggregation.

### *Value added*

It breaks down the value added payable by the producers into primary inputs categories. They are represented in the value added sub-matrix (3,2) and the column vector of the rest of the world (3,10). The sub-matrix (3,2) reflects monetary flows from productive units to kinds of primary inputs (labour, capital). Columns correspond to industries, and rows to primary inputs. The value added sub-matrix plays a crucial role in a labour-oriented SAM. It describes the characteristics of the labour employed in the productive process. Employed persons are considered as separate units who receive compensation of employees and distribute this income to their household in the allocation of income accounts. These units are subsequently classified into groups of self-employed persons.

Compensation of employees received by resident non-citizens as well as compensation of employees received by non resident is a crucial variable for the calculation of remittances. Our definition of remittances, in fact includes not only workers remittances, which can be estimated from households surveys looking at the compensation of employees, consumption patterns, etc. but also the part of the compensation of employees of temporary workers which is sent back to the country of origin, net of expenditures incurred in the host country.

This account displays what kind of labour (social, demographic or economic categories of employed and self-employed) is demanded by which industries. Sub-matrix (3,10) describes the kind of resident labour, which is demanded by non-resident units. In these sub-matrices, value added is assigned to value added categories. In the case of labour, compensation is received by the employee or a self-employed person, not a household. Value added is distributed to institutional units through the allocation of income account (i.e. through the generated and property income sub-matrices). See discussion on the allocation of income account.

In the case of Mode 4, it would be particularly interesting to breaking down domestic employment between foreign workers and citizens. The foreign workers category could be further disaggregated by:

- category of worker (e.g. intra-corporate transferee, foreign workers, employed by local companies, );
- partner country;
- educational/skill level;
- gender.

Similarly, employment provided by the ROW could be further disaggregated in the same way as the domestic employment, using different categories of visitors. These would include non-resident workers (e.g. business visitors, border and seasonal workers, graduate trainees, foreign students working in the country where they are studying, etc.). Table II provides an example on how to present the remuneration of primary inputs in the Mode 4-oriented SAM. It disaggregates compensation of employees by partner country and educational level. Another column could be added to the table to further classify employment on the basis of the category of workers.

**Table II. Remuneration of primary input in Mode 4 –oriented SAM – An example**

Generation of income account		Production account							ROW (current) account	Total
		Agric culture, etc.	Mining, etc.	Con struction	Trade, etc.	Financial intermed. etc.	Public admin etc.	Total		
Compensation of employees <i>Of which received by foreigners/non citizens of:</i>	Country A	ISCO-1								
		ISCO-2								
		ISCO-3								
		ISCO-4								
	Country B	ISCO-1								
		ISCO-2								
		ISCO-3								
		ISCO-4								
(Net) mixed income <i>Of which received by foreigners/non citizens of:</i>	Country A	ISCO-1								
		ISCO-2								
		ISCO-3								
		ISCO-4								
	Country B	ISCO-1								
		ISCO-2								
		ISCO-3								
		ISCO-4								
(Net) operating surplus										
Other taxes less subsidies on production										
Total										

It would be useful to further break the compensation of employees according to its components, that is wages and salaries and other remuneration in cash or in kind. The latter includes contribution paid by employers on behalf of employees of social security schemes or pension funds to secure benefits for the employees. This information would be interest for ROW (contributions paid to non-residents) as well as for resident foreign workers.

Another useful disaggregation would be to break down the mixed income into its components, self-employment income and operating surplus. This would be useful for estimating more accurately remittances.

The SAM, as opposed to the 1993 SNA, distinguishes the employed persons as a separate entity. This allows to obtain a more accurate description of the demand for labour in a country. It is possible to see whether the demand for labour is met by

resident or non-resident workers and, according to the level of disaggregation, the compensation received by foreign resident workers (possibly even further disaggregated). This is a very important indicator for the calculation of remittances.

Table II can also be expressed in terms of hours worked or full-time equivalent units thus allowing to measure the volume of work provided by each category of labour factor to each industry. This would be useful to measure performance indicators on the amount labour is actually contributing to the production process.

### *Allocation of primary income*

The value added sub-matrix shows how the income is distributed to the inputs of production. The allocation of primary income account allocates the labour income received by one or more (self-) employed household members (including compensation of employees from the rest of the world) to the household sector (sub-matrices (4,3) and vector (3,10)) and property income receivable by the owners on financial and tangible non-produced assets (sub-matrices (4,4), (4,10) and (10,4)).

### Allocation of generated income by group of households

This sub-matrix identifies the kind of labour supplied by each group of households. For non-resident workers, it identifies the kind of labour supplied by the rest of the world.

The submatrices (4,3 and the row vector (3,10)) require households to be divided into sub-groups. The classification of households could be based the basis of the largest income category of the household. The following classification, which also links to the 1993 SNA classification of households, has been used by some European countries for the compilation of labour-oriented SAM (CEC 2003)

- Wages and salaries – employees (S.143)
- Mixed income including property income – employers (including own account workers) (S.141 + S.142) and recipients of property income (S.1441)
- Income in connection with old age (recipients of pensions (S.1442)
- Other transfers income – recipients of other transfer incomes (S.1443 and other households (S.145).

For the measurement of Mode 4 it would be useful to break the compensation of employees and mixed income on the basis of the citizenship, category of worker and skill level of the resident foreign workers (e.g. intra-corporate transferee, foreign workers, employed by local companies, etc.). The supply of labour by the rest of the world can be disaggregated as discussed above for the value added sub-matrix. Table III provides an example of how to present the allocation of generated income in the Mode 4 oriented SAM.



**Table III. Allocation of generated income – An example**

Allocation of primary income	Generation of income																N O S	Other taxes less subsidies	T o t a l
	Compensation of employees								Net mixed income										
	Country A				Country B				Country A				Country B						
Skill level (ISCO-88)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
..... <sup>18</sup>																			
Households																			
Wages and salaries																			
Mixed income																			
Income in connection with old age																			
Other transfers income																			
Total national generated income																			
ROW (current account)																			
Total																			

The link between kinds of labour supplied and industries in sub-matrix (3,2) tracks households' labour back to the industries' value added. This table is the monetary counterpart of the labour supply table –labour supplied by residents and by non-residents to the domestic production system.

Table III can also be shown in terms of number of persons employed (units of labour input). Such matrix shows what kind and how much labour is supplied by each group of households. It can be used to link the result of the production process (in terms of income) to those who benefit from the income produced. Input of labour is linked to the persons providing it and the persons are linked to the households to which they belong. Jobs represent an intermediate step from full-time equivalent units or hours worked to persons employed.

#### Allocation of property income by group of households

It includes property income receivable and payable by institutional units. Categories of property income include: interest, distributed income of corporations, reinvested earnings, property income attributed to insurance policy holders and rents (on non-produced assets such as land and mineral resources). Property income corresponds to investment income in the BPM5 and it includes direct investment (distributed income and reinvested earning), portfolio investment (derived from holdings of shares and bonds, notes, etc.) and other investment income. The latter is an important indicator for the measurement of Mode 4, especially when linked to the domestic financial asset/tangible non-produced assets (broken down by citizenship of the investor/owner) and international investment positions (broken down by the residence and citizenship of the investor).

<sup>18</sup> Other sector are not shown for ease of presentation.

The balancing item of the primary distribution of income account is the Net National Income (submatrix (5,4)).

#### *Secondary distribution of income*

This account is central for the measurement of Mode 4. It shows all current transfers, where transfers are defined as “transactions in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset as counterpart. A cash transfer consists of the payment of currency or transferable deposit by one unit to another without any counterpart. A transfer in kind consists either of the transfer of ownership of a good or asset, other than cash, or the provision of a service without any counterpart.” (1993 SNA para 8.3 and 8.27).

Transfers can be current or capital. There are three main kinds of current transfers:

- Current taxes on income, wealth, etc.
- Social contributions and benefits
- Other current transfers

It corresponds to sub-matrix (5,5) in Figure II. It records current transfers paid and received by institutional sectors. As mentioned above, it would be useful to disaggregate the household sector according to the classification of households presented in Table III and further by the country of citizenship of/category of worker of/skill level of the head of household.

The following flows, disaggregated by foreign resident households<sup>19</sup>, are particularly important for the measurement of Mode 4:

*Taxes on income (D.51)*: Provide an indication of the payments made by the households to the government as charges on their income. Since taxes on income may also be payable by non-residents, it would be useful to disaggregate them on the basis of the country of residence of the worker/category of worker/skill level, etc.

*Other current taxes (D.59)*: Include, among others, taxes on international transactions paid by residents. They consist of taxes on travel abroad, foreign remittances, foreign investment, etc., except those payable by producers (1993 SNA, para 8.54 (d)). It would be useful to identify these types of taxes as they could provide a basis for estimating remittances, as defined above.

*Social contributions (D.61)*: Households pay social contributions to general government (this includes also pension funds). These are usually based on the compensations (e.g. wages and salaries, etc.). Similar breakdowns as the one used for the compensation of employees as in Table III would be useful for an analysis of Mode 4.

*Social benefits other than social transfers (D.62)* They are payments by all institutional sectors to households. They include: sickness and invalidity benefits, maternity allowances, children or family allowances, unemployment

---

<sup>19</sup> The term resident foreign households is used in this paper to identify a household where the head of household is resident non-citizen.

benefits, retirement and survivors pensions, death benefits and other allowances. The distribution of social benefits to different household types can vary markedly depending on the specific benefit being paid. It would be useful to separately identify these benefits by different types of households. This information would provide an indication of the impact of government policies on the distribution of income between foreign and domestic households and may have an effect on future government decisions about migration.

*Miscellaneous current transfers (D.75)*: They consist of all current transfers in cash or in kind made, or received, by resident households to or from other resident or non-resident households. They include : (a) goods hand-carried by migrants, such as consumer durables, jewelry, clothes, and other consumer goods, or through hawala<sup>20</sup>; and (b) remittances between members of the same family resident in different parts of the country or different countries, usually from a member of a family working in a foreign country for a period of a year or longer. These are the workers remittances as defined in BPM5<sup>21</sup>. Earnings remitted by border and seasonal workers are not considered international transfers as the workers remain residents of the country of origin. (1993 SNA para 8.95) Similarly, cash transfers to students studying abroad for tuition and living expenses and vice-versa transfers from students to the family in the country of origin, are not considered international transfers, as students remain residents of the country of origin.

#### *Disposable income*

It is the balancing item of the secondary distribution of income account. It is derived from the balance of the primary incomes by adding all current transfers, except social transfers in kind, receivable by that unit or sector and deducting all current transfers, except social transfers in kind payable by that unit or sector. It may be recorded net or gross. It is presented in a sector-by-sector sub-matrix (6,5) with each sector's disposable income on the diagonal. This is further distributed among the different categories of households. Disposable income is not all available in cash as it includes non-monetary transactions such as international transfers of food, clothing and medicines, etc. to relieve the effect of hardship. It also includes transfers in kind which are, by convention, recorded as making imputed consumption expenditures on the goods or services in question, as if the transfers were conceived in cash.

Disposable income can be calculated for different types of households, according to the classifications adopted in the generation of income and secondary distribution of income accounts. It is an important indicator as it represents the maximum amount that a household can afford to spend on consumption of goods or services during the accounting period without having to finance its expenditures by reducing its cash, by

---

<sup>20</sup> These are believed to be significant in many countries, ranging from 10 to 50 percent of total remittances, but often are not recorded in the official statistics (Puri and Ritzema 1999; El-Qorchi and others 2002)

<sup>21</sup> Workers remittances are current transfers by migrants, where a migrant is defined as a person who comes to a new economy and stays or is expected to stay, for a year or more. Workers remittances often occur between related persons (BPM5 para 302).

disposing of other financial or non-financial assets or by increasing its liabilities. The part of disposal income which result from remittances could be a significant part for certain groups of households. Capital transfers, other changes in volume of assets and real holding gains and losses are excluded from disposable income and will be discussed below.

#### *Use of income account*

It shows how households, government units and non-profit institutions serving households allocate their disposable income between final consumption and saving. This account corresponds to sub-matrix (1,6) in Figure II. In the Mode-4 oriented SAM, final consumption expenditure can be broken down by products and different categories of households. This account has two versions, one includes only final consumption expenditures, that is expenditures in goods and services which are born by the households, and the other includes also social transfer in kind, such as medical services. Both flows are relevant for the measurement of Mode 4 for both the home and host economies.

#### *Saving*

Saving is the balancing item of the use of income account. It is presented in a sector-by-sector submatrix (7,6) with each sectors saving on the diagonal. In the Mode-4 oriented SAM, saving is further distributed among the different categories of households. By combining this information with income by household type it is possible to obtain estimates of the savings ratio by household types.

#### *Capital and gross fixed capital formation account*

The most important flows of this account for the measurement of Mode 4 include:

*Increases in fixed assets:* Sub-matrix (8,7) would provide an indication of investment by institutional sector and by industry. It would show the value of acquisitions and disposal of assets such as land, houses, etc. It may be useful to disaggregate the household sector on the basis of whether the head of household is foreign resident, non-resident citizen or resident citizen.

*Migrants' transfers:* Are contra-entries to flows of goods and changes in financial items that arise from migration. They correspond to the column vectors (7,11) and (11,7) depending on whether the SAM refers to the country of origin or destination of the migrant. If the migrant retains ownership of land or non-movable structures, these assets become foreign claim of the migrant and as a consequence a claim of the economies in which they have migrated. Those flows should be recorded at the time of migration, but in practice it may be difficult to record all assets upon entry in the new economy.

#### *Financial account*

It records transactions that involve financial assets and liabilities by type of financial asset and institutional sector. In the Mode 4 oriented SAM, it would be interesting to cross-classifying the flows according to “who” is involved in the transactions. The

cross-classification could be based, for example, on length of stay, category of worker and education/skill level.

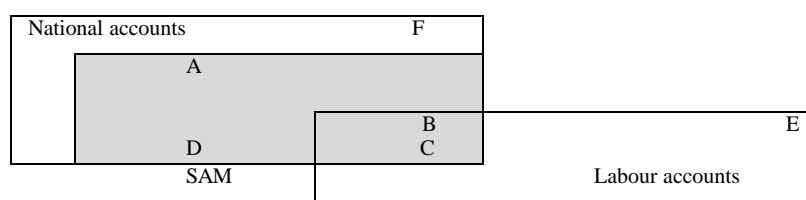
*Assets and liabilities*

The SAM can be expanded to include also balance sheets. The value of assets and liabilities could be disaggregated according to types of households. This would give an indication of net wealth owned by foreigners disaggregated by partner country.

## Annex VI. National accounts SAMs and labour accounts

Figure A. I illustrates schematically the relationship between SAMs, national accounts and labour accounts.

**Figure A. I. Relationships between accounts**



Source: European Commission (2003).

The job is the main unit linking labour accounting system and national accounts and SAMs. Jobs connect demand and supply sides of the labour market. B in Figure A. I represents the volume of work relating to jobs (hours worked and/or full time equivalents), and the compensation (e.g. wages and salaries). It is part of all three accounts. C are where that volume of work and its compensation are distributed by socio-economic variables such as education level, gender and status in employment in the SAM. This, together with B, is where SAMs and labour accounts overlap. The remaining part of labour accounts (E) relates to aspects that are not included in national accounts and SAMs, like other distributive variables, unmet supply (unemployment), unmet demand (vacancies) and organisation of the labour market. Unemployed persons are, of course, included in the household sector, and the receipt of unemployment benefits is included as transfer income in national accounts).

A relates to those flows which, together with those included in B, are recorded in national accounts and SAMs, (for example redistribution of income and consumption). D is the expansion of the flows included in A, using socio-demographic classifications. F is those parts of national accounts not subject to SAM expansions.