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TOWARDS A GLOBAL MATRIX OF TRADE IN SERVICES STATISTICS

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This paper presents the joint OECD-WTO work to produce complete, consistent and balanced bilateral trade in services statistics from 1995 onwards. The resulting matrices are an analytical tool that forms an essential component of the TiVA Inter-Country Input-Output Table, but can also be used for other policy relevant analysis. The paper describes the overall approach and progress-to–date, detailing the data collection and cleaning methods as well as the different estimation methodologies used for filling missing data. The results achieved so far include the production of a dataset with S200 and all EBOPS categories with partner World for 191 countries from 1995-2012, a full bilateral specification of total trade in services statistics from 1995-2012 (191 countries and partners), as well as a substantive increase in available data points on bilateral trade by EBOPS category (from 576,241 to 4,782,978).

More work remains necessary however and the paper outlines the future plans, including, in particular, plans to develop and foster international support and broader collaboration, capitalising on the WPTGS bilateral trade asymmetry meetings and the WPTGS Informal Reflection Group on more detailed trade in services statistics. Delegates are asked to comment on this work, and on the planned way forward.

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TOWARDS A GLOBAL MATRIX OF TRADE IN SERVICES STATISTICS

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1. Introduction

1. High quality data on international trade in services that provide insights into the types of services that are traded, and with which partner countries, are vital for economic analyses and policy making. However, for many OECD and non-OECD countries, the currently available trade in services statistics lack the necessary level of detail. In addition, for those countries where data *are* available, internal inconsistencies between totals and subcategories, and with partner countries, hamper the analytical and policy use of services trade statistics.

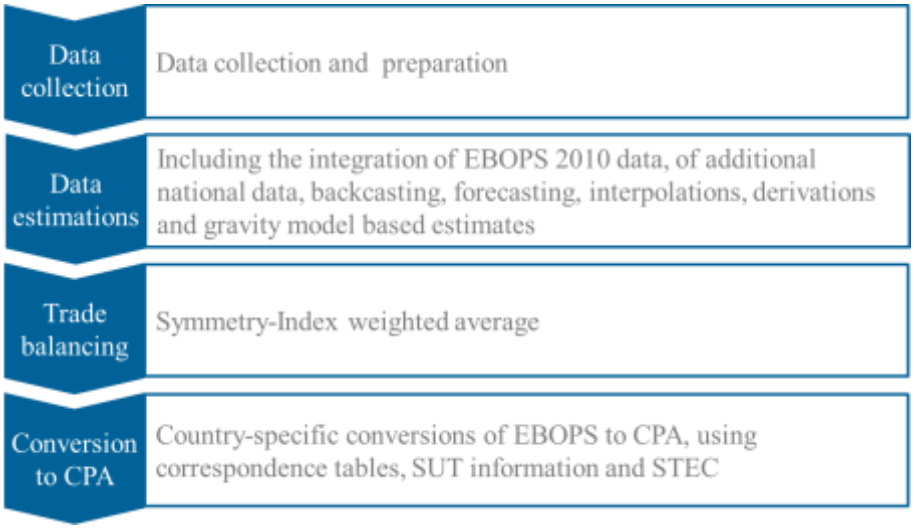
2. These challenges are particularly relevant for constructing OECD-WTO Trade in Value Added (TiVA) estimates. TiVA combines national Supply and Use (SUT) and Input-Output (IO) tables with international trade in goods *and services* statistics in order to provide new insights into how the value added in each country's industry, within a value chain, is embodied in international trade flows. Internationally coherent and detailed bilateral trade in services statistics, are therefore an essential component of the Inter-Country Input-Output Table that underpins TiVA.

3. There are many reasons why the availability and indeed quality of trade in services data are unsatisfactory, certainly when compared to merchandise trade statistics. Unlike goods which can be seen and physically measured and observed as they cross borders, services transactions can be delivered via a (growing) variety of modes, including electronically, and typically only the financial flows are observable. In practice therefore a variety of different data sources and estimation techniques are also necessarily used, and these can vary by country. Data confidentiality can also add another layer of complexity.

4. To mitigate these problems, OECD-WTO have been working for several years on the development of a transparent process and methodology to estimate coherent bilateral trade in services statistics that leverages all available official trade in services data. This paper presents the overall approach, progress-to–date, and future plans, including, in particular, plans to develop and foster international support and broader collaboration, capitalising in particular on the WPTGS bilateral trade asymmetry meetings and the WPTGS Informal Reflection Group on more detailed trade in services statistics.

5. The approach, set out below (Figure 1), consists of several consecutive stages, starting with the collection and 'cleaning' of national sources (Step 1) followed by a top-down approach to estimate missing estimates (Step 2), before balancing export and import statistics (Step 3). The final Step (4) converts these balances from EBOPs categories to CPA categories to facilitate integration into Supply Use Tables, using country specific conversion coefficients.

Figure 1. Schematic overview of the steps involved in creating balanced services trade statistics



6. The ultimate goal is to develop a dataset that forms the *international benchmark* for trade in services statistics that is constantly improved as new data become available. Importantly, such a common view on services will also facilitate the integration of regional TiVA initiatives (e.g. Eurostat's Figaro project, APEC-TiVA, and NAFTA), within TiVA, whilst also serving as a single and unique reference point for analytical purposes.

7. This paper provides a detailed description of Steps 1 and 2 described above. Step 3 follows the same balancing approach and principle (in particular the construction of a symmetry index) set out in Fortanier and Sarrazin (2016). Work continues in creating the country specific conversion coefficients used in Step 4 based on a combination of EBOPS-CPA conversion tables, recorded entries in published Supply and Use and Input Output tables, and Services Trade by Enterprise Characteristics statistics, and will be presented in a future version of this paper.

8. Currently the dataset covers the period 1995-2012 for all 11 main EBOPS (2002) categories with partner World. In addition, trade in services exports (S200) have been fully broken down by partner country. The net result of this work is a significant increase in the number of available data points in the bilateral matrices (from 709,155 to 5,267,895). Work will continue to expand coverage and quality in forthcoming updates, which will include presentations on an EBOPS2010 basis.

Delegates are asked to comment on the overall approach and the estimation methodologies developed, and to contribute any additional insights or data that can help improve future versions of the trade in services matrices.

2. Step 1: Data collection and assessment of data availability

2.1 Data collection and preparation

9. The data collection is undertaken jointly by OECD and WTO, with OECD responsible for OECD member countries and WTO responsible for non-OECD members. The main data sources include: OECD Trade in Services by Partner Country; Eurostat International Trade in Services statistics; UN Services Trade, and the IMF (for partner World only).

10. For a number of countries, additional data were incorporated from complementary national sources. For example, for Luxembourg and Belgium, the National Banks provided data for years prior to 2001 which were not included in Eurostat data. Similarly, partner details for Brazil were obtained via the Ministry of Development, Industry and Commerce. Finally, as a result of the efforts of countries involved in the WPTGS Informal Reflection Group 3 on *more detailed services trade*, additional data were made available by several participating countries. In all cases, the integration of these additional data required additional estimations by OECD-WTO, described in detail below.

11. The data are organized in two separate (but related) datasets. The first contains all data with partner World for Total Services and the eleven main services categories, as well as for services not elsewhere specified (S982) and the aggregate Other services (S981), as shown below (Table 1). The second includes all bilateral data by services categories, for all countries that report bilateral data (53).

Table 1. EBOPS 2002 categories classification: code names and hierarchy

Code	EBOPS Category Name
S200	Total services
S205	Transportation
S236	Travel
S981	Other services
S245	Communications services
S249	Construction
S253	Insurance services
S260	Financial services
S262	Computer and information services
S266	Royalties and licence fees
S268	Other business services
S287	Personal cultural rec services
S291	Government services n.i.e
S982	*Services not specified elsewhere*

Trade in services with partner world

12. The dataset on Trade in Services with partner world initially included data for 201 countries, aggregated to the World Total. However, Turkmenistan, Faroe Islands, Timor Leste, Federated States of Micronesia, Tuvalu, New Caledonia, French Polynesia, Eritrea, Somalia and North Korea were dropped from the database due to very limited data availability, leaving a total of 191 countries in the dataset.

13. The data were subsequently prepared for further analysis by ensuring consistency between Total services reported and the sum of the 11 main EBOPS categories, starting with the consistency of S205 (transportation), S236 (travel) and S981 (other services) with S200 (total services). For only 2000 out of

the 6682 reporter-year combinations for imports and exports where data was available, did the three main EBOPS categories add up exactly to total services. The majority of cases where differences *did* occur (98.1%) could be explained by rounding issues. In these cases, any differences between the sum of the categories and the total were distributed proportionally across the underlying three main EBOPS categories.

14. In around 500 cases, an entry was available in category S982 (services trade not specified). In around 80% of these cases, the values were again small (less than 1% of total services trade), and the differences were again distributed proportionally across EBOPS categories S205, S236 and S981. To ensure that category S981 (other services) remained consistent with its underlying subcomponents (S245, S249, S253, S260, S262, S266, S268, S287 and S291), the differences between S981 and the sum of its subcomponents were similarly allocated across the subcomponents. The remaining 98 cases (concerning 9 individual countries[1] where at least EBOPS categories S205, S236 and S981 are available) with important differences between the sum of EBOPS and total services (larger than 1% of total trade) require further investigations to consider how to allocate the unspecified amounts.

Bilateral trade in services data

15. For the bilateral dataset, there were around 100,000 reporter-partner-year combinations for imports and exports where values were available for at least S200, S205, S236 and S981. The components summed exactly to the total in over half of these. Of the remaining 43,551 cases, the majority (97.0%) again reflected rounding, which were adjusted and constrained as described above. S982 was reported in 1,375 instances but again in 95% of the cases the values were very small and adjusted proportionally. For those observations where large differences remain (around 1,400), further investigations are necessary.

2.2 Assessment of initial data availability

Total services trade broken down by main EBOPS categories, with partner world

16. Annex 1 gives an overview of the data availability for total services trade (S200), in the original BPM5 classification. It shows that for 109 out of 191 countries, total services export data are available for the full target period of 1995 until 2012 (108 for imports). For the remaining countries, the series are either available starting only in later years, or ending earlier, or both. It should be noted that in some instances, this reflects the fact that the countries themselves did not exist for the full period.

17. Annex 2 displays the availability of total services trade, with partner world, broken down by the eleven main EBOPS 2002 categories. A fully dark circle in the table indicates that all of the 12 categories, including total services, are available for the year under consideration; the larger the proportion of white in the circle, the greater the number of service categories missing. The changeover to BPM6 means that for many countries, data from 2009 onwards are not available in EBOPS 2002 standards.

Bilateral trade in services data for all main EBOPS categories

18. Whereas the dataset of services trade with partner World covers nearly all countries worldwide, significantly fewer countries report trade in services data broken down by partner country. The total OECD-WTO dataset with reporters specifying their trade with bilateral partners includes 53 individual country reporters, of which 47 are countries currently included in TiVA. The bilateral dataset includes (a maximum of) 244 partner countries and 31 regional groupings. Annex 3 gives an overview of the data availability, indicating the average number of partner countries per reporter, per year.

[1] Namely: Belgium, Finland, France, Israel, India, Italy, Madagascar, Slovakia and Zimbabwe.

19. Annex tables 4a and 4b present an overview of how much of total world services trade by EBOPS category can be bilaterally specified. For exports of each main EBOPS category, the table reveals the number of flows from, to, and within the following groupings: TiVA countries, ROW and 'unspecified'. They show that between 90%-95% of world services exports is accounted for by TiVA countries. The tables also show that in recent years around two-thirds of total world services trade (S200) can be attributed to a bilateral country pair, a significant improvement on earlier years; although for some of the more detailed service categories, the percentage is significantly lower, as shown below in Table 2 (which summarizes Annex 4).

Table 2. Percentage of World services exports that are bilaterally specified, by year and EBOPS category

	S200	S205	S236	S245	S249	S253	S260	S262	S266	S268	S287	S291	S981
1995	27	27	29	8	12	24	24	18	54	11	11	21	25
1996	32	35	31	13	24	34	29	21	58	21	13	22	33
1997	33	35	32	15	27	35	27	20	59	23	12	21	34
1998	34	36	33	14	34	29	28	20	57	24	11	21	35
1999	50	45	44	20	37	37	29	23	64	29	21	26	43
2000	54	53	47	24	44	36	34	26	68	32	30	27	48
2001	59	56	51	25	40	31	33	25	68	35	37	28	53
2002	64	63	58	21	34	50	25	21	67	33	32	27	65
2003	66	62	61	20	34	32	16	21	65	27	27	30	66
2004	68	64	63	39	54	47	31	48	72	44	47	36	67
2005	69	67	63	43	51	49	31	47	72	48	47	29	67
2006	68	67	63	43	49	49	49	52	78	46	46	28	65
2007	68	65	63	40	42	48	47	53	78	45	45	27	65
2008	70	66	62	39	39	49	47	52	79	46	40	25	64
2009	64	60	55	33	35	43	45	51	73	44	41	26	60
2010	63	60	55	36	35	42	44	46	72	42	41	28	60
2011	64	60	54	36	36	41	45	43	77	42	39	23	61
2012	61	55	52	36	34	40	45	47	69	38	39	24	60

3. Step 2: Estimating missing trade in services statistics

20. For all estimations of missing trade in services statistics, a 'top-down' approach is used, which starts with completing the highest levels of aggregation (total services, with partner world) before detailing the subcomponents. More specifically, the work is organized in four distinct sub-steps:

- Step 2.1 Develop a complete dataset of trade in services (S200) data with partner World;
- Step 2.2 Develop a complete dataset of all main EBOPS categories with partner World;
- Step 2.3 Develop a complete dataset of total trade in services by partner country;
- Step 2.4 Develop a complete dataset of all main EBOPS categories by partner country.

3.1 Step 2.1. Completing the S200 series with partner World for all countries

21. The large majority of countries available in the database publish total trade in services data (S200) for the entire period of interest (1995 – 2012) (see Annex 1). For the remaining countries, there are a variety of reasons that explain the lack of data. One important reason reflects the fact that many countries have already moved to BPM6, meaning that data have to be transformed back to BPM5 for developing the dataset presented here. Another reason is that several countries supply the underlying EBOPS components but not a value for total trade in services; although by and large these can be assumed to align with the underlying total, and indeed is the approach used to estimate totals when they are not available, as shown below.

Derivations

22. Total trade in services was derived as the sum of all EBOPS components when all main EBOPS categories were available but total trade was not reported. These calculations of S200 were assigned an estimation code "E1", applicable to 132 individual observations in total (covering 16 different reporters).

Incorporating BPM6 information

23. For data on S200 for 44 countries, BPM6 data were converted to BPM5 (mainly for the 1999-2012 period) following IMF guidelines, and were assigned an estimation (EST) code "E2" in the dataset. This applied to 379 observations in the S200 dataset.

Integrating more recent national data

24. An important part of the data is collected from other international organizations, such as Eurostat and the IMF. However, frequently more recent data are available from national sources. These data were incorporated by constraining to the growth rates implicit in the more recent data, benchmarked to the data available from international organisations. This method is only used for the three latest years of information (t-1, t-2, and t-3). The current dataset assigns an EST code of "E3" to these cases, and contains 14 observations for S200 with this code.

Correcting obvious errors in the data

25. Obvious transmission errors, such as typos or values reported in thousands rather than millions, were corrected. This happened for only 11 observations in the dataset for S200 values. These values were assigned an EST code of "E6".

Use of regional information for most recent years

26. In a few cases, data for the most recent period (2012) were not available, and the growth rate of S200 as reported by countries in the geographical region was used to estimate this value. These observations are coded as "E4".

Interpolation and backcasting

27. The net result of the adjustments above is that only a handful of missing observations remain. These are generally very small countries and insignificant services traders, and do not include any of the 61 TiVA countries. But good quality estimates are nevertheless required for the Rest of the World component of TiVA.

28. Simple linear interpolations were used for those observations where there was a gap in the series, and back-casting techniques for those series that started after 1995 (using the 3-year average growth rate, calculated from the first three years of available data). In three cases, each with special circumstances, (namely Iraq, Bermuda and Zimbabwe), the obtained estimates were not considered satisfactory, and were therefore replaced by estimates based on the growth rates of total trade of these countries (i.e. including goods). Table 3 below gives the data including interpolated and back-casted values (in grey). In total, 167 estimated values thus obtained. They were coded "E8".

Table 3. Total trade in services (s200): interpolated and backcasted values in the dataset (in grey)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	note
IMPORTS																			
Afghanistan	6	8	12	17	24	34	49	70	100	142	202	288	410	583	831	1248	1288	2239	
Bermuda	474	501	529	558	589	622	657	694	732	773	816	862	1105	1042	982	1010	962	981	
Bosnia & Herz.	270	270	270	270	285	263	269	305	384	432	436	467	579	692	657	533	540	470	
Brunei Dar.	479	556	832	847	818	768	1054	876	1034	1076	1110	1214	1317	1403	1434	1612	1825	1739	
Comoros	50	49	44	41	38	35	32	23	36	41	46	55	63	79	84	94	107	105	
FYR Macedonia	335	309	273	209	234	268	264	275	390	509	555	579	778	1003	835	853	974	993	
Georgia	200	224	250	345	224	295	310	365	397	485	631	727	933	1239	974	1085	1261	1443	
Guinea-Bissau	30	29	26	27	28	29	30	27	36	44	42	40	68	85	87	103	100	71	
Iraq	2062	2298	2562	2855	3181	3545	3951	4403	4907	5469	6095	5490	4866	7572	8563	9864	11124	13291	
Lebanese Rep.	339	470	653	905	1256	1743	2418	3354	6488	8230	7895	8734	9988	13464	14051	13137	12913	12266	
Liberia, Rep. of	164	195	232	276	328	390	464	552	656	780	855	1275	1249	1411	1145	1079	1243	941	
Qatar	1396	1447	1501	1556	1613	1640	1714	1796	2341	2906	4144	6957	7459	7222	5918	8780	16867	23906	
Serbia & Mon.	281	277	362	421	243	293	323	537	795	1192	1478	-	-	-	-	-	-	-	
Uganda	563	675	669	728	419	459	479	503	496	490	609	770	977	1257	1393	1803	2404	2451	
UNMIK/Kosovo	216	227	238	249	261	273	286	300	314	329	340	364	378	396	400	510	512	374	
Zambia	251	266	282	282	306	335	367	375	403	447	471	588	915	906	661	878	1104	1250	
Zimbabwe	848	955	928	737	736	842	723	604	563	621	636	541	560	550	614	864	1153	968	*1*
EXPORTS																			
Afghanistan	124	151	183	223	271	329	399	485	589	716	870	1057	1283	1559	1894	3140	3476	3056	
Bermuda	876	925	977	1031	1089	1149	1213	1281	1353	1428	1508	1592	1651	1580	1327	1400	1428	1402	*2*
Bosnia & Herz.	424	436	448	460	464	450	497	524	721	864	989	1140	1458	1672	1334	1201	1208	1135	
Brunei Dar.	722	602	477	282	316	198	482	427	436	544	616	745	813	867	915	1054	1209	1113	
Comoros	35	36	42	49	49	48	36	23	30	36	43	47	55	64	59	65	74	68	
FYR Macedonia	121	154	128	149	273	317	245	253	379	452	519	601	817	1017	858	902	1108	1052	
Georgia	106	145	198	365	217	360	370	408	459	555	715	885	1094	1260	1314	1599	2008	2544	
Guinea-Bissau	6	7	8	7	6	5	4	6	6	8	5	3	33	44	33	44	45	21	
Iraq	120	134	149	166	185	207	230	257	286	319	355	357	868	1496	2193	2834	2822	2833	*2*
Lebanese Rep.	368	525	749	1068	1525	2175	3104	4429	9462	9704	10858	11581	12755	17574	16889	15902	19601	22139	
Liberia, Rep. of	40	48	58	70	84	101	122	147	176	212	213	336	346	510	274	158	604	374	
Qatar	50	74	109	161	238	363	685	707	1138	1679	3221	4193	3592	3425	2002	3011	7394	9922	
Serbia & Mon.	647	688	818	914	471	624	740	829	1130	1678	1909	-	-	-	-	-	-	-	
Uganda	104	145	165	176	196	213	217	225	262	373	525	526	593	799	1027	1303	1774	2094	
UNMIK/Kosovo	90	104	119	136	156	178	204	234	268	306	330	400	459	515	668	700	886	815	
Zambia	109	111	112	102	107	115	144	115	165	232	273	229	273	300	241	311	375	467	
Zimbabwe	430	484	470	374	373	427	330	282	269	401	362	320	274	231	286	333	390	387	*1*

Notes:
1: used total trade (G+S) growth rate
2: used import growth rate

3.2 Step 2.2. Completing the dataset of main EBOPS categories with partner world

Derivations, BPM6 data, national sources and corrections

29. The second step in the completion of the matrices involves the estimation of services exports and imports by main EBOPS category, with partner world, for all 191 reporters in the database. Many of the reasons that explain why data are missing for S200, also apply for these series, such as the move to BPM6 data. As such the same approaches as described above were used. Simple derivations however often resulted in zeros (1254 out of 1657 observations). These were given a special code ("E7") as there may be a need to further investigate these later on (e.g. when countries report data aggregating multiple services categories in 'other business services'). Table 4 describes the number of observations with respective E1, E2, E3, E6 and E7 codes.

Table 4. Number of estimates, by estimation code

Estimation code	E1	E2	E3	E6	E7
# of estimations	393	4603	149	121	1254

Estimations using structural information over time: Transport (S205), Travel (S236) and Other services (S981)

30. In spite of the various basic estimations as explained above, a substantial number of empty cells remained. For many countries, complete information by EBOPS category *is* available for at least one or more (recent) years, but not for the entire period. These missing cells were estimated using back-casting, now-casting and interpolation techniques, starting, top-down, with the three main categories of S200 - transport, travel, and other services.

31. The backcasting and nowcasting procedures use a 3-year moving average percentage share of each of the main EBOPS categories in total trade. An example is provided in Table 5 below, which shows data for each of the three EBOPS categories from 1999 onwards, but missing in the earlier years. By calculating (in the right-hand side of the table) the 3-year backward moving average share of each of these categories in total trade, (rescaling to ensure the sum for each year is 100%), missing values can be estimated (in grey in the left-hand side of the table). Table 6 shows a similar example for interpolated and nowcast estimates.

32. For the three main EBOPS categories Transport, Travel, and Other business services, a total of 1251 values were estimated in this way, of which 729 were backcast values, 388 nowcast values, and 61 interpolated values. All were coded E8. These estimations completed the data for these three services categories for all years and all countries in the dataset, with the exception of three countries (Cuba, Uzbekistan and former Serbia and Montenegro) for which no EBOPS information was available at all at any point in time.

Table 5. An example of backcasting S205, S236 and S981: estimated values in grey

	Original values, with estimates in grey				Three-year backward moving average share in S200 (to be re-scaled to 100%)		
	S200	**S205**	**S236**	**S981**	**S205**	**S236**	**S981**
1995	6,054	3,192	2,165	697	52.7%	35.8%	11.5%
1996	7,130	3,754	2,552	824	52.7%	35.8%	11.6%
1997	7,846	4,131	2,804	911	52.7%	35.7%	11.6%
1998	7,872	4,168	2,783	922	52.9%	35.3%	11.7%
1999	8,003	4,180	2,943	879	52.2%	36.8%	11.0%
2000	8,574	4,557	3,017	1,000	53.2%	35.2%	11.7%
2001	9,235	4,828	3,319	1,088	52.3%	35.9%	11.8%
2002	10,311	5,429	3,651	1,230	52.7%	35.4%	11.9%
2003	11,843	6,442	3,956	1,444	54.4%	33.4%	12.2%
2004	15,082	8,743	4,472	1,867	58.0%	29.7%	12.4%
2005	19,367	11,012	6,186	2,170	56.9%	31.9%	11.2%
2006	24,880	13,494	8,827	2,559	54.2%	35.5%	10.3%
2007	34,026	19,097	11,273	3,656	56.1%	33.1%	10.7%
2008	43,427	25,479	13,288	4,660	58.7%	30.6%	10.7%
2009	37,433	23,002	10,347	4,083	61.5%	27.6%	10.9%
2010	42,100	25,780	11,818	4,502	61.2%	28.1%	10.7%
2011	56,518	36,747	13,206	6,565	65.0%	23.4%	11.6%
2012	63,148	40,726	15,072	7,350	64.5%	23.9%	11.6%
2013	70,992	45,155	17,699	8,138	63.6%	24.9%	11.5%

Table 6. An example of nowcasting and interpolation S205, S236 and S981: estimated values in grey

	Original values, with estimates in grey				Three year forward moving average share in S200 (to be re-scaled to 100%)		
	S200	**S205**	**S236**	**S981**	**S205**	**S236**	**S981**
1995	49.85	23.61	6.58	19.65	47.4%	13.2%	39.4%
1996	49.06	22.52	5.03	21.50	45.9%	10.3%	43.8%
1997	44.34	19.67	4.63	20.04	44.4%	10.4%	45.2%
1998	41.19	16.85	5.25	19.08	40.9%	12.7%	46.3%
1999	38.08	15.97	4.61	17.50	41.9%	12.1%	45.9%
2000	34.97	15.03	4.01	15.93	43.0%	11.5%	45.6%
2001	31.68	16.17	2.91	12.60	51.0%	9.2%	39.8%
2002	23.47	17.96	3.68	1.83	76.5%	15.7%	7.8%
2003	36.33	22.11	7.89	6.33	60.8%	21.7%	17.4%
2004	41.34	25.09	9.39	6.85	60.7%	22.7%	16.6%
2005	45.81	28.00	9.58	8.23	61.1%	20.9%	18.0%
2006	54.92	34.14	11.01	9.77	62.2%	20.1%	17.8%
2007	63.46	38.96	15.15	9.35	61.4%	23.9%	14.7%
2008	79.43	49.39	15.26	14.78	62.2%	19.2%	18.6%
2009	84.03	52.18	17.13	14.72	62.1%	20.4%	17.5%
2010	93.98	57.46	19.10	17.42	61.1%	20.3%	18.5%
2011	106.68	67.19	20.22	19.27	63.0%	19.0%	18.1%
2012	105.01	65.03	21.07	18.90	61.9%	20.1%	18.0%

Estimations using structural information over time: EBOPS items belonging to S981

33. Subsequent to creating a full dataset for the three main services categories, the same process for the nine remaining EBOPS categories - S245, S249, S253, S260, S262, S266, S268, S287 and S291 - the subcomponents of category S981 Other Services. Data availability for these services categories is significantly lower than the main categories. The data also demonstrate inconsistencies in definitions: many countries aggregate several services categories into 'other services' or in 'other business services' (without always clearly specifying which categories are included). Hence backcasting, nowcasting and interpolation techniques described in the previous subsection were used only in those cases when all nine services categories were reported in at least one year, resulting in 1696 additional estimated data points.

Estimations using structural information over time: breaking down 'other services' and 'other business services'

34. As mentioned above, many countries, especially in earlier years, aggregate at least some of their services categories into 'other business services' or even just only report 'other business services'. Table 7 provides a very clear example of such a situation for India, showing how before 2000, the category 'other business services' (S268) is more than twice as high as compared to the later data, incorporating a variety of other services that are not further specified. In addition, in 2000, the sum of S268 and the values of the categories that are missing in earlier years is virtually identical to the total value of S268 in 1999. In these cases 'other business services' are split and distributed proportionally (using shares from the closest year where splits were available) across the missing categories (including 'Other business services'), to complete the data. This added an additional 5358 observations to the dataset, coded 'E11'.

Table 7. Example of aggregated reporting of 'other business services' (excerpt of imports of India)

	S200	S205	S236	S245	S249	S253	S260	S262	S266	S268	S287	S291	S981
Original data, with aggregated reporting of 'other business services' in 1995-1999													
1995	6,775	1,890	2,582			170			1	2,120		11	2,303
1996	7,238	1,989	2,831			210			7	2,142		59	2,419
1997	9,111	1,942	2,890			229			12	3,852		185	4,279
1998	11,691	1,773	2,949			230			19	6,096		624	6,970
1999	14,509	1,844	3,010			238			23	8,892		503	9,656
2000	16,68	1,979	3,460	599	502	257	276	4,048	83	4,811	18	654	11,247
2001	17,33	2,05	3,198	110	65	282	306	5,941	37	3,790	19	538	12,089
2002	19,47	2,473	3,102	779	231	332	598	6,582	20	4,984	23	353	13,903
2003	23,902	3,022	4,463	969	276	408	367	8,562	24	5,516	27	269	16,417
2004	38,281	4,373	6,170	1,,094	516	842	341	12,133	53	12,364	46	350	27,738
…	…	…	…	…	…	…	…	…	…	…	…	…	…
Estimated data, where other business services are redistributed across the missing services categories													
1995	6,775	1,890	2,582	124	104	170	57	837	1	995	4	11	2,303
1996	7,238	1,989	2,831	125	105	210	58	846	7	1,005	4	59	2,419
1997	9,111	1,942	2,890	225	189	229	104	1,521	12	1,807	7	185	4,279
1998	11,691	1,773	2,949	356	298	230	164	2,407	19	2,860	11	624	6,970
1999	14,509	1,844	3,010	519	435	238	239	3,510	23	4,172	16	503	9,656
2000	16,68	1,979	3,460	599	502	257	276	4,048	83	4,811	18	654	11,247
2001	17,33	2,05	3,198	110	65	282	306	5,941	37	3,790	19	538	12,089
2002	19,47	2,473	3,102	779	231	332	598	6,582	20	4,984	23	353	13,903
2003	23,902	3,022	4,463	969	276	408	367	8,562	24	5,516	27	269	16,417
2004	38,281	4,373	6,170	1,,094	516	842	341	12,133	53	12,364	46	350	27,738
…	…	…	…	…	…	…	…	…	…	…	…	…	…

Use of mirror data

35. When data for multiple EBOPS categories across all time periods are missing, none of the estimation techniques identified above can be used. In these instances, the EBOPS structure of mirror partner data is used. The mirror data by EBOPS category of between 10 to 20 large trading partners are added up (selecting only those trading partners that provide (near) complete EBOPS breakdowns for trade with a particular country), and the shares of the different EBOPS categories are calculated. For the largest countries for which this technique is applied (including e.g. Switzerland, to break out S249, S262 from S268), these calculations were made annually, after which the estimates were smoothed using a 3-year moving average. For smaller countries, where year-on-year variations in the mirror data can be substantial, the EBOPS structure was determined by pooling the partner information over time. Estimates have already been made for 4 countries using this approach (Switzerland, Australia, Saudi Arabia and the United Arab Emirates), and the dataset will be fully completed using this method.

3.3 Steps 2.3 and 2.4: Estimating partner country breakdowns – if **some** *partner data are reported*

36. In those instances where countries publish at least a limited amount of partner country data, estimates can be made for *bilateral* trade relations following the methods and techniques used for the trade statistics with partner world, although additional techniques are used to leverage the information available in the bilateral files to a maximum. Importantly, for several countries, additional national data have been incorporated that have either been published by non-official sources (e.g. a Ministry of Economy), or that reflects unpublished information made available by national authorities to the OECD and WTO to facilitate the services estimations. Importantly, these data were integrated before generating any additional estimates.

Integrating additional national data sources

37. Several countries publish additional data, or have made available unpublished information to the OECD and WTO for the specific purpose of this study. Although not always matching perfectly with reported official totals, these data were used to help a total of 54,323 observations, assigned the EST code "E10". More specifically, data from the following countries has already been incorporated[2]:

- Brazil: Preliminary partner information was made available by the ministry of Development, Industry and Commerce. This information was used to build shares, which were then applied to the reported IMF totals.

- Germany: Additional information has been provided to help derive estimates for the partners missing from S236 (travel services) and S200 (total services) in the Eurostat dataset. The data were smoothed using five-year moving averages. The percentage shares of the missing partner countries in the total geographically unspecified trade for Travel were used to complete these series. Total trade was subsequently derived by adding the Travel estimates to the other reported EBOPS categories.

- Italy: Additional bilateral information for all trade in services categories was made available for the years 1997 and 1998, which were missing from the Eurostat data. These data were used to build partner shares, which were then applied to the reported Eurostat totals.

BPM6 information and simple derivations

38. Similarly as for the world dataset, data reported in EBOPS 2010 were converted back to EBOPS 2002 according to the IMF guidelines and coded "E2", and simple derivations were included as coded "E1" (values) or "E7" (zeros). Given the additional geographical dimension of the bilateral dataset, derivations were also made leveraging this information. For example, if total trade with a given partner was reported as zero, then trade for all underlying EBOPS categories was estimated as zero too. In addition regional partner country groupings were also used to derive individual partner country values. For example, if trade with the entire region (e.g. Maghreb) is reported as zero, trade with all partner countries in that region is estimated as zero (flagged as "E7"). Equally, when the sum of trade with all reported partners in the region is equal to the regional total, exports to all other countries in the region are estimated as zero (also flagged "E7") and if only a single country in a region was not reported, the difference between the sum of the reported partners and the regional total was attributed to the remaining partner (flagged "E1").

[2] Note that data from several other countries has already been received in recent weeks, or is forthcoming, but not all information has yet been incorporated.

Backcasting, nowcasting and interpolation.

39. All observations without a complete time series, for which at least the first two available years of data are valued "0", were also backcast '0' in previous periods (coded "M1_2"). Similarly, zero values were also estimated using interpolations for all those observations for which the value preceding and following the missing data points are less than 0.5 (coded "M1_1").

40. Backcasting, nowcasting and interpolating non-zero values is however more complex, especially for the total trade in services (S200) by partner. The methods described above cannot be simply applied since even in those years where most country detail is available, many partners are often missing. To address this issue, for the years in which the largest number of partners was available, an auxiliary "unallocated" partner was created before using the techniques described above to calculate partner shares of those partners were data was reported in at least one year, and for the "unallocated" partner. These shares were then backcast (and nowcast and interpolated) using a 3-year moving average, rescaled to ensure that they sum to 100%, and finally applied to the reported total trade in services values.

41. The same approach was then applied to the individual EBOPS categories following the same procedures outlined in section 3.2.

3.4 Steps 2.3 and 2.4: Estimating partner country breakdowns: if no official data are available

42. The majority of countries worldwide do not, at present, publish any partner details for their trade in services statistics, which means that the approaches described in section 3.3 cannot be applied. In these cases, estimates are necessarily derived using an econometric gravity model. Gravity models have been used in applied international trade studies for decades, and in general perform very well in explaining bilateral trade flows. Generally, they work on the principle that a number of factors determine the size of trade between two partners, including: the importer's total demand (e.g. related to its economic size (GDP)); the exporter's total supply (again, GDP); and factors that represent the "ease" (or difficulty) with which the exporter can access the importer's market (e.g. distance, sharing a common language).

Model specification and estimation

43. To derive the model that would provide the best possible estimates of bilateral trade in services data, several different empirical specifications were developed and tested. All models followed the following generic form:

$$X_{ijt} = \exp(\beta_0 + \beta_1 GDP_{it} + \beta_2 GDP_{jt} + \beta_3\ distance\ variables_{ij} + \beta_4\ other\ regressors_{ijt} + \varepsilon_{ijt})$$

44. where X_{ijt} reflects the exports of S200 from country i to country j in year t; GDP_{it} and GDP_{jt} reflect the nominal GDP of the reporting (exporting) country i and partner (importing) country j (sourced from the World Bank World Development Indicators), and the distance variables include the geographical distance and dummies for contiguity (i.e. share a common border), common language and the presence of a colonial relationship, all sourced from the CEPII GeoDist dataset.

45. Two additional independent variables were included, with the objective of improving the predictive power of the model. First, bilateral merchandise exports (from UN Comtrade), given that bilateral relationships for trade in goods and services are generally highly correlated (especially for certain services such as transport). The second variable is the number of bilateral tourist arrivals (from UNWTO), which given the importance of travel in total trade services (~25% at world level) is also expected to be a good predictor.

46. The models were fitted on the dataset of available bilateral trade in services statistics resulting from the estimations in steps 2.3 and 2.4[3] above. Following the existing empirical literature, the models were estimated using the Poisson Pseudo-Maximum Likelihood estimator (PPML). PPML is superior to a log-linearized Ordinary Least Squares model (OLS), as it avoids biases in the parameter estimates in the presence of heteroscedasticity; and does not require a Poisson distribution and allows for the presence of zero trade flows (See e.g. Santos Silva and Tenreyro, 2006).

47. Table 8 summarizes the results. Model 1 includes the basic specification and includes year, reporter and partner fixed effects to capture any omitted variable correlated with the characteristics of the time period, reporter and partner. However, since the model will be used for out-of-sample predictions (for reporters, partners and years not currently covered), it is important to find an alternative that performs well *without* such fixed effects.

Table 8. Results of the gravity estimations (exports of total services)

	(1)	(2)	(3)	(4)	(5)
Constant	-4.070***	-4.330***	-3.759***	-6.597***	-0.146
	(0.255)	(0.228)	(0.196)	(0.189)	(0.202)
GDP of reporter	0.276***	0.295***	0.335***	0.227***	0.023***
	(0.014)	(0.012)	(0.004)	(0.004)	(0.005)
GDP of partner	0.224***	0.241***	0.301***	0.222***	-0.023
	(0.012)	(0.012)	(0.015)	(0.014)	(0.016)
Distance	-0.251***	-0.254***	-0.275***	-0.217***	-0.029***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Contiguity	0.099***	0.101***	-0.076***	-0.055***	0.162***
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
Common language	0.192***	0.193***	0.456***	0.348***	0.014
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Colony	0.184***	0.185***	0.327***	0.312***	0.093***
	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)
Merchandise trade	0.525***	0.522***	0.452***	0.483***	0.140***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Arrivals	0.150***	0.142***	0.039***	0.130***	0.008**
	(0.012)	(0.012)	(0.003)	(0.003)	(0.004)
GDP/Capita of reporter				0.348***	0.069***
				(0.004)	(0.005)
t		0.014***	0.011***	0.004***	0.016***
		(0.001)	(0.001)	(0.001)	(0.001)
Mirror data (S200)					0.724***
					(0.005)
Year FE	Y	N	N	N	N
Reporter FE	Y	Y	N	N	N
Partner FE	Y	Y	Y	Y	Y
Observations	96,501	96,501	96,501	96,501	24,584
Pseudo R2	0.949	0.948	0.915	0.923	0.956

48. In Model 2, the year fixed effects were replaced with a linear time trend, with virtually no effect on the parameter estimates for the remaining regressors. In Model 3 the reporter fixed effects were removed, which only marginally reduced the explanatory power of the model (as seen in the small decline

[3] The equations were estimated also on a dataset containing reported data only; there was no substantial difference in the results.

in pseudo r-square), but did change some of the estimated coefficients, suggesting a possible missing variable bias. For instance, the language and colony betas are much higher than those in Model 1.

49. Model 4 therefore introduced the reporter's GDP per capita as a proxy for (some) of the unobservable characteristics of the reporter. As expected, the parameter for this variable is statistically significant. The results on the remaining parameters are also encouraging: the betas for the GDPs, distance, merchandise exports and tourist arrivals are very similar to the ones estimated in Model 2, although some changes remain in the coefficients for contiguity (which even changes signs) and common language.

50. As a final test, the last model in Table 8 contains information on mirror flows (i.e., the total services imports of *j* from *i*). The coefficient associated with this variable is – as expected - very large and highly significant, reducing some of the explanatory power of the other variables. However, given the limited availability of mirror data, this model would again have only limited predictive use (as already indicated by the substantially lower number of usable observations).

Robustness checks: within-sample predictions

51. The practical predictive use of model 4 seems to be superior to the other models presented in Table 8. To further examine which model has the best predictive power, all models were estimated on a subsample of the original dataset, after which the predicted values for the remaining observations were calculated and compared with the real observed values. A total of 5000 randomly selected country pairs (corresponding to approximately 60% of the observations) were used to estimate the parameters, and the predicted values were compared to the reported values for the remaining 40%.

52. The results[4] are summarised in Table 9, which shows the correlations between the predictions and the real data for all models. As one might expect, the model including mirror exports (model 5) shows the highest accuracy. However, model 4, which uses the reporter GDP per capita as a proxy for the reporter FE, is as accurate as model 1, which confirms the choice for this specification for further prediction.

Table 9. Correlations between the predicted and the observed values, PPML models

Model	Characteristics	Correlation
Model 1	Reporter FE, partner FE, year FE)	0.841
Model 2	Reporter FE, partner FE, t)	0.841
Model 3	Partner FE, t	0.824
Model 4	Reporter GDP/Cap, partner FE, t	0.850
Model 5	Reporter GDP/Cap, partner FE, t, mirror exports)	0.899

Out of sample predictions

53. Based on the results reported in Tables 8 and 9, the coefficients estimated by Model 4 were used to predict the non-reported S200 exports flows for *all* possible reporter, partner and year combinations. Given that for some of the independent variables (such as GDP or bilateral merchandise exports) data were not available (mostly involving very small countries), the predictions resulted in an additional ~180,000 data points. To integrate the estimations into the overall Trade in Services dataset, the predicted values were first transformed into shares (of total predicted trade), which were then rescaled to the officially reported values with partner World in order to ensure the consistency of the matrix.

[4] The coefficients estimated on the reduced models were very close to the ones in table 12

54. Examining, in particular, the findings for larger services trading economies, the results of the predictions looked reasonable from an economic point of view: economies trade more with their neighbours, and big players like US and United Kingdom appear as top partners for virtually all estimated reporters. Table 10 shows some of the results, displaying the estimated top 15 partners for four reporters where bilateral trade data are currently missing (Switzerland, Mexico, Egypt, Philippines).

Table 10. Top 15 export partners estimated by Model 4 (percentage share), for selected reporters, 2010-2012

Switzerland				Mexico				Egypt				Philippines			
	2010	2011	2012		2010	2011	2012		2010	2011	2012		2010	2011	2012
Germany	18	18	16	US	64	63	62	US	13	13	14	US	24	24	23
UK	9	8	12	Canada	3	3	3	UK	12	12	11	Japan	12	13	13
US	10	10	9	UK	2	3	3	Saudi Arabia	5	5	5	Hong Kong	9	8	9
France	9	9	9	Germany	3	3	3	Japan	2	3	5	Singapore	9	8	8
Italy	7	7	6	Spain	2	2	2	Italy	5	5	5	China	6	7	7
Japan	4	4	3	Japan	2	2	2	Germany	4	5	4	UK	3	3	4
Belgium	3	3	3	China	2	2	2	France	4	4	4	Germany	5	4	4
Netherlands	3	3	3	Brazil	2	2	2	India	3	4	4	Korea, Rep. of	3	3	4
Hong Kong	2	2	3	Netherlands	1	1	1	Switzerland	3	3	3	Chinese Taipei	3	3	3
Austria	3	3	3	Switzerland	1	1	1	China	2	2	3	Netherlands	3	2	2
China	2	3	2	France	1	1	1	UAE	2	2	2	Australia	2	2	2
India	1	1	2	Colombia	1	1	1	Turkey	2	2	2	Thailand	2	2	2
Singapore	1	1	2	Venezuela	1	1	1	Netherlands	3	3	2	Switzerland	1	1	2
Canada	2	2	2	Australia	1	1	1	Spain	3	2	2	Canada	1	1	2
Spain	2	2	1	Argentina	1	1	1	Belgium	1	2	1	France	1	1	1

4. Results

55. The first output of the process above has resulted in an almost complete[5] series of export and import of trade in services by EBOPS category for 191 countries (partner world), from 1995 to 2012, with around one third of the data points reflecting estimated values. With respect to the partner-level information, the total number of estimates added to the bilateral file, is 4,5 million, with a combined value of nearly 43 trillion USD (see Table 11), a substantial increase on the 700.000 original data points.

56. Table 12 provides an augmented version of Table 2, showing the percentage of bilateral trade that is geographically specified *after* the addition of all the estimations described before. In parentheses the increase as compared to the original value is listed to facilitate the comparison. The table illustrates that the improvement in data coverage varies by year and by service category. In particular, 100% of *total services exports* are now bilaterally specified. While this is not yet the case for the subcomponents the increased share of geographically specified data is substantial, especially in earlier years.

[5] 97% of all trade between 1995-2012 is specified by EBOPS category. Series for 132 (121) countries are completed for imports (exports).

Table 11: summary of estimates in the dataset at partner level, for imports and exports, for all years and all main EBOPS categories[6]

	All		S200		Other EBOPS[7]	
Code	**Count**	**Value**	**Count**	**Value**	**Count**	**Value**
Reported EBOPS 2002 data (no estimations)	709,155	109,207,176	132,914	46,962,259	576,241	62,244,917
E1 – Derivations	18,021	5,084,525	5,141	4,910,588	12,880	173,937
E10 – Estimates from add. national sources	54,323	6,401,570	8,678	3,291,882	45,645	3,109,687
E2 – BPM6 conversions	25,754	10,245,650	8,318	5,924,427	17,436	4,321,222
E7 – Derived to be 0	1,504,936	0	1,410	0	1,503,526	0
M1_1 – Zero interpolations	314,540	0	2,461	0	312,079	0
M1_2 – Zero back	1,840,885	0	26,057	0	1,814,828	0
M2_1 – Non-zero interpolations	13,482	420,398	4,916	410,285	8,566	10,112
M2_2 – Non-zero back/nowcasting	604,980	13,243,468	113,203	9,635,589	491,777	3,607,879
M4 – Gravity estimation (S200 exports)	181,819	7,569,981	181,819	7,569,981	0	0
Total estimates	4,558,740	42,965,590	352,003	31,742,753	4,206,737	11,222,838
Grand Total	5,267,895	152,172,766	484,917	78,705,012	4,782,978	73,467,754

Table 12. Percentage of World services exports that are bilaterally specified, by year and EBOPS category after the inclusion of estimates (increase compared to raw data)

	S200	S205	S236	S245	S249	S253	S260	S262	S266	S268	S287	S291	S981
1995	100 (73)	55 (28)	57 (28)	49 (41)	37 (25)	43 (18)	50 (26)	75 (57)	79 (25)	46 (35)	28 (18)	39 (18)	29 (4)
1996	100 (68)	57 (23)	58 (27)	48 (35)	38 (15)	52 (18)	48 (18)	60 (39)	70 (12)	45 (24)	33 (20)	36 (15)	37 (4)
1997	100 (67)	57 (22)	58 (26)	49 (34)	41 (15)	55 (20)	45 (18)	50 (30)	71 (12)	46 (23)	30 (18)	35 (14)	38 (3)
1998	100 (66)	61 (25)	61 (28)	46 (32)	50 (17)	49 (20)	46 (18)	48 (28)	69 (12)	48 (24)	28 (16)	37 (16)	37 (2)
1999	100 (50)	65 (20)	66 (22)	53 (33)	51 (13)	56 (19)	43 (14)	43 (20)	73 (9)	50 (21)	45 (24)	48 (22)	37 (0)
2000	100 (46)	71 (19)	69 (22)	53 (30)	60 (16)	55 (20)	47 (13)	42 (16)	76 (8)	52 (20)	50 (20)	48 (21)	44 (0)
2001	100 (41)	71 (15)	69 (18)	52 (27)	56 (16)	50 (19)	47 (13)	38 (13)	76 (8)	53 (18)	58 (21)	50 (21)	40 (0)
2002	100 (36)	72 (9)	71 (13)	54 (33)	50 (16)	62 (12)	39 (14)	37 (15)	75 (8)	54 (21)	51 (19)	50 (23)	34 (0)
2003	100 (34)	71 (9)	74 (13)	52 (32)	52 (18)	44 (12)	31 (15)	37 (16)	74 (9)	49 (22)	48 (21)	55 (25)	34 (0)
2004	100 (32)	71 (7)	74 (11)	52 (12)	61 (7)	51 (4)	32 (1)	50 (2)	73 (1)	48 (4)	49 (3)	53 (17)	54 (0)
2005	100 (31)	75 (7)	75 (12)	55 (13)	57 (6)	55 (6)	32 (1)	49 (2)	73 (1)	51 (3)	49 (3)	49 (20)	51 (0)
2006	100 (32)	75 (8)	75 (12)	57 (14)	54 (5)	54 (5)	50 (1)	54 (2)	79 (1)	49 (3)	49 (3)	47 (18)	49 (0)
2007	100 (32)	73 (7)	75 (12)	56 (15)	47 (5)	53 (5)	48 (1)	55 (2)	78 (1)	48 (3)	49 (3)	45 (18)	62 (0)
2008	100 (30)	73 (8)	74 (13)	56 (17)	44 (5)	54 (5)	48 (1)	69 (18)	79 (1)	53 (7)	44 (4)	48 (23)	65 (1)
2009	100 (36)	75 (15)	74 (18)	54 (21)	40 (5)	48 (6)	51 (6)	69 (18)	74 (1)	54 (11)	48 (7)	47 (22)	64 (4)
2010	100 (37)	76 (16)	75 (20)	60 (24)	43 (8)	69 (27)	68 (23)	72 (26)	78 (6)	61 (19)	58 (17)	53 (25)	65 (6)
2011	100 (36)	76 (17)	74 (20)	59 (23)	44 (8)	67 (26)	68 (23)	70 (27)	83 (6)	62 (19)	57 (18)	48 (26)	67 (6)
2012	100 (39)	72 (17)	74 (21)	59 (23)	42 (7)	65 (25)	69 (23)	73 (26)	74 (5)	57 (20)	58 (19)	48 (25)	67 (7)

6 Includes S200 and its eleven sub-items, as well as S981.

7 Includes the 11 EBOPS categories plus S981.

5. Next steps

57. Building a global matrix of international services trade by EBOPS category from existing official data sources, in a transparent manner, is a substantive project. Yet as demonstrated above, significant progress is being and has been made.

58. Further work of course remains to be done, notably with respect to Steps 3 and 4, set out in Section 2, that resolve asymmetries and convert EBOPS categories to CPA equivalents (providing the important link to TiVA). Regarding the former the intention is to use the same simple and transparent approach developed for resolving asymmetries in merchandise trade statistics. At this early stage of the work however, the results of the balancing exercise will be used as part of a feedback loop to review the efficacy, and refine as necessary, the approaches used to estimate missing cells in Step 2.

59. The catalyst for the development of this dataset, and methodology, is of course driven by need (in the absence of such a dataset), particularly for developing trade in services policies and also for creating TiVA, But it is also hoped that the dataset itself will in itself create a virtuous circle that helps countries in compiling trade in services data, for example though the identification of important trade in services partners, that in turn will help to improve the quality of the global dataset.

60. As such it is difficult to overstress the importance that the initiative is seen as a collaborative international effort to develop a common view of internationally coherent trade in services statistics – in other words a public good and an international benchmark. The work of the WPTGS bilateral asymmetry meetings, and the WPTGS Informal Reflection Group on more detailed services trade will certainly form an important component of this coordinated effort and in the coming years, the results from the balanced view of trade in services will also be incorporated into the country asymmetry notes produced by OECD Secretariat and that are used to assist bilateral discussions.

61. To reinforce the development of this public good and collective ownership, countries are encouraged to provide feedback on the methods applied so far, and any suggestions regarding possible improvements.

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ANNEX 1. AVAILABLE YEARS FOR TOTAL TRADE IN SERVICE (EXPORT AND IMPORTS, S200)

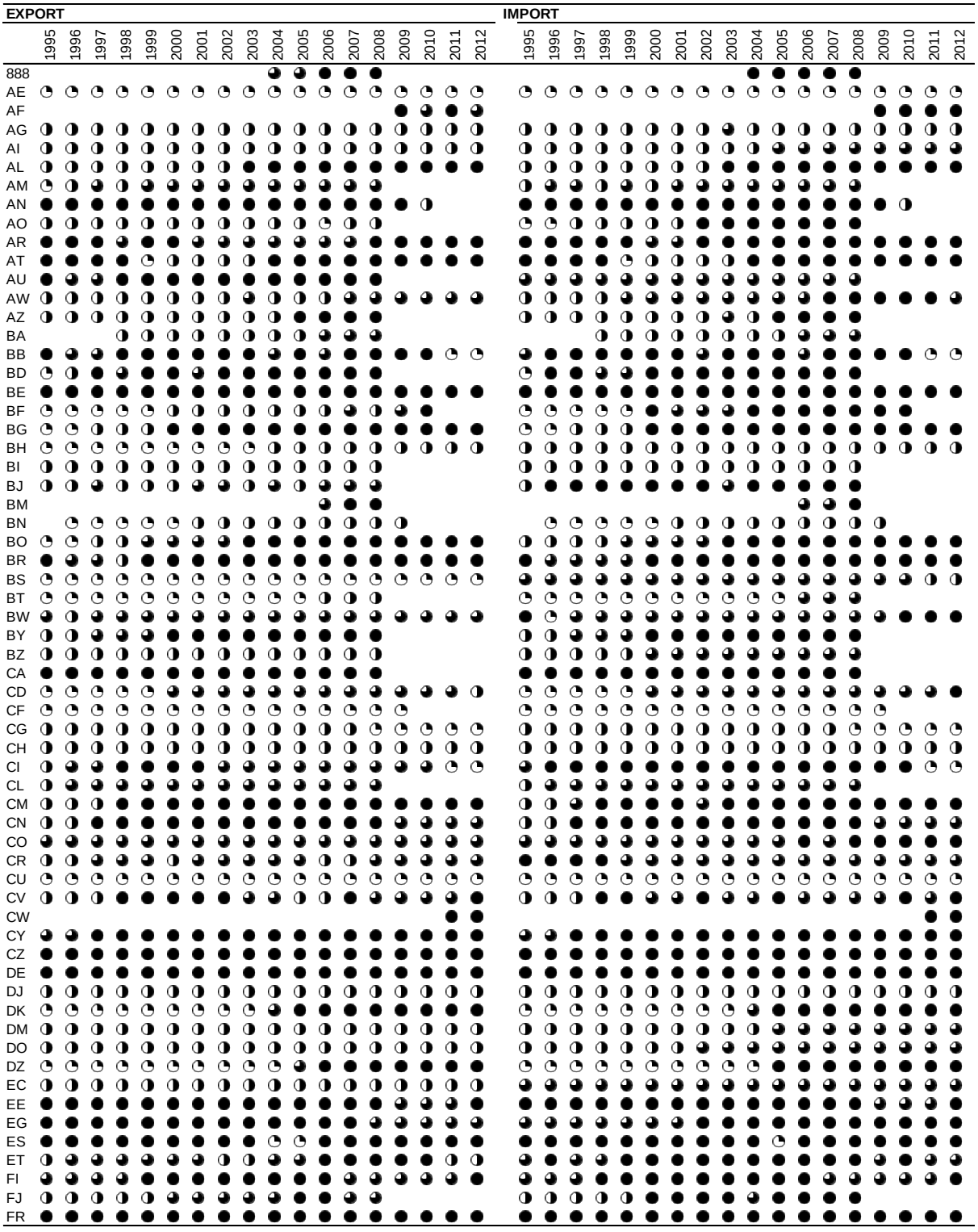
Imports		Exports	
1995-2012	AE, AG, AI, AL, AR, AW, BE, BG, BH, BO, BR, BS, BW, CD, CG, CH, CM, CO, CR, CU, CV, CY, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, ET, FI, FR, GA, GB, GD, GH, GM, GN, GQ, GR, GY, HN, HT, HU, ID, IE, IL, IR, IS, IT, JO, JP, KE, KG, KH, KN, LC, LS, LT, LU, LV, LY, MA, MD, MN, MR, MS, MT, MU, MV, MX, MZ, NG, NL, NP, OM, PA, PAL, PE, PG, PL, PT, PY, RO, RW, SD, SE, SI, SK, SL, SR, ST, SZ, TN, TO, TR, TW, TZ, US, UY, VC, VE, VN and ZA, AT*, HR*, LA*, NO*,KM*	1995-2012	AE, AG, AI, AL, AR, AW, BE, BG, BH, BO, BR, BS, BW, CD, CG, CH, CM, CO, CR, CU, CV, CY, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, ET, FI, FR, GA, GB, GD, GH, GM, GN, GQ, GR, GY, HN, HR, HT, HU, ID, IE, IL, IR, IS, IT, JO, JP, KE, KH, KN, LA, LC, LS, LT, LU, LV, LY, MA, MD, MN, MR, MS, MU, MV, MX, MZ, NG, NL, NO, NP, OM, PA, PAL, PE, PG, PL, PT, PY, RO, RW, SD, SE, SI, SK, SL, SR, ST, SZ, TN, TO, TR, TW, TZ, US, UY, VC, VE, VN and ZA, AT*, MT*,KM*
1995-1997	NZ	1995-1997	NZ
1995-2002	ER	1995-2002	ER
1995-2008	AM, AO, AU, AZ, BD, BI, BJ, BT, BY, BZ, CA, CL, CN, FJ, GT, HK, IN, JM, KW, LK,ML, MO, MW, MY, NI, PH, PK SA, SB, SC, SG, SN, SV, TH, UG*, VU, WS	1995-2008	AM, AO*, AU, AZ, BD, BI, BJ, BT, BY, BZ, CA, CL, CN, FJ, GT,HK,IN, JM, KW, LK,ML, MO,MW, MY,NI, PH, PK, SA,SB, SC,SG, SN,SV, TH,UG, VU, WS
1995-2009	CF, KI, TD	1995-2009	CF,KI, TD
1995-2010	AN**, BB, CI, GW*, NE, SY, TG, TT	1995-2010	AN**, BB, CI, GW*, NE, SY, TG, TT
1995-2011	KR, MG, MM, NA, UZ, YE	1995-2011	KR, MG, MM, NA, UZ, YE*
1996-2005	YU**	1996-2005	YU**
1996-2009	BN	1996-2009	BN
1996-2012	MK	1996-2012	MK
1997-2008	GE	1997-2008	GE
1997-2012	ZM	1997-2012	KG,ZM
1998-2008	BA	1998-2008	BA
1999-2012	QA	1999-2012	QA
2000-2008	KZ, UA	2000-2008	KZ
2000-2010	BF	2000-2010	BF
2000-2012	ZW	2000-2012	ZW
2001-2008	RU*	2001-2008	RU,UA
2002-2012	LB,TJ	2002-2012	LB,TJ
2004-2008	888	2004-2008	888
2004-2011	LR	2004-2011	LR
2005-2007	IQ	2005-2007	IQ
2006-2008	BM	2006-2008	BM
2006-2012	ME**, RS**	2006-2012	ME**,RS**
2009-2012	AF	2009-2012	AF
2011-2012	CW**, SX**	2011-2012	CW**,SX**

** with a gap in series*

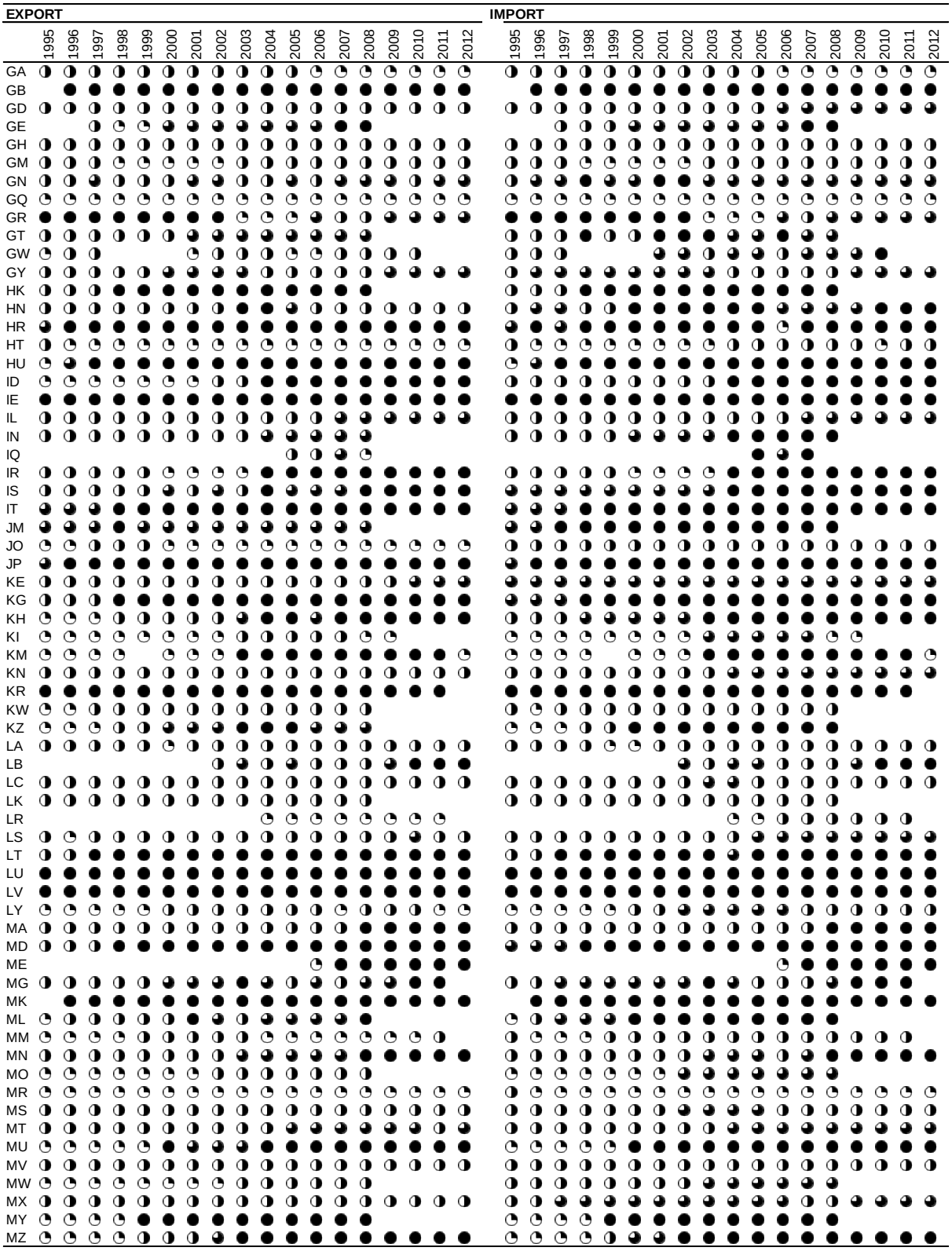
*** t is correct that these countries are only included for part of the period of interest, due to the breakup of YU into ME and RS, and of AN into CW and SX.*

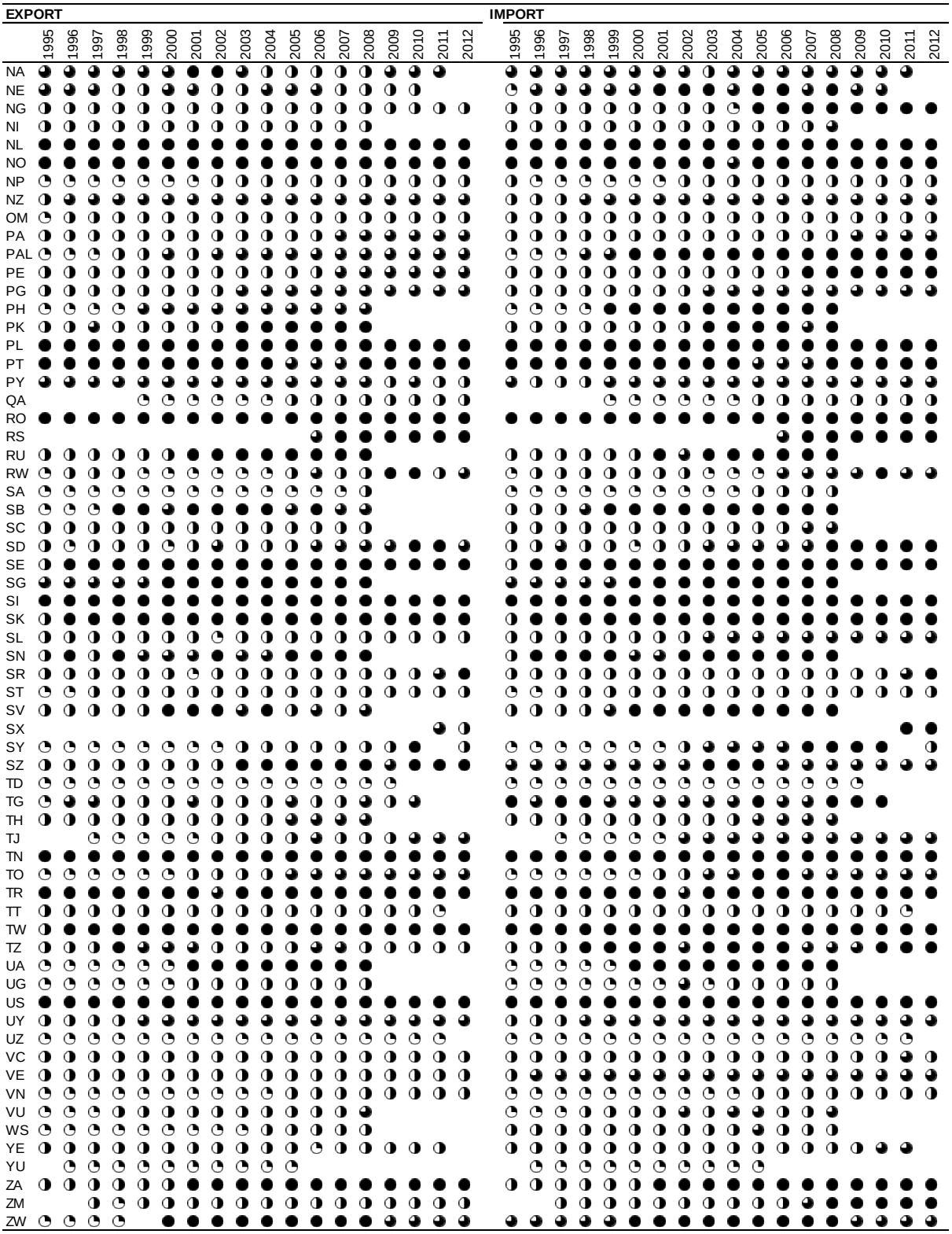
ANNEX 2. AVAILABLE OFFICIAL STATISTICS REPORTED IN EBOPS 2002

Number of available EBOPS categories, per year



● All 11 categories available; ◕ 10-11 categories available;
◑ 6-9 categories available; ◔ 1-5 categories available. No circle = no data available.


EXPORT
IMPORT
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
GA GB GD GE GH GM GN GQ GR GT GW GY HK HN HR HT HU ID IE IL IN IQ IR IS IT JM JO JP KE KG KH KI KM KN KR KW KZ LA LB LC LK LR LS LT LU LV LY MA MD ME MG MK ML MM MN MO MR MS MT MU MV MW MX MY MZ


EXPORT
IMPORT
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
NA NE NG NI NL NO NP NZ OM PA PAL PE PG PH PK PL PT PY QA RO RS RU RW SA SB SC SD SE SG SI SK SL SN SR ST SV SX SY SZ TD TG TH TJ TN TO TR TT TW TZ UA UG US UY UZ VC VE VN VU WS YE YU ZA ZM ZW

ANNEX 3. AVAILABILITY OF BILATERAL EXPORT DATA

	Average number of TiVA partner countries per year													Average number of non-TiVA partner countries per year											
	S200	S205	S236	S245	S249	S253	S260	S262	S266	S268	S287	S291	S981	S200	S205	S236	S245	S249	S253	S260	S262	S266	S268	S287	S291	S981
by reporter																										
AT	55	51	51	42	42	42	45	42	42	45	42	42	51	110	8	8	7	7	7	9	7	7	9	7	7	8
AU	30	24	30	17	23	28	30	22	22	24	21	30	24	3	2	3	1	2	3	3	3	2	3	1	3	2
AZ	19	13	11	9	8									14	11	12	6	4								
BE	50	52	53	39	35	46	48	40	33	45	35	44	45	100	54	47	37	23	36	69	29	23	58	17	26	6
BG	61	54	54	54	54	54	54	54	54	54	54	54	54	171	8	8	8	8	8	8	8	8	8	8	8	8
BY	26	20	20									11	26	15	15	15									13	15
CA	43	22	41	1	1	1	1	1	1	1	1	22	22	16	15	16									15	15
CL		23	9												7	2										
CN	8	9	9										9	1	1	1										1
CY	60	45	53	35	40	39	48	39	46	46	37	43	48	158	4	6	5	5	5	5	5	6	5	4	6	5
CZ	55	49	49	44	44	44	44	44	44	44	44	44	49	145	8	8	8	8	8	8	8	8	8	8	8	8
DE	40	44	19	44	44	44	44	44	44	44	44	44	44	92	6	1	6	6	6	6	6	6	6	6	6	6
DK	54	50	50	48	48	49	49	49	49	42	48	49	49	102	8	8	8	9	9	9	8	8	8	8	8	9
EE	32	29	26	22	24	21	22	22	22	26	22	15	26	129	3	6	2	6	5	5	5	6	4	6	5	4
ES	30	17	18										39	9	2	2	1	1	1	1	1	1	1	1	1	7
FI	40	30	43	22	26	36	29	26	27	30	25	34	38	65	4	6	4	5	6	4	5	4	5	5	6	5
FR	43	39	39	37	37	37	37	37	37	37	37	37	39	102	6	6	6	6	6	6	6	6	6	6	6	6
GB	50	40	40	3	3	20	20	3	3	20	20	38	40	95	8	9			9	9			9	9	9	8
GR	34	35	27	38	34	31	32	36	35	32	35	26	22	73	5	3	6	5	5	4	6	5	5	5	4	3
HK	39	38	23	16		29	36	17	17	10	15		23	10	10	1	1		9	9	2	1	1	2		1
HR	49	51	43	52	40	50	51	50	47	51	49	28	34	108	6	4	5	4	8	6	5	4	6	5	7	8
HU	53	45	44	42	42	42	42	42	42	42	42	42	45	118	8	8	8	8	8	8	8	8	8	8	8	8
IE	40	40	40	32	37	30	30	20	25	31	30	26	39	121	8	7	6	8	5	4	3	7	4	6	5	7
IL				52	51		48	51	51	54	51						68	50		31	54	54	84	54		
IS	60	53	53							53			53	171	6	6							6			6
IT	44	40	40	36	36	36	36	36	36	36	36	36	40	105	6	6	6	6	6	6	6	6	6	6	6	6
JP	30	30	30	30	30	30	30	30	30	30	29	30	30	3	3	3	3	3	3	3	3	3	3	3	3	3
KR	20	20	20	20		20			20	20		20	20	4	4	4	4		4			4	4		4	4
LT	38	33	34	31	31	31	31	31	31	32	31	31	34	155	7	8	7	7	7	7	7	8	7	7	7	8
LU	39	50	50				32			48			50	171	8	8				8			8			8
LV	60	54	54	46	46	46	46	46	46	46	46	46	54	146	7	7	7	7	7	7	7	7	7	7	7	7
MD	3	3	3	3	3	2	3	3	3	3	1	3	3	2	2	2	2	1	1	1	1	1	2	1	2	2
MT	46	23	20	14	45	46	24	22	38	31		38	36	85	6	1	4	10	10	7	4	10	5		7	8
MX			2																							
NL	44	39	42	31	32	32	29	32	31	36	34	36	39	93	5	6	4	5	5	5	5	4	6	5	6	6
NO	30	27	24	25	27	24	27	25	25	24	25	25	27	24	2	2	2	2	2	2	2	2	2	2	2	2
NZ	17	14	17	5	2	9	8	14	13	17	8	17	2	1	1	1			1		1	1	1		1	
PK		40	44	47	18	32	43	46	29	56	21	41			29	35	29	8	17	30	41	6	72	6	35	
PL	55	49	49	49	49	49	49	49	49	49	49	49	49	172	9	9	9	9	9	9	9	9	9	9	9	9
PT	38	9	37	7	7	7	7	7	7	7	7	7	41	8	1	4	1	1	1	1	1	1	1	1	1	5
RO	61	54	54	54	54	54	54	54	54	54	54	54	54	172	8	8	8	8	8	8	8	8	8	8	8	8
RU	56	55	54	54	52	56	55	54	53	57	54	51	51	85	71	77	67	91	106	115	49	87	110	88	85	19
SE	51	47	47	43	43	44	42	44	43	44	43	42	47	113	8	8	8	8	8	8	8	8	8	8	8	8
SG	20	7			4	7	7	7	7		2			3												
SI	50	46	46	43	43	43	43	43	43	43	43	43	46	114	9	9	9	9	9	9	9	9	9	9	9	9
SK	49	46	46	45	45	45	45	45	45	45	45	45	46	88	11	11	11	11	11	11	11	11	11	11	11	11
SZ	1	1	1	1	1	1	1	1	1	1	1	1	1													
TN	24	23	24									20	31	18	16	16									11	19
TR			26			23				26						8			2				3			
US	18	31	31			31	32	31	31			20	17	1	2	2			2	2	2	2			1	1

ANNEX 4A. AVAILABILITY OF BREAKDOWNS IN SERVICES EXPORT DATA, 1995-2012

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S200	**Total Exports to WL**	**1,222,225**	**1,317,313**	**1,372,613**	**1,389,978**	**1,435,548**	**1,521,978**	**1,525,108**	**1,634,065**	**1,896,585**	**2,302,354**	**2,573,223**	**2,908,697**	**3,490,237**	**3,916,201**	**3,555,576**	**3,896,263**	**4,372,893**	**4,473,813**
	TiVA 61 countries -> World	**1,147,364**	**1,233,734**	**1,286,687**	**1,300,576**	**1,320,301**	**1,425,650**	**1,435,183**	**1,528,512**	**1,769,286**	**2,148,528**	**2,396,571**	**2,699,659**	**3,242,415**	**3,632,910**	**2,664,758**	**2,836,352**	**3,166,959**	**3,078,320**
	TiVA -> TiVA	320,020	417,854	447,106	464,924	702,806	809,156	886,423	1,027,600	1,216,268	1,503,908	1,677,153	1,886,759	2,241,459	2,572,780	2,142,102	2,302,806	2,632,194	2,555,598
	TiVA -> RoW	4,771	5,541	5,928	7,513	8,737	11,604	12,587	24,828	37,720	67,888	84,833	101,351	132,264	166,020	146,274	143,969	154,088	154,666
	TiVA -> unspecified	*822,573*	*810,339*	*833,653*	*828,139*	*608,758*	*604,889*	*536,172*	*476,083*	*515,298*	*576,732*	*634,586*	*711,549*	*868,692*	*894,110*	*376,381*	*389,577*	*380,676*	*368,055*
	RoW -> World	**58,542**	**64,147**	**67,048**	**69,150**	**71,786**	**76,871**	**83,919**	**96,576**	**116,162**	**138,936**	**160,444**	**187,510**	**224,385**	**264,120**	**170,742**	**189,205**	**195,949**	**205,354**
	RoW -> TiVA	0	0	0	0	0	771	106	194	260	290	2,418	2,238	2,692	3,273	1,878	2,393	270	263
	RoW -> RoW	0	0	0	0	0	115	14	18	17	17	420	429	540	593	194	217	42	43
	RoW -> unspecified	*58,542*	*64,147*	*67,048*	*69,150*	*71,786*	*75,986*	*83,799*	*96,364*	*115,884*	*138,629*	*157,606*	*184,844*	*221,152*	*260,254*	*168,670*	*186,595*	*195,637*	*205,048*
	Unspecified	**16,319**	**19,433**	**18,878**	**20,251**	**43,461**	**19,457**	**6,006**	**8,978**	**11,137**	**14,890**	**16,209**	**21,529**	**23,437**	**19,171**	**720,076**	**870,707**	**1,009,985**	**1,190,139**
S205	**Total Exports to WL**	**310,117**	**315,949**	**326,107**	**317,589**	**324,699**	**346,372**	**339,185**	**354,709**	**400,813**	**502,015**	**569,276**	**635,739**	**766,134**	**890,667**	**692,825**	**807,466**	**880,142**	**888,450**
	TiVA 61 countries -> World	**284,273**	**288,301**	**297,215**	**289,105**	**302,599**	**323,563**	**315,639**	**328,476**	**370,065**	**465,154**	**527,252**	**585,116**	**705,902**	**821,901**	**525,099**	**602,692**	**648,533**	**608,717**
	TiVA -> TiVA	82,576	107,788	113,422	113,172	145,704	179,478	186,733	221,746	244,354	314,363	376,554	418,077	487,677	565,477	406,504	475,260	513,466	476,973
	TiVA -> RoW	968	1,221	1,384	1,535	1,786	2,601	2,617	2,873	3,617	5,147	6,403	7,526	9,648	15,032	7,733	8,089	8,684	7,732
	TiVA -> unspecified	*200,730*	*179,291*	*182,410*	*174,399*	*155,108*	*141,483*	*126,289*	*103,857*	*122,094*	*145,644*	*144,295*	*159,512*	*208,577*	*241,392*	*110,862*	*119,343*	*126,383*	*124,013*
	RoW -> World	**16,403**	**18,241**	**18,856**	**18,076**	**19,247**	**20,078**	**20,817**	**22,619**	**26,477**	**31,802**	**38,724**	**47,107**	**53,677**	**63,260**	**35,461**	**41,360**	**47,220**	**50,688**
	RoW -> TiVA	0	0	0	0	0	387	54	62	72	81	948	2,068	2,377	2,925	2,015	2,518	1,389	1,110
	RoW -> RoW	0	0	0	0	0	15	7	11	10	9	83	432	492	537	314	364	354	320
	RoW -> unspecified	*16,403*	*18,241*	*18,856*	*18,076*	*19,247*	*19,676*	*20,755*	*22,546*	*26,395*	*31,712*	*37,692*	*44,607*	*50,807*	*59,798*	*33,132*	*38,477*	*45,477*	*49,259*
	Unspecified	**9,441**	**9,407**	**10,036**	**10,408**	**2,853**	**2,731**	**2,729**	**3,614**	**4,271**	**5,058**	**3,300**	**3,516**	**6,555**	**5,506**	**132,266**	**163,415**	**184,389**	**229,045**
S236	**Total Exports to WL**	**397,871**	**433,453**	**437,696**	**441,777**	**459,393**	**476,816**	**467,305**	**487,178**	**544,625**	**649,990**	**703,006**	**761,493**	**875,961**	**963,200**	**876,572**	**951,505**	**1,064,512**	**1,104,233**
	TiVA 61 countries -> World	**367,207**	**399,455**	**401,736**	**404,037**	**418,750**	**434,575**	**423,259**	**437,627**	**487,345**	**581,469**	**629,762**	**676,864**	**774,345**	**845,287**	**633,085**	**659,997**	**731,752**	**729,536**
	TiVA -> TiVA	114,590	132,287	136,062	144,247	199,618	220,155	234,940	278,803	327,156	403,599	438,560	469,729	542,073	581,240	476,104	507,891	565,952	564,378
	TiVA -> RoW	1,851	2,179	2,279	2,576	2,731	3,405	3,509	3,091	3,735	4,700	7,508	8,125	10,320	11,942	9,830	12,379	12,786	14,426
	TiVA -> unspecified	*250,765*	*264,989*	*263,395*	*257,214*	*216,400*	*211,015*	*184,809*	*155,732*	*156,453*	*173,170*	*183,695*	*199,010*	*221,952*	*252,105*	*147,151*	*139,727*	*153,014*	*150,732*
	RoW -> World	**25,452**	**28,128**	**29,572**	**31,057**	**34,521**	**36,336**	**38,095**	**45,240**	**52,318**	**63,010**	**71,554**	**83,308**	**100,108**	**113,650**	**79,160**	**88,961**	**82,340**	**84,966**
	RoW -> TiVA	0	0	0	0	0	91	20	41	62	57	242	534	582	558	460	544	331	330
	RoW -> RoW	0	0	0	0	0	3	3	4	3	4	36	111	165	183	98	98	13	7
	RoW -> unspecified	*25,452*	*28,128*	*29,572*	*31,057*	*34,521*	*36,242*	*38,072*	*45,196*	*52,253*	*62,948*	*71,277*	*82,662*	*99,361*	*112,909*	*78,601*	*88,319*	*81,995*	*84,629*
	Unspecified	**5,212**	**5,870**	**6,388**	**6,683**	**6,122**	**5,905**	**5,951**	**4,312**	**4,963**	**5,511**	**1,690**	**1,321**	**1,508**	**4,263**	**164,328**	**202,547**	**250,421**	**289,731**
S245	**Total Exports to WL**	**25,321**	**26,935**	**28,808**	**32,718**	**32,105**	**34,302**	**36,349**	**37,419**	**45,030**	**53,821**	**59,400**	**71,310**	**83,014**	**97,703**	**93,448**	**97,160**	**106,336**	**111,157**
	TiVA 61 countries -> World	**20,922**	**22,112**	**23,481**	**27,418**	**26,959**	**28,707**	**30,696**	**30,892**	**37,187**	**43,743**	**49,773**	**60,541**	**70,050**	**80,616**	**65,750**	**71,019**	**78,909**	**81,924**
	TiVA -> TiVA	2,089	3,405	4,165	4,593	6,311	8,017	8,976	7,712	8,766	21,073	25,041	29,770	32,926	37,269	29,908	34,102	37,259	39,159
	TiVA -> RoW	63	128	84	81	62	79	93	89	165	163	255	384	470	843	584	599	623	594
	TiVA -> unspecified	*18,770*	*18,579*	*19,232*	*22,744*	*20,586*	*20,611*	*21,627*	*23,092*	*28,256*	*22,508*	*24,478*	*30,387*	*36,654*	*42,504*	*35,258*	*36,318*	*41,028*	*42,172*
	RoW -> World	**2,227**	**2,427**	**2,847**	**2,782**	**3,051**	**2,617**	**2,612**	**2,954**	**3,255**	**5,619**	**6,856**	**9,939**	**12,277**	**15,725**	**6,803**	**7,238**	**6,942**	**7,301**
	RoW -> TiVA	0	0	0	0	0	7	8	7	9	20	69	213	217	183	349	303	259	338
	RoW -> RoW	0	0	0	0	0	3	2	2	2	2	7	13	6	14	13	29	24	42
	RoW -> unspecified	*2,227*	*2,427*	*2,847*	*2,782*	*3,051*	*2,608*	*2,602*	*2,945*	*3,245*	*5,597*	*6,780*	*9,713*	*12,054*	*15,529*	*6,441*	*6,906*	*6,659*	*6,920*
	Unspecified	**2,172**	**2,397**	**2,481**	**2,518**	**2,095**	**2,978**	**3,041**	**3,573**	**4,589**	**4,459**	**2,771**	**830**	**687**	**1,361**	**20,894**	**18,902**	**20,485**	**21,932**
S249	**Total Exports to WL**	**42,569**	**40,277**	**44,052**	**41,233**	**35,555**	**30,199**	**31,617**	**35,301**	**39,607**	**46,377**	**56,052**	**68,968**	**86,542**	**112,153**	**109,318**	**99,409**	**106,575**	**107,007**
	TiVA 61 countries -> World	**38,959**	**36,658**	**39,887**	**38,311**	**32,739**	**28,317**	**29,355**	**32,519**	**35,363**	**42,064**	**50,624**	**62,188**	**78,501**	**101,013**	**90,225**	**83,540**	**88,079**	**69,052**
	TiVA -> TiVA	5,024	9,425	11,566	13,410	12,780	12,558	11,823	10,945	12,045	22,916	25,427	29,051	31,520	35,844	33,806	32,457	35,368	33,644
	TiVA -> RoW	91	107	171	408	470	832	803	948	1,452	2,094	3,200	4,488	4,598	7,483	4,537	2,572	3,409	2,984
	TiVA -> unspecified	*33,845*	*27,126*	*28,150*	*24,493*	*19,489*	*14,926*	*16,729*	*20,626*	*21,866*	*17,054*	*21,997*	*28,649*	*42,384*	*57,685*	*51,882*	*48,511*	*49,303*	*32,424*
	RoW -> World	**126**	**205**	**408**	**432**	**449**	**458**	**556**	**625**	**934**	**2,375**	**2,988**	**2,902**	**3,977**	**4,971**	**3,978**	**5,069**	**4,714**	**4,107**
	RoW -> TiVA	0	0	0	0	0	0	0	0	0	2	6	31	49	68	27	66	6	14
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	4	41	60	64	9	12	13	20
	RoW -> unspecified	*126*	*205*	*408*	*432*	*449*	*457*	*556*	*624*	*933*	*2,374*	*2,978*	*2,831*	*3,869*	*4,839*	*3,941*	*4,991*	*4,695*	*4,073*
	Unspecified	**3,484**	**3,414**	**3,756**	**2,490**	**2,367**	**1,425**	**1,705**	**2,157**	**3,310**	**1,938**	**2,440**	**3,878**	**4,064**	**6,169**	**15,116**	**10,800**	**13,782**	**33,848**

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S253	**Total Exports to WL**	**24,199**	**25,081**	**24,304**	**25,153**	**28,269**	**27,706**	**29,845**	**44,379**	**54,254**	**56,548**	**49,396**	**62,203**	**76,725**	**83,488**	**96,099**	**96,719**	**105,295**	**104,156**
	TiVA 61 countries -> World	**23,101**	**23,949**	**23,141**	**23,047**	**26,892**	**25,407**	**27,446**	**41,794**	**50,949**	**52,597**	**44,478**	**58,330**	**71,656**	**79,494**	**84,408**	**82,828**	**90,796**	**88,041**
	TiVA -> TiVA	5,835	8,311	8,257	6,904	10,093	9,519	8,797	21,613	16,849	25,661	23,182	29,415	35,629	38,675	37,842	38,214	40,483	38,489
	TiVA -> RoW	59	168	212	335	428	355	443	635	596	775	869	1,181	1,397	2,512	2,962	2,724	2,865	3,014
	TiVA -> unspecified	*17,208*	*15,470*	*14,672*	*15,808*	*16,371*	*15,533*	*18,206*	*19,546*	*33,504*	*26,162*	*20,427*	*27,734*	*34,630*	*38,308*	*43,604*	*41,891*	*47,449*	*46,538*
	RoW -> World	**559**	**758**	**786**	**1,090**	**1,100**	**986**	**1,392**	**1,084**	**1,334**	**1,873**	**2,822**	**2,476**	**3,267**	**3,570**	**2,770**	**2,892**	**2,584**	**2,862**
	RoW -> TiVA	0	0	0	0	0	0	0	0	0	4	1	22	37	75	47	47	79	44
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	1	6	14	10	6	7	4	
	RoW -> unspecified	*559*	*758*	*786*	*1,090*	*1,100*	*985*	*1,392*	*1,084*	*1,334*	*1,869*	*2,820*	*2,453*	*3,224*	*3,481*	*2,713*	*2,838*	*2,498*	*2,814*
	Unspecified	**539**	**374**	**378**	**1,016**	**277**	**1,313**	**1,007**	**1,501**	**1,971**	**2,078**	**2,096**	**1,397**	**1,803**	**424**	**8,921**	**10,999**	**11,916**	**13,253**
S260	**Total Exports to WL**	**49,807**	**62,022**	**71,462**	**71,430**	**85,762**	**97,584**	**93,518**	**99,905**	**120,201**	**153,400**	**180,551**	**225,274**	**297,285**	**298,616**	**262,932**	**282,109**	**316,871**	**308,469**
	TiVA 61 countries -> World	**47,567**	**60,583**	**70,967**	**71,596**	**83,390**	**94,519**	**90,775**	**95,167**	**114,432**	**145,262**	**171,766**	**217,464**	**291,862**	**292,043**	**227,519**	**236,336**	**268,364**	**256,664**
	TiVA -> TiVA	11,783	18,061	19,240	20,038	24,876	32,787	30,957	24,645	18,698	46,918	55,406	106,366	136,487	137,166	116,203	122,375	139,943	136,967
	TiVA -> RoW	66	140	156	235	212	345	272	268	270	369	444	3,237	3,453	3,061	2,300	2,855	2,919	2,859
	TiVA -> unspecified	*35,718*	*42,382*	*51,571*	*51,322*	*58,302*	*61,387*	*59,545*	*70,255*	*95,465*	*97,975*	*115,917*	*107,861*	*151,921*	*151,815*	*109,016*	*111,105*	*125,503*	*116,838*
	RoW -> World	**422**	**463**	**469**	**571**	**582**	**569**	**617**	**760**	**990**	**1,060**	**1,336**	**1,754**	**2,487**	**3,415**	**1,846**	**4,365**	**3,565**	**3,200**
	RoW -> TiVA	0	0	0	0	0	0	1	1	93	100	147	88	88	53	97	69	55	39
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	6	2	4	8	3	13	2	
	RoW -> unspecified	*422*	*463*	*469*	*571*	*582*	*569*	*616*	*759*	*896*	*959*	*1,190*	*1,660*	*2,398*	*3,359*	*1,741*	*4,293*	*3,496*	*3,159*
	Unspecified	**1,818**	**976**	**26**	**-737**	**1,790**	**2,497**	**2,126**	**3,978**	**4,778**	**7,079**	**7,449**	**6,055**	**2,936**	**3,158**	**33,567**	**41,409**	**44,942**	**48,605**
S262	**Total Exports to WL**	**13,787**	**16,499**	**22,420**	**26,825**	**37,069**	**45,649**	**53,149**	**59,083**	**74,968**	**93,411**	**103,820**	**125,506**	**156,117**	**195,190**	**189,951**	**213,808**	**249,526**	**261,373**
	TiVA 61 countries -> World	**11,923**	**14,591**	**20,385**	**24,804**	**35,061**	**39,890**	**45,460**	**50,139**	**63,408**	**75,971**	**81,800**	**101,224**	**125,218**	**153,537**	**138,251**	**151,367**	**176,114**	**183,987**
	TiVA -> TiVA	2,465	3,473	4,539	5,372	8,437	11,927	13,402	12,555	15,422	44,581	48,608	65,219	82,211	99,516	95,537	96,458	107,215	122,409
	TiVA -> RoW	4	7	8	24	28	71	70	59	99	105	157	375	660	1,044	801	653	690	922
	TiVA -> unspecified	*9,454*	*11,111*	*15,838*	*19,408*	*26,597*	*27,893*	*31,988*	*37,524*	*47,886*	*31,285*	*33,035*	*35,630*	*42,347*	*52,976*	*41,913*	*54,255*	*68,209*	*60,656*
	RoW -> World	**80**	**85**	**130**	**99**	**124**	**167**	**237**	**262**	**356**	**521**	**679**	**966**	**1,419**	**2,194**	**1,053**	**1,281**	**1,477**	**1,686**
	RoW -> TiVA	0	0	0	0	0	0	2	1	1	0	0	77	112	166	161	163	208	230
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	0	5	10	16	20	25	31	40
	RoW -> unspecified	*80*	*85*	*130*	*99*	*124*	*167*	*7,452*	*8,682*	*11,204*	*520*	*679*	*884*	*1,296*	*2,012*	*871*	*1,093*	*1,238*	*1,416*
	Unspecified	**1,784**	**1,823**	**1,905**	**1,922**	**1,884**	**5,591**	**7,452**	**8,682**	**11,204**	**16,919**	**21,341**	**23,316**	**29,480**	**39,460**	**50,648**	**61,161**	**71,935**	**75,700**
S266	**Total Exports to WL**	**59,334**	**65,792**	**68,295**	**71,275**	**84,821**	**91,930**	**90,468**	**98,606**	**115,780**	**141,494**	**159,691**	**173,786**	**204,086**	**228,744**	**236,258**	**255,470**	**290,269**	**293,466**
	TiVA 61 countries -> World	**55,580**	**61,530**	**64,005**	**67,899**	**82,404**	**90,274**	**88,946**	**96,714**	**113,568**	**140,014**	**158,123**	**172,911**	**203,509**	**227,800**	**228,577**	**248,529**	**281,679**	**280,103**
	TiVA -> TiVA	31,748	38,160	39,753	40,439	53,829	61,700	61,172	65,183	74,547	100,968	113,953	134,230	155,934	177,015	169,629	179,087	219,104	197,779
	TiVA -> RoW	240	313	365	252	460	393	398	603	824	1,264	1,261	2,033	2,844	3,243	3,739	4,405	4,082	3,877
	TiVA -> unspecified	*23,592*	*23,057*	*23,888*	*27,207*	*28,115*	*28,182*	*27,377*	*30,928*	*38,196*	*37,782*	*42,909*	*36,648*	*44,730*	*47,543*	*55,208*	*65,037*	*58,492*	*78,447*
	RoW -> World	**231**	**302**	**367**	**346**	**329**	**376**	**332**	**349**	**478**	**724**	**578**	**623**	**683**	**773**	**292**	**312**	**339**	**228**
	RoW -> TiVA	0	0	0	0	0	0	0	1	1	1	1	27	30	70	6	5	7	6
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	0	23	7	2	0	1	1	0
	RoW -> unspecified	*230*	*302*	*367*	*346*	*329*	*375*	*332*	*349*	*477*	*723*	*577*	*572*	*645*	*702*	*285*	*307*	*331*	*222*
	Unspecified	**3,524**	**3,960**	**3,923**	**3,030**	**2,088**	**1,280**	**1,190**	**1,542**	**1,734**	**756**	**990**	**252**	**-105**	**172**	**7,389**	**6,628**	**8,252**	**13,134**
S268	**Total Exports to WL**	**232,938**	**269,237**	**286,814**	**295,079**	**305,488**	**325,886**	**338,177**	**364,681**	**437,452**	**528,344**	**609,373**	**695,194**	**844,932**	**944,854**	**899,548**	**983,672**	**1,128,775**	**1,172,738**
	TiVA 61 countries -> World	**229,650**	**265,201**	**283,396**	**290,869**	**300,265**	**313,720**	**327,214**	**351,173**	**420,930**	**484,621**	**555,863**	**651,327**	**781,632**	**875,208**	**728,652**	**787,723**	**898,905**	**887,524**
	TiVA -> TiVA	26,363	55,904	65,803	69,477	86,352	102,237	116,586	119,160	115,521	231,951	286,385	312,237	374,328	428,988	385,036	407,289	472,253	437,853
	TiVA -> RoW	311	367	438	814	778	765	1,915	1,338	1,881	2,579	3,751	4,922	4,669	4,805	6,731	5,533	5,102	5,873
	TiVA -> unspecified	*202,976*	*208,931*	*217,154*	*220,578*	*213,136*	*210,718*	*208,712*	*230,674*	*303,529*	*250,091*	*265,726*	*334,168*	*402,635*	*441,416*	*336,885*	*374,901*	*421,550*	*443,798*
	RoW -> World	**9,042**	**10,311**	**10,250**	**10,065**	**9,452**	**10,711**	**9,885**	**11,216**	**14,408**	**17,016**	**16,083**	**20,846**	**25,578**	**32,386**	**23,064**	**19,046**	**30,357**	**29,606**
	RoW -> TiVA	0	0	0	0	0	3	19	79	18	20	29	527	518	483	433	481	575	575
	RoW -> RoW	0	0	0	0	0	1	1	1	1	1	1	54	33	77	94	142	176	149
	RoW -> unspecified	*9,042*	*10,311*	*10,250*	*10,064*	*9,452*	*10,708*	*9,865*	*11,137*	*14,389*	*16,994*	*16,053*	*20,266*	*25,027*	*31,826*	*22,538*	*18,424*	*29,606*	*28,882*
	Unspecified	**-5,754**	**-6,275**	**-6,832**	**-5,855**	**-4,229**	**1,454**	**1,079**	**2,292**	**2,113**	**26,708**	**37,427**	**23,020**	**37,722**	**37,260**	**147,831**	**176,903**	**199,513**	**255,608**

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S287	**Total Exports to WL**	**15,893**	**13,540**	**16,687**	**20,183**	**12,428**	**14,648**	**12,917**	**15,976**	**18,353**	**22,842**	**23,280**	**23,755**	**26,783**	**29,300**	**27,798**	**33,011**	**38,621**	**39,475**
	TiVA 61 countries -> World	**14,766**	**12,711**	**15,844**	**19,266**	**11,573**	**14,011**	**12,358**	**15,182**	**17,060**	**20,364**	**21,425**	**22,325**	**24,822**	**26,260**	**19,876**	**24,279**	**28,776**	**27,994**
	TiVA -> TiVA	1,672	1,815	2,054	2,225	2,562	4,388	4,755	5,046	4,958	10,643	10,719	10,738	11,930	11,599	11,244	13,349	14,833	15,167
	TiVA -> RoW	13	13	13	18	18	22	22	30	52	66	108	109	138	145	207	215	246	211
	TiVA -> unspecified	*13,081*	*10,883*	*13,777*	*17,023*	*8,993*	*9,601*	*7,582*	*10,105*	*12,049*	*9,655*	*10,598*	*11,478*	*12,754*	*14,516*	*8,425*	*10,715*	*13,697*	*12,616*
	RoW -> World	**71**	**76**	**79**	**102**	**149**	**120**	**105**	**155**	**202**	**332**	**409**	**653**	**799**	**997**	**733**	**1,066**	**1,152**	**1,445**
	RoW -> TiVA	0	0	0	0	0	0	0	0	0	0	0	1	2	2	8	4	2	3
	RoW -> RoW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2
	RoW -> unspecified	*71*	*76*	*79*	*102*	*149*	*120*	*105*	*155*	*202*	*332*	*409*	*652*	*797*	*995*	*725*	*1,060*	*1,147*	*1,441*
	Unspecified	**1,056**	**753**	**764**	**815**	**706**	**516**	**453**	**639**	**1,091**	**2,147**	**1,446**	**776**	**1,162**	**2,043**	**7,189**	**7,665**	**8,693**	**10,035**
S291	**Total Exports to WL**	**42,789**	**44,231**	**42,837**	**43,122**	**29,696**	**30,658**	**32,383**	**36,493**	**45,218**	**51,934**	**57,036**	**63,278**	**68,886**	**69,136**	**66,894**	**68,584**	**77,476**	**76,815**
	TiVA 61 countries -> World	**37,296**	**38,620**	**37,528**	**37,390**	**23,707**	**24,946**	**26,159**	**28,774**	**34,664**	**41,693**	**44,750**	**51,158**	**55,478**	**53,630**	**49,423**	**47,412**	**53,055**	**51,711**
	TiVA -> TiVA	8,900	9,405	8,639	8,898	7,583	8,117	8,970	9,830	13,328	17,974	15,944	16,819	17,310	16,032	15,672	15,467	16,176	15,298
	TiVA -> RoW	122	155	161	129	129	148	133	182	400	513	544	585	643	686	527	540	506	520
	TiVA -> unspecified	*28,274*	*29,060*	*28,728*	*28,363*	*15,995*	*16,681*	*17,056*	*18,762*	*20,935*	*23,206*	*28,262*	*33,754*	*37,524*	*36,911*	*33,225*	*31,405*	*36,374*	*35,894*
	RoW -> World	**4,438**	**4,471**	**4,226**	**4,601**	**4,805**	**4,627**	**5,457**	**6,565**	**9,135**	**8,466**	**10,103**	**11,049**	**12,094**	**13,881**	**6,871**	**6,963**	**9,824**	**7,872**
	RoW -> TiVA	0	0	0	0	0	8	2	2	3	4	14	584	377	579	1,013	2,903	867	2,360
	RoW -> RoW	0	0	0	0	0	0	1	1	1	1	1	12	16	26	19	29	38	126
	RoW -> unspecified	*4,438*	*4,471*	*4,226*	*4,601*	*4,805*	*4,619*	*5,454*	*6,562*	*9,131*	*8,461*	*10,089*	*10,453*	*11,702*	*13,276*	*5,839*	*4,031*	*8,918*	*5,386*
	Unspecified	**1,056**	**1,140**	**1,083**	**1,131**	**1,185**	**1,085**	**767**	**1,154**	**1,419**	**1,776**	**2,182**	**1,071**	**1,314**	**1,626**	**10,599**	**14,209**	**14,597**	**17,231**
S981	**Total Exports to WL**	**506,640**	**563,613**	**605,681**	**627,013**	**651,197**	**698,563**	**718,428**	**791,842**	**950,863**	**1,148,159**	**1,298,600**	**1,509,272**	**1,844,371**	**2,059,185**	**1,982,245**	**2,129,944**	**2,419,747**	**2,474,658**
	TiVA 61 countries -> World	**478,179**	**535,424**	**577,441**	**598,174**	**611,124**	**665,356**	**686,780**	**752,844**	**899,217**	**1,091,936**	**1,230,362**	**1,425,532**	**1,746,350**	**1,955,599**	**1,563,716**	**1,648,302**	**1,866,544**	**1,820,238**
	TiVA -> TiVA	125,438	186,465	205,702	215,498	277,687	329,373	379,372	512,154	617,487	763,307	854,249	970,864	1,171,498	1,286,400	1,170,456	1,252,735	1,464,510	1,458,548
	TiVA -> RoW	1,104	1,333	1,516	2,514	2,760	3,143	3,901	4,507	6,745	10,886	12,439	16,550	19,631	22,916	19,941	16,818	14,702	15,479
	TiVA -> unspecified	*351,636*	*347,626*	*370,223*	*380,162*	*330,677*	*332,839*	*303,507*	*236,184*	*274,986*	*317,743*	*363,673*	*438,118*	*555,222*	*646,283*	*373,319*	*378,750*	*387,332*	*346,211*
	RoW -> World	**16,778**	**18,716**	**19,095**	**19,808**	**19,478**	**20,564**	**21,799**	**25,001**	**32,925**	**36,486**	**40,622**	**49,463**	**62,585**	**77,912**	**47,412**	**48,788**	**55,889**	**58,309**
	RoW -> TiVA	0	0	0	0	0	14	32	92	127	152	225	215	475	544	490	622	126	104
	RoW -> RoW	0	0	0	0	0	4	4	3	4	3	5	6	19	34	26	28	12	13
	RoW -> unspecified	*16,778*	*18,716*	*19,095*	*19,808*	*19,478*	*20,546*	*21,764*	*24,906*	*32,794*	*36,331*	*40,392*	*49,241*	*62,091*	*77,335*	*46,896*	*48,139*	*55,751*	*58,192*
	Unspecified	**11,683**	**9,473**	**9,145**	**9,032**	**20,595**	**12,644**	**9,849**	**13,997**	**18,721**	**19,737**	**27,617**	**34,278**	**35,436**	**25,673**	**371,117**	**432,854**	**497,314**	**596,110**

ANNEX 4B. AVAILABILITY OF BREAKDOWNS IN SERVICES EXPORT DATA, 1995-2012, %

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S200																		
TiVA 61 countries -> World	**93.9%**	**93.7%**	**93.7%**	**93.6%**	**92.0%**	**93.7%**	**94.1%**	**93.5%**	**93.3%**	**93.3%**	**93.1%**	**92.8%**	**92.9%**	**92.8%**	**74.9%**	**72.8%**	**72.4%**	**68.8%**
TiVA -> TiVA	26.2%	31.7%	32.6%	33.4%	49.0%	53.2%	58.1%	62.9%	64.1%	65.3%	65.2%	64.9%	64.2%	65.7%	60.2%	59.1%	60.2%	57.1%
TiVA -> RoW	0.4%	0.4%	0.4%	0.5%	0.6%	0.8%	0.8%	1.5%	2.0%	2.9%	3.3%	3.5%	3.8%	4.2%	4.1%	3.7%	3.5%	3.5%
TiVA -> unspecified	*67.3%*	*61.5%*	*60.7%*	*59.6%*	*42.4%*	*39.7%*	*35.2%*	*29.1%*	*27.2%*	*25.0%*	*24.7%*	*24.5%*	*24.9%*	*22.8%*	*10.6%*	*10.0%*	*8.7%*	*8.2%*
RoW -> World	**4.8%**	**4.9%**	**4.9%**	**5.0%**	**5.0%**	**5.1%**	**5.5%**	**5.9%**	**6.1%**	**6.0%**	**6.2%**	**6.4%**	**6.4%**	**6.7%**	**4.8%**	**4.9%**	**4.5%**	**4.6%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*5.0%*	*5.5%*	*5.9%*	*6.1%*	*6.0%*	*6.1%*	*6.4%*	*6.3%*	*6.6%*	*4.7%*	*4.8%*	*4.5%*	*4.6%*
Unspecified	**1.3%**	**1.5%**	**1.4%**	**1.5%**	**3.0%**	**1.3%**	**0.4%**	**0.5%**	**0.6%**	**0.6%**	**0.6%**	**0.7%**	**0.7%**	**0.5%**	**20.3%**	**22.3%**	**23.1%**	**26.6%**
S205	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**91.7%**	**91.2%**	**91.1%**	**91.0%**	**93.2%**	**93.4%**	**93.1%**	**92.6%**	**92.3%**	**92.7%**	**92.6%**	**92.0%**	**92.1%**	**92.3%**	**75.8%**	**74.6%**	**73.7%**	**68.5%**
TiVA -> TiVA	26.6%	34.1%	34.8%	35.6%	44.9%	51.8%	55.1%	62.5%	61.0%	62.6%	66.1%	65.8%	63.7%	63.5%	58.7%	58.9%	58.3%	53.7%
TiVA -> RoW	0.3%	0.4%	0.4%	0.5%	0.6%	0.8%	0.8%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.7%	1.1%	1.0%	1.0%	0.9%
TiVA -> unspecified	*64.7%*	*56.7%*	*55.9%*	*54.9%*	*47.8%*	*40.8%*	*37.2%*	*29.3%*	*30.5%*	*29.0%*	*25.3%*	*25.1%*	*27.2%*	*27.1%*	*16.0%*	*14.8%*	*14.4%*	*14.0%*
RoW -> World	**5.3%**	**5.8%**	**5.8%**	**5.7%**	**5.9%**	**5.8%**	**6.1%**	**6.4%**	**6.6%**	**6.3%**	**6.8%**	**7.4%**	**7.0%**	**7.1%**	**5.1%**	**5.1%**	**5.4%**	**5.7%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.1%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*5.7%*	*6.1%*	*6.4%*	*6.6%*	*6.3%*	*6.6%*	*7.0%*	*6.6%*	*6.7%*	*4.8%*	*4.8%*	*5.2%*	*5.5%*
Unspecified	**3.0%**	**3.0%**	**3.1%**	**3.3%**	**0.9%**	**0.8%**	**0.8%**	**1.0%**	**1.1%**	**1.0%**	**0.6%**	**0.6%**	**0.9%**	**0.6%**	**19.1%**	**20.2%**	**20.9%**	**25.8%**
S236	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**92.3%**	**92.2%**	**91.8%**	**91.5%**	**91.2%**	**91.1%**	**90.6%**	**89.8%**	**89.5%**	**89.5%**	**89.6%**	**88.9%**	**88.4%**	**87.8%**	**72.2%**	**69.4%**	**68.7%**	**66.1%**
TiVA -> TiVA	28.8%	30.5%	31.1%	32.7%	43.5%	46.2%	50.3%	57.2%	60.1%	62.1%	62.4%	61.7%	61.9%	60.3%	54.3%	53.4%	53.2%	51.1%
TiVA -> RoW	0.5%	0.5%	0.5%	0.6%	0.6%	0.7%	0.8%	0.6%	0.7%	0.7%	1.1%	1.1%	1.2%	1.2%	1.1%	1.3%	1.2%	1.3%
TiVA -> unspecified	*63.0%*	*61.1%*	*60.2%*	*58.2%*	*47.1%*	*44.3%*	*39.5%*	*32.0%*	*28.7%*	*26.6%*	*26.1%*	*26.1%*	*25.3%*	*26.2%*	*16.8%*	*14.7%*	*14.4%*	*13.7%*
RoW -> World	**6.4%**	**6.5%**	**6.8%**	**7.0%**	**7.5%**	**7.6%**	**8.2%**	**9.3%**	**9.6%**	**9.7%**	**10.2%**	**10.9%**	**11.4%**	**11.8%**	**9.0%**	**9.3%**	**7.7%**	**7.7%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*7.6%*	*8.1%*	*9.3%*	*9.6%*	*9.7%*	*10.1%*	*10.9%*	*11.3%*	*11.7%*	*9.0%*	*9.3%*	*7.7%*	*7.7%*
Unspecified	**1.3%**	**1.4%**	**1.5%**	**1.5%**	**1.3%**	**1.2%**	**1.3%**	**0.9%**	**0.9%**	**0.8%**	**0.2%**	**0.2%**	**0.2%**	**0.4%**	**18.7%**	**21.3%**	**23.5%**	**26.2%**
S245	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**82.6%**	**82.1%**	**81.5%**	**83.8%**	**84.0%**	**83.7%**	**84.4%**	**82.6%**	**82.6%**	**81.3%**	**83.8%**	**84.9%**	**84.4%**	**82.5%**	**70.4%**	**73.1%**	**74.2%**	**73.7%**
TiVA -> TiVA	8.3%	12.6%	14.5%	14.0%	19.7%	23.4%	24.7%	20.6%	19.5%	39.2%	42.2%	41.7%	39.7%	38.1%	32.0%	35.1%	35.0%	35.2%
TiVA -> RoW	0.2%	0.5%	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	0.4%	0.3%	0.4%	0.5%	0.6%	0.9%	0.6%	0.6%	0.6%	0.5%
TiVA -> unspecified	*74.1%*	*69.0%*	*66.8%*	*69.5%*	*64.1%*	*60.1%*	*59.5%*	*61.7%*	*62.7%*	*41.8%*	*41.2%*	*42.6%*	*44.2%*	*43.5%*	*37.7%*	*37.4%*	*38.6%*	*37.9%*
RoW -> World	**8.8%**	**9.0%**	**9.9%**	**8.5%**	**9.5%**	**7.6%**	**7.2%**	**7.9%**	**7.2%**	**10.4%**	**11.5%**	**13.9%**	**14.8%**	**16.1%**	**7.3%**	**7.4%**	**6.5%**	**6.6%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	0.2%	0.4%	0.3%	0.2%	0.3%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*7.6%*	*7.2%*	*7.9%*	*7.2%*	*10.4%*	*11.4%*	*13.6%*	*14.5%*	*15.9%*	*6.9%*	*7.1%*	*6.3%*	*6.2%*
Unspecified	**8.6%**	**8.9%**	**8.6%**	**7.7%**	**6.5%**	**8.7%**	**8.4%**	**9.5%**	**10.2%**	**8.3%**	**4.7%**	**1.2%**	**0.8%**	**1.4%**	**22.4%**	**19.5%**	**19.3%**	**19.7%**
S249	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**91.5%**	**91.0%**	**90.5%**	**92.9%**	**92.1%**	**93.8%**	**92.8%**	**92.1%**	**89.3%**	**90.7%**	**90.3%**	**90.2%**	**90.7%**	**90.1%**	**82.5%**	**84.0%**	**82.6%**	**64.5%**
TiVA -> TiVA	11.8%	23.4%	26.3%	32.5%	35.9%	41.6%	37.4%	31.0%	30.4%	49.4%	45.4%	42.1%	36.4%	32.0%	30.9%	32.6%	33.2%	31.4%
TiVA -> RoW	0.2%	0.3%	0.4%	1.0%	1.3%	2.8%	2.5%	2.7%	3.7%	4.5%	5.7%	6.5%	5.3%	6.7%	4.1%	2.6%	3.2%	2.8%
TiVA -> unspecified	*79.5%*	*67.3%*	*63.9%*	*59.4%*	*54.8%*	*49.4%*	*52.9%*	*58.4%*	*55.2%*	*36.8%*	*39.2%*	*41.5%*	*49.0%*	*51.4%*	*47.5%*	*48.8%*	*46.3%*	*30.3%*
RoW -> World	**0.3%**	**0.5%**	**0.9%**	**1.0%**	**1.3%**	**1.5%**	**1.8%**	**1.8%**	**2.4%**	**5.1%**	**5.3%**	**4.2%**	**4.6%**	**4.4%**	**3.6%**	**5.1%**	**4.4%**	**3.8%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*1.5%*	*1.8%*	*1.8%*	*2.4%*	*5.1%*	*5.3%*	*4.1%*	*4.5%*	*4.3%*	*3.6%*	*5.0%*	*4.4%*	*3.8%*
Unspecified	**8.2%**	**8.5%**	**8.5%**	**6.0%**	**6.7%**	**4.7%**	**5.4%**	**6.1%**	**8.4%**	**4.2%**	**4.4%**	**5.6%**	**4.7%**	**5.5%**	**13.8%**	**10.9%**	**12.9%**	**31.6%**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S253																		
TiVA 61 countries -> World	**95.5%**	**95.5%**	**95.2%**	**91.6%**	**95.1%**	**91.7%**	**92.0%**	**94.2%**	**93.9%**	**93.0%**	**90.0%**	**93.8%**	**93.4%**	**95.2%**	**87.8%**	**85.6%**	**86.2%**	**84.5%**
TiVA -> TiVA	24.1%	33.1%	34.0%	27.4%	35.7%	34.4%	29.5%	48.7%	31.1%	45.4%	46.9%	47.3%	46.4%	46.3%	39.4%	39.5%	38.4%	37.0%
TiVA -> RoW	0.2%	0.7%	0.9%	1.3%	1.5%	1.3%	1.5%	1.4%	1.1%	1.4%	1.8%	1.9%	1.8%	3.0%	3.1%	2.8%	2.7%	2.9%
TiVA -> unspecified	*71.1%*	*61.7%*	*60.4%*	*62.8%*	*57.9%*	*56.1%*	*61.0%*	*44.0%*	*61.8%*	*46.3%*	*41.4%*	*44.6%*	*45.1%*	*45.9%*	*45.4%*	*43.3%*	*45.1%*	*44.7%*
RoW -> World	**2.3%**	**3.0%**	**3.2%**	**4.3%**	**3.9%**	**3.6%**	**4.7%**	**2.4%**	**2.5%**	**3.3%**	**5.7%**	**4.0%**	**4.3%**	**4.3%**	**2.9%**	**3.0%**	**2.5%**	**2.7%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*2.5%*	*3.3%*	*5.7%*	*3.9%*	*4.2%*	*4.2%*	*2.8%*	*2.9%*	*2.4%*	*2.7%*
Unspecified	**2.2%**	**1.5%**	**1.6%**	**4.0%**	**1.0%**	**4.7%**	**3.4%**	**3.4%**	**3.6%**	**3.7%**	**4.2%**	**2.2%**	**2.4%**	**0.5%**	**9.3%**	**11.4%**	**11.3%**	**12.7%**
S260	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**95.5%**	**97.7%**	**99.3%**	**100.2%**	**97.2%**	**96.9%**	**97.1%**	**95.3%**	**95.2%**	**94.7%**	**95.1%**	**96.5%**	**98.2%**	**97.8%**	**86.5%**	**83.8%**	**84.7%**	**83.2%**
TiVA -> TiVA	23.7%	29.1%	26.9%	28.1%	29.0%	33.6%	33.1%	24.7%	15.6%	30.6%	30.7%	47.2%	45.9%	45.9%	44.2%	43.4%	44.2%	44.4%
TiVA -> RoW	0.1%	0.2%	0.2%	0.3%	0.2%	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%	1.4%	1.2%	1.0%	0.9%	1.0%	0.9%	0.9%
TiVA -> unspecified	*71.7%*	*68.3%*	*72.2%*	*71.8%*	*68.0%*	*62.9%*	*63.7%*	*70.3%*	*79.4%*	*63.9%*	*64.2%*	*47.9%*	*51.1%*	*50.8%*	*41.5%*	*39.4%*	*39.6%*	*37.9%*
RoW -> World	**0.8%**	**0.7%**	**0.7%**	**0.8%**	**0.7%**	**0.6%**	**0.7%**	**0.8%**	**0.8%**	**0.7%**	**0.7%**	**0.8%**	**0.8%**	**1.1%**	**0.7%**	**1.5%**	**1.1%**	**1.0%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.6%*	*0.7%*	*0.8%*	*0.7%*	*0.6%*	*0.7%*	*0.7%*	*0.8%*	*1.1%*	*0.7%*	*1.5%*	*1.1%*	*1.0%*
Unspecified	**3.6%**	**1.6%**	**0.0%**	**-1.0%**	**2.1%**	**2.6%**	**2.3%**	**4.0%**	**4.0%**	**4.6%**	**4.1%**	**2.7%**	**1.0%**	**1.1%**	**12.8%**	**14.7%**	**14.2%**	**15.8%**
S262	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**86.5%**	**88.4%**	**90.9%**	**92.5%**	**94.6%**	**87.4%**	**85.5%**	**84.9%**	**84.6%**	**81.3%**	**78.8%**	**80.7%**	**80.2%**	**78.7%**	**72.8%**	**70.8%**	**70.6%**	**70.4%**
TiVA -> TiVA	17.9%	21.1%	20.2%	20.0%	22.8%	26.1%	25.2%	21.3%	20.6%	47.7%	46.8%	52.0%	52.7%	51.0%	50.3%	45.1%	43.0%	46.8%
TiVA -> RoW	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.4%	0.3%	0.3%	0.4%
TiVA -> unspecified	*68.6%*	*67.3%*	*70.6%*	*72.4%*	*71.7%*	*61.1%*	*60.2%*	*63.5%*	*63.9%*	*33.5%*	*31.8%*	*28.4%*	*27.1%*	*27.1%*	*22.1%*	*25.4%*	*27.3%*	*23.2%*
RoW -> World	**0.6%**	**0.5%**	**0.6%**	**0.4%**	**0.3%**	**0.4%**	**0.4%**	**0.4%**	**0.5%**	**0.6%**	**0.7%**	**0.8%**	**0.9%**	**1.1%**	**0.6%**	**0.6%**	**0.6%**	**0.6%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.6%*	*0.7%*	*0.7%*	*0.8%*	*1.0%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*
Unspecified	**12.9%**	**11.0%**	**8.5%**	**7.2%**	**5.1%**	**12.2%**	**14.0%**	**14.7%**	**14.9%**	**18.1%**	**20.6%**	**18.6%**	**18.9%**	**20.2%**	**26.7%**	**28.6%**	**28.8%**	**29.0%**
S266	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**93.7%**	**93.5%**	**93.7%**	**95.3%**	**97.2%**	**98.2%**	**98.3%**	**98.1%**	**98.1%**	**99.0%**	**99.0%**	**99.5%**	**99.7%**	**99.6%**	**96.7%**	**97.3%**	**97.0%**	**95.4%**
TiVA -> TiVA	53.5%	58.0%	58.2%	56.7%	63.5%	67.1%	67.6%	66.1%	64.4%	71.4%	71.4%	77.2%	76.4%	77.4%	71.8%	70.1%	75.5%	67.4%
TiVA -> RoW	0.4%	0.5%	0.5%	0.4%	0.5%	0.4%	0.4%	0.6%	0.7%	0.9%	0.8%	1.2%	1.4%	1.4%	1.6%	1.7%	1.4%	1.3%
TiVA -> unspecified	*39.8%*	*35.0%*	*35.0%*	*38.2%*	*33.1%*	*30.7%*	*30.3%*	*31.4%*	*33.0%*	*26.7%*	*26.9%*	*21.1%*	*21.9%*	*20.8%*	*23.4%*	*25.5%*	*20.2%*	*26.7%*
RoW -> World	**0.4%**	**0.5%**	**0.5%**	**0.5%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.5%**	**0.4%**	**0.4%**	**0.3%**	**0.3%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.5%*	*0.4%*	*0.3%*	*0.3%*	*0.3%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
Unspecified	**5.9%**	**6.0%**	**5.7%**	**4.3%**	**2.5%**	**1.4%**	**1.3%**	**1.6%**	**1.5%**	**0.5%**	**0.6%**	**0.1%**	**-0.1%**	**0.1%**	**3.1%**	**2.6%**	**2.8%**	**4.5%**
S268	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**98.6%**	**98.5%**	**98.8%**	**98.6%**	**98.3%**	**96.3%**	**96.8%**	**96.3%**	**96.2%**	**91.7%**	**91.2%**	**93.7%**	**92.5%**	**92.6%**	**81.0%**	**80.1%**	**79.6%**	**75.7%**
TiVA -> TiVA	11.3%	20.8%	22.9%	23.5%	28.3%	31.4%	34.5%	32.7%	26.4%	43.9%	47.0%	44.9%	44.3%	45.4%	42.8%	41.4%	41.8%	37.3%
TiVA -> RoW	0.1%	0.1%	0.2%	0.3%	0.3%	0.2%	0.6%	0.4%	0.4%	0.5%	0.6%	0.7%	0.6%	0.5%	0.7%	0.6%	0.5%	0.5%
TiVA -> unspecified	*87.1%*	*77.6%*	*75.7%*	*74.8%*	*69.8%*	*64.7%*	*61.7%*	*63.3%*	*69.4%*	*47.3%*	*43.6%*	*48.1%*	*47.7%*	*46.7%*	*37.5%*	*38.1%*	*37.3%*	*37.8%*
RoW -> World	**3.9%**	**3.8%**	**3.6%**	**3.4%**	**3.1%**	**3.3%**	**2.9%**	**3.1%**	**3.3%**	**3.2%**	**2.6%**	**3.0%**	**3.0%**	**3.4%**	**2.6%**	**1.9%**	**2.7%**	**2.5%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*3.3%*	*2.9%*	*3.1%*	*3.3%*	*3.2%*	*2.6%*	*2.9%*	*3.0%*	*3.4%*	*2.5%*	*1.9%*	*2.6%*	*2.5%*
Unspecified	**-2.5%**	**-2.3%**	**-2.4%**	**-2.0%**	**-1.4%**	**0.4%**	**0.3%**	**0.6%**	**0.5%**	**5.1%**	**6.1%**	**3.3%**	**4.5%**	**3.9%**	**16.4%**	**18.0%**	**17.7%**	**21.8%**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
S287																		
TiVA 61 countries -> World	**92.9%**	**93.9%**	**94.9%**	**95.5%**	**93.1%**	**95.7%**	**95.7%**	**95.0%**	**93.0%**	**89.1%**	**92.0%**	**94.0%**	**92.7%**	**89.6%**	**71.5%**	**73.5%**	**74.5%**	**70.9%**
TiVA -> TiVA	10.5%	13.4%	12.3%	11.0%	20.6%	30.0%	36.8%	31.6%	27.0%	46.6%	46.0%	45.2%	44.5%	39.6%	40.4%	40.4%	38.4%	38.4%
TiVA -> RoW	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%	0.3%	0.5%	0.5%	0.5%	0.5%	0.7%	0.7%	0.6%	0.5%
TiVA -> unspecified	*82.3%*	*80.4%*	*82.6%*	*84.3%*	*72.4%*	*65.5%*	*58.7%*	*63.2%*	*65.7%*	*42.3%*	*45.5%*	*48.3%*	*47.6%*	*49.5%*	*30.3%*	*32.5%*	*35.5%*	*32.0%*
RoW -> World	**0.4%**	**0.6%**	**0.5%**	**0.5%**	**1.2%**	**0.8%**	**0.8%**	**1.0%**	**1.1%**	**1.5%**	**1.8%**	**2.7%**	**3.0%**	**3.4%**	**2.6%**	**3.2%**	**3.0%**	**3.7%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.8%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*2.7%*	*3.0%*	*3.4%*	*2.6%*	*3.2%*	*3.0%*	*3.6%*
Unspecified	**6.6%**	**5.6%**	**4.6%**	**4.0%**	**5.7%**	**3.5%**	**3.5%**	**4.0%**	**5.9%**	**9.4%**	**6.2%**	**3.3%**	**4.3%**	**7.0%**	**25.9%**	**23.2%**	**22.5%**	**25.4%**
S291	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**87.2%**	**87.3%**	**87.6%**	**86.7%**	**79.8%**	**81.4%**	**80.8%**	**78.8%**	**76.7%**	**80.3%**	**78.5%**	**80.8%**	**80.5%**	**77.6%**	**73.9%**	**69.1%**	**68.5%**	**67.3%**
TiVA -> TiVA	20.8%	21.3%	20.2%	20.6%	25.5%	26.5%	27.7%	26.9%	29.5%	34.6%	28.0%	26.6%	25.1%	23.2%	23.4%	22.6%	20.9%	19.9%
TiVA -> RoW	0.3%	0.3%	0.4%	0.3%	0.4%	0.5%	0.4%	0.5%	0.9%	1.0%	1.0%	0.9%	0.9%	1.0%	0.8%	0.8%	0.7%	0.7%
TiVA -> unspecified	*66.1%*	*65.7%*	*67.1%*	*65.8%*	*53.9%*	*54.4%*	*52.7%*	*51.4%*	*46.3%*	*44.7%*	*49.6%*	*53.3%*	*54.5%*	*53.4%*	*49.7%*	*45.8%*	*46.9%*	*46.7%*
RoW -> World	**10.4%**	**10.1%**	**9.9%**	**10.7%**	**16.2%**	**15.1%**	**16.9%**	**18.0%**	**20.2%**	**16.3%**	**17.7%**	**17.5%**	**17.6%**	**20.1%**	**10.3%**	**10.2%**	**12.7%**	**10.2%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.5%	0.8%	1.5%	4.2%	1.1%	3.1%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*15.1%*	*16.8%*	*18.0%*	*20.2%*	*16.3%*	*17.7%*	*16.5%*	*17.0%*	*19.2%*	*8.7%*	*5.9%*	*11.5%*	*7.0%*
Unspecified	**2.5%**	**2.6%**	**2.5%**	**2.6%**	**4.0%**	**3.5%**	**2.4%**	**3.2%**	**3.1%**	**3.4%**	**3.8%**	**1.7%**	**1.9%**	**2.4%**	**15.8%**	**20.7%**	**18.8%**	**22.4%**
S981	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
TiVA 61 countries -> World	**94.4%**	**95.0%**	**95.3%**	**95.4%**	**93.8%**	**95.2%**	**95.6%**	**95.1%**	**94.6%**	**95.1%**	**94.7%**	**94.5%**	**94.7%**	**95.0%**	**78.9%**	**77.4%**	**77.1%**	**73.6%**
TiVA -> TiVA	24.8%	33.1%	34.0%	34.4%	42.6%	47.2%	52.8%	64.7%	64.9%	66.5%	65.8%	64.3%	63.5%	62.5%	59.0%	58.8%	60.5%	58.9%
TiVA -> RoW	0.2%	0.2%	0.3%	0.4%	0.4%	0.4%	0.5%	0.6%	0.7%	0.9%	1.0%	1.1%	1.1%	1.1%	1.0%	0.8%	0.6%	0.6%
TiVA -> unspecified	*69.4%*	*61.7%*	*61.1%*	*60.6%*	*50.8%*	*47.6%*	*42.2%*	*29.8%*	*28.9%*	*27.7%*	*28.0%*	*29.0%*	*30.1%*	*31.4%*	*18.8%*	*17.8%*	*16.0%*	*14.0%*
RoW -> World	**3.3%**	**3.3%**	**3.2%**	**3.2%**	**3.0%**	**2.9%**	**3.0%**	**3.2%**	**3.5%**	**3.2%**	**3.1%**	**3.3%**	**3.4%**	**3.8%**	**2.4%**	**2.3%**	**2.3%**	**2.4%**
RoW -> TiVA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> RoW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoW -> unspecified	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*2.9%*	*3.0%*	*3.1%*	*3.4%*	*3.2%*	*3.1%*	*3.3%*	*3.4%*	*3.8%*	*2.4%*	*2.3%*	*2.3%*	*2.4%*
Unspecified	**2.3%**	**1.7%**	**1.5%**	**1.4%**	**3.2%**	**1.8%**	**1.4%**	**1.8%**	**2.0%**	**1.7%**	**2.1%**	**2.3%**	**1.9%**	**1.2%**	**18.7%**	**20.3%**	**20.6%**	**24.1%**

ANNEX 5. FLAG CODES IN BILATERAL DATASET

Source	
Code	**Description**
EURO	Eurostat
IBP	IMF BOP
NAT	National source
OECD	OECD
UNSD	UNSD
EST	Estimated

Methodology for estimated values (as described in the text)	
Code	**Description**
	No calculation/estimation/adjustment/correction/addition
E1	Simple derivation
E1_1	Deriving partner when partner zone is available and only one partner is missing
E1_2	Deriving EBOPS item when total services is available and only one main category is missing.
E2	Conversion of BPM6 data to BPM5 presentation
E3	Calculation through national BOP growth rate. In these cases, the growth rate of the national BOP is applied item by item to the relevant primary source (IMF, EURO, OECD, UNSD). This method is only used for the 3 latest years (i.e. t-1, t-2 and t-3). The rationale behind is that normally the national source releases the figures earlier that than Eurostat, OECD, IMF of UNSD. This is why estimates E3 are in principle provisional and are substituted with the relevant primary source when it becomes available. Only applies to partner world.
E4	Derived from regional growth rates. In these cases, a regional growth rate applied to S205, S236, S291, S981 (totals derived). Only used if there is absolutely nothing else is available. Regions are defined as North America, Central and South America, Europe, CIS, Asia. It is only used for the last 3 years, and with partner world. Sub-items (eg. S245) are filled in based on the item's share in the last year available and have source code E8.
E6	Correction of mistakes in source data, such as implausible negative values, definition not in line with international recommendations
E7	Derived to be negligible/zero
E8	Estimated using past or future structure (interpolation, backcasting, nowcasting).
E9	Aggregation (only for regional and world total)
E10	Estimate based on (national) non-official sources.
E11	Estimated breakdown of ‘other business services’ across EBOPS categories, using structure from other years
M1	Estimated as zero
M1_1	Estimated as zero using interpolation
M1_2	Estimated as zero using backcasting
M2_1	Estimated value using interpolation
M3	Estimated value by regional breakdown
M4	Estimated value by gravity model

Status	
Code	**Description**
	Normal data
A	Rounded to zero
B	Break in series
C	Coverage differs
D	Definition differs
I	Inconsistent
P	Provisional data
S	Suppressed for confidentiality

Publishable	
code	**Description**
	yes
N	no