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Are there missing imports of services?

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Are there more and more missing imports of services in the French Balance of Payments?

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French imports of services, as measured in the Balance of Payments, have been surprisingly flat from 2002 to 2004 when talks about “délocalisations” have become more common. There might be a suspicion that some imports are missing. In order to show that there is no indication of such missed imports of services, one looks at the breakdown of imports by source of declaration. As the evolution (i.e. stability) in overall imports of services is general for all kinds of firms and for all kind of services, one can believe that up to now outsourcing in services has been very limited in France. In other words, the imports of services are flat up to 2004 whatever the way you slice the information. There is therefore no composition effect which could have hidden some increases in specific types of imports, increase which in turn would have been considered as a symptom of services outsourcing abroad.

The first part of the paper presents how the trade in services across border is measured in France on a company based level and describes the distribution of company-flows by size. The second part presents the macro-figures of trade in services from 2002 to 2005 and the contribution of the two large sources, either directly reporting companies or report from banks with identification of the company initiating the trade. The third part deals with two special topics, trade with affiliates and trade from a special industry, the call centers. The joint increase in the share of flows reported by companies, and the existence of affiliated trade reported by companies but which cannot be reported by banks, account for half of the measured increase in trade in services flows from 2003 to 2005.

The fourth part explains how the reporting system is going to change with less banks involvement.

1. A collecting system with direct reporting from firms for the bulk of trade but still dependent on bank settlements.

Trade in goods has always been measured from custom declarations. For trade across border but within the European Union where there is obviously no custom duties, trade is still reported by firms to the custom administration. On the other hand trade in services has been measured for and by the Balance of Payments (BoP). Banks have had to declare all payments crossing border, meaning going to or coming from a bank account abroad. Banks have to fill up the code in the Balance of Payments classification corresponding to the settlements along with the country code of counterpart¹. Banks report in general the identity of the firm with a unique commonly known identification number. Due to a March 2003 decree based on the law defining the activities of the Bank of France, firms must directly declare their international transactions to the BoP when transactions (sum of receipts and expenditures) for one item of the balance of payments (trade in goods excluded) are above of 30 millions euros per year. These firms are called “déclarants directs généraux” for directly general reporting. General means they are reporting on services and financial flows, that is international income flows (not reinvested earnings) and direct investment.

Bank settlements are therefore signals to detect firms above the threshold of 30 millions euros. Directly reporting firms should declare transactions and not settlements. This difference can be important for large firms trading services with affiliates abroad. Accountant rather than treasurers of the firms are aware of the flows without simultaneous payments that are at stakes here. When a firm starts directly reporting, the banks which previously used to report its payments abroad stop reporting. There is therefore no way to make any evaluation of the discrepancy between bank and direct reporting. However directly reporting firms have to give a special code when they are trading without bank payments and with an affiliate. Such exchanges cannot be reported by banks.

In addition to “déclarants directs généraux” the foreign airlines companies report to the Balance of Payments the sales of their tickets to French residents and their expenses for services in France. This is very relevant for imports of transport services, irrelevant for other imports of services, and relevant for export of services mainly in transports.

Banks do not report the transfers to an account abroad owned by the same customer, but they report the existence of this account abroad. This is a way to detect resident firms which own foreign bank accounts which could be used to pay for imports. These firms are then directly approached by the Banque de France (they are named “déclarants directs

partiels”). About one hundred of these firms declare service flows which share has been between 1% and 1.5% of the total.

The cumulative distribution of trade is displayed in Figure 1. The receipts (exports) from the 10 largest reporters are 32 % of the total, on the expenditures (imports) side the weight of the 10 largest is 36 %. The cumulative distributions are very close after the 50st reporters (cumulative weight is 59 %).² 150 reporters are needed to account for ¾ of trade flows, 500 report 88 % of the total. Thus the exporters of services are not more concentrated than the importers. After the first 500 reporters the cumulative distributions (not shown on the graph) become very flat. There are more than 15 thousand identified entities for receipts and more than 14 thousands for expenses, however 95 % of the total is reached a bit below the first largest 1500, 99 % a bit after 5000.

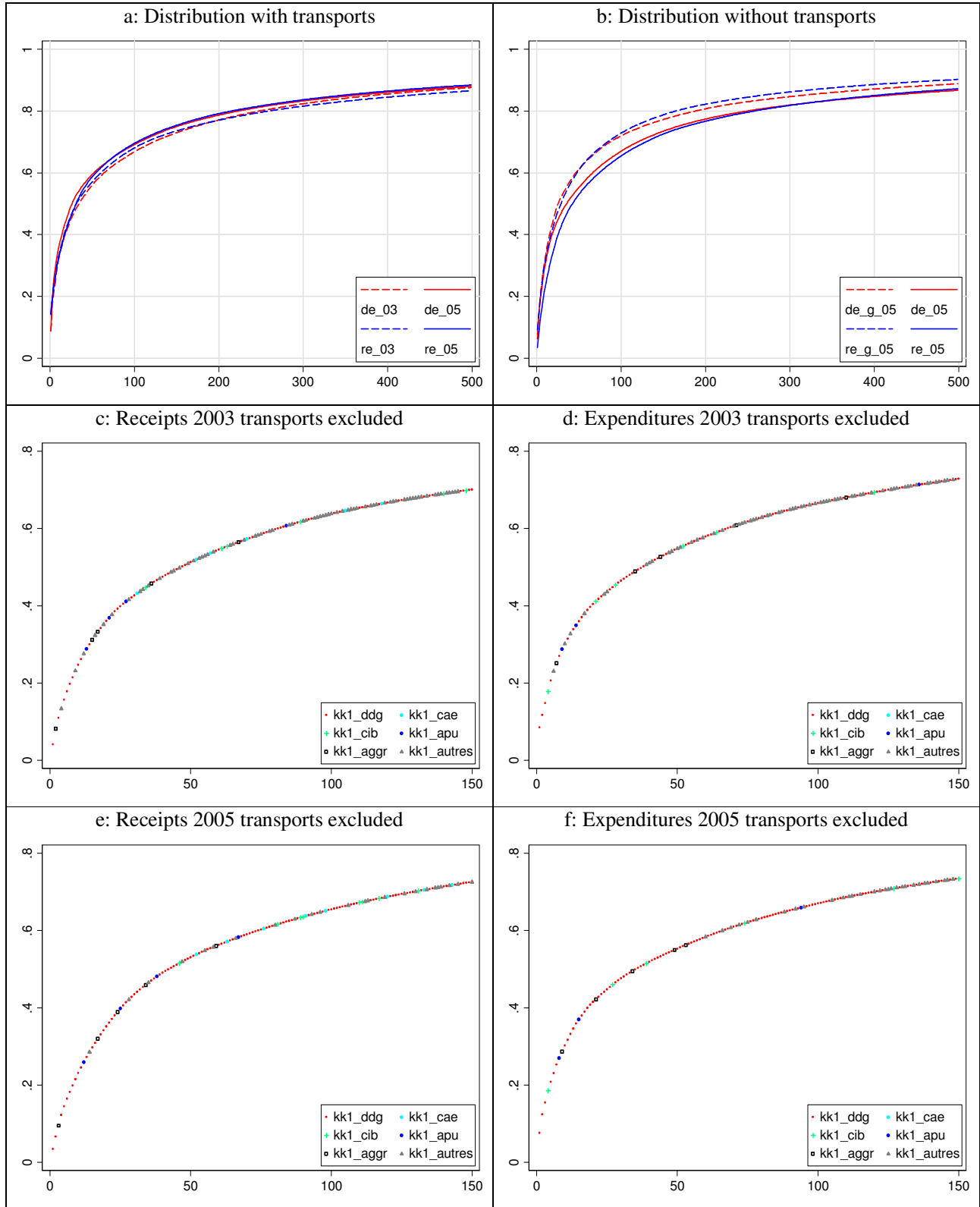
Without transports the first reporter accounts for 3 % of receipts and 8 % of expenses (Figure 1-b). A given identification number refers to a given legal entity or “company” which might differ from a “firm” when a firm is made up of several affiliated companies. This definition might end up downwardly biasing the concentration as measured by the cumulative distribution. When affiliated companies are grouped together concentration is a bit higher (curves de_g for expenditures and re_g for receipts in Figure 1-b). The 100 first entities report 66% when affiliated companies are kept distinct and 72% when they are grouped.

The following graphs (c to f) in Figure 1 display the cumulative distribution of the first 150 entities for services without transport. Direct reporters are red dots, foreign airlines companies are cyan dots, banks are green crosses, government entities are blue dots, aggregated report (false individual entities) are hollow black squares, and finally other entities, known by their individual number through bank reports are grey triangles. The striking difference between 2003 and 2004 is the increase in red dots. This is the consequence of the March 2003 decree which focused the direct reporting toward firms engaged in trade in services. When bank settlements show that a firm is trading in services above 30 billion euros a year, this firm is later on canvassed to become a direct reporter.

¹ Up to 2004 banks had also to report settlements for trade in goods.

² There are some aggregate declarations treated here as individual declarations, for instance all declarations by banks with a missing firm identification number. For receipts these false individual observations are (when sorted by size) number 6, 25, 28 33 79, for a share of 4% of flows in services. For expenses they are number 14, 30, 32, 50 and 57 for a share of 3%. See figures 1 e-f below, black hollow squares.

Figure 1



2. Evolution of trade in services from 2002 to 2005.

Figures 2 to 4 present the trade in services from micro data by kind of declaring firms and kind of services.³ For a given aggregate, the line on top is the total. The line just below is the part of trade made up by firms being present in both adjacent years. These numbers are the sum of micro firm-level figures coming either from the banks or from the directly reporting firms.

The overall figure could have moved in a different way as the figure for firms always present. It would either mean that new firms are different from disappearing firms, or that some firms appear or disappear from our reporting system whereas they have actually always been trading services. Fortunately, the two lines are close and parallel, therefore one can trust that appearing and disappearing firms are small or marginally trading.

Specifically for services (Figure 2), there are 7632 firms trading in both 2003 and 2004, accounting for 96% of exports in 2003 and 2004. The remaining part of exports of services is accounted for by 8612 firms present in 2003 and then missing in 2004, and by 7866 firms appearing in 2004. For imports the share of the 6229 permanent firms is 94% and 96%. There is an attrition rate of about one half of firms but less than 5% of flows.

The 263 firms directly reporting in 2004 for export (part of the 7632 companies exporting both years) accounted for 64.5% and 66.5% of exports of permanent firms. The intersection of the 7632 and 6229 firms (importing both years) are the 2466 firms which exported and imported services in both years (legend is `imp_` on the top exports graph and symmetrically `exp_` in the bottom imports graph). They account for 81% of 2004 imports and 87% of 2004 exports of the flows by permanent firms.

The thick line in the middle displays the flows of the direct reporting companies. Their share increased from 56% of imports in 2003 to 71% in 2005, and from 54% to 69% of exports. The shares of direct reporters are smaller when transports are excluded (Figure 3). This share is respectively 38% and 45% for exports and imports in 2003 rising to 61% and 62%. When looking only at “new” services (see definition on top of Figure 4) the share of directly reporting companies in 2005 is about the same as for all services, but the increase is stronger: 44% of exports and 46% of imports in 2003 going up to 71% and 72%.

The decrease in the share of flows reported by banks is the outcome of the 2003 decree.

The highest of the two thin red lines in the middle of the figures displays the flows of direct reporters present both years but not necessarily already directly reporting in the first year, while the lowest line displays the flows of companies being direct reporters both years.⁴

³ The construction from micro data to published figures is provided in an appendix

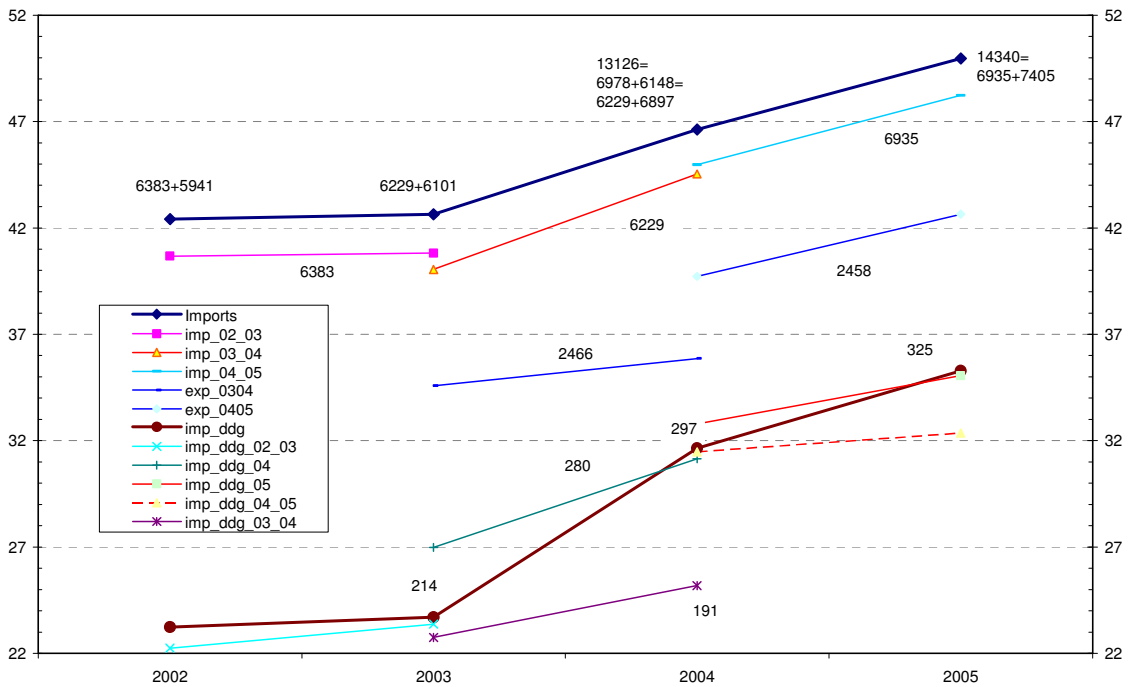
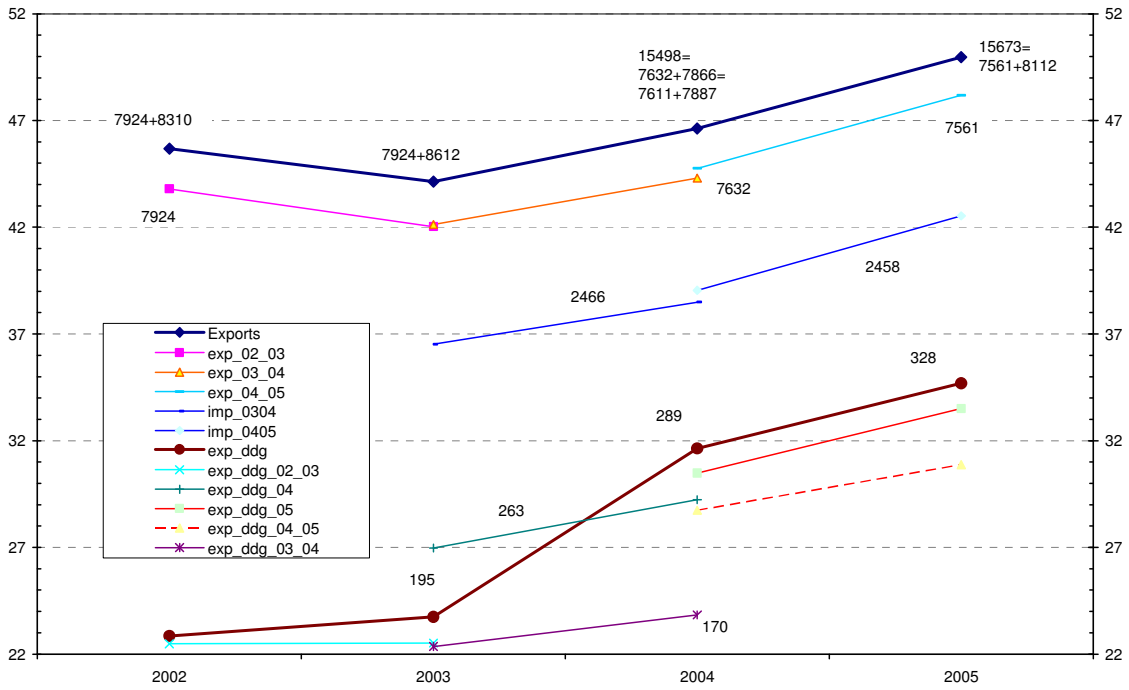
⁴ The 2005 point for the directly reporting companies exporting both years might be lower than the exports of all DDG because some companies might appear as exporters in 2005 while being importers only before.

The difference between these two lines represents the flows of new direct reporters: the first year bank settlements were used for these companies. The gap between the two lines generally widens which means that flows for the new direct reporters tend to increase. This brings the question of under-reporting of trade flows by banks because some trade flows occur without bank settlements, issue dealt with in the next part.

Imports of “new” services likely to be impacted by outsourcing such as information and engineering services (Figure 4) slightly declined between 2003 and 2004 from 17.3 to 17.2 billions, then increased to 18.9 billion in 2005. The decline in 2004 is surprising but might be related to the euro appreciation. French imports of goods outside energy moved from 294.5 billion in 2002 to 289.1 billions in 2003 and 308.9 billions in 2004.

For firms present in both years there is a very slight increase (15.4 to 15.5 billions). The big increase in firms directly reporting (‘imp_ddg’) is the result of the new decree leading to a better focus on firms trading in services. The number of directly reporting companies for imports of these “new” services went up from 132 in 2003 to 197 in 2004 and 231 in 2005. The flows from the 108 firms directly reporting in both years are going down (7.2 to 7.0). For the 170 firms directly reporting in 2004 and declaring either directly or via banks in 2003, there is an increase in imports from 10.1 to 10.6. Therefore, by difference, the imports of the 62 firms directly reporting in 2004 and with trade known from banks in 2003 went up from 2.9 to 3.6. There is here some sign of a broader reporting of flows by directly reporting companies. For imports from the 23 companies directly reporting in 2005 with flows reported by banks in 2004 there is the same sign since these imports went up from 0,8 to 2,0 billion.

Figure 2: Trade in services, billions of euros.
 Numbers of identified entities internationally trading in services displayed aside the lines.



Travel, merchanting and re-insurances are excluded. “_02_03” for firms declaring in 2002 and in 2003. DDG for directly reporting firms and for foreign airlines. The figure for DDG_04 in 2003 comes from banking reporting when firms were not already directly reporting in 2003. DDG_03_04 is for companies directly reporting in 2003 and 2004.

Figure 3: Trade in services except transports, billions of euros.
 Numbers of identified entities internationally trading in services displayed aside the lines.

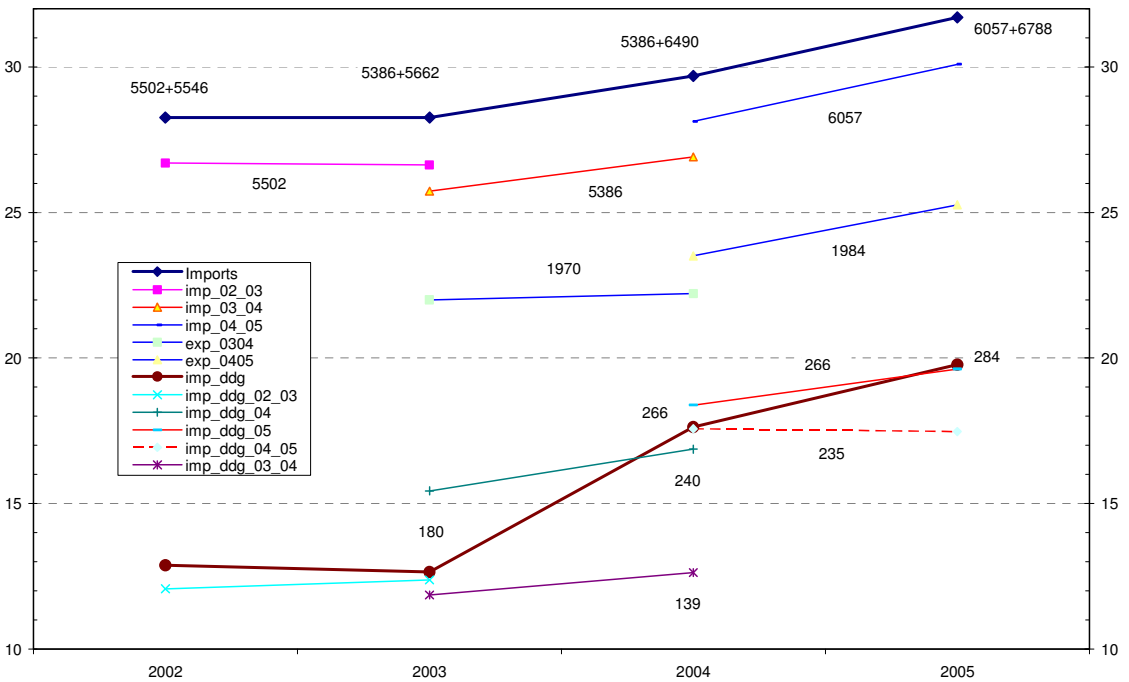
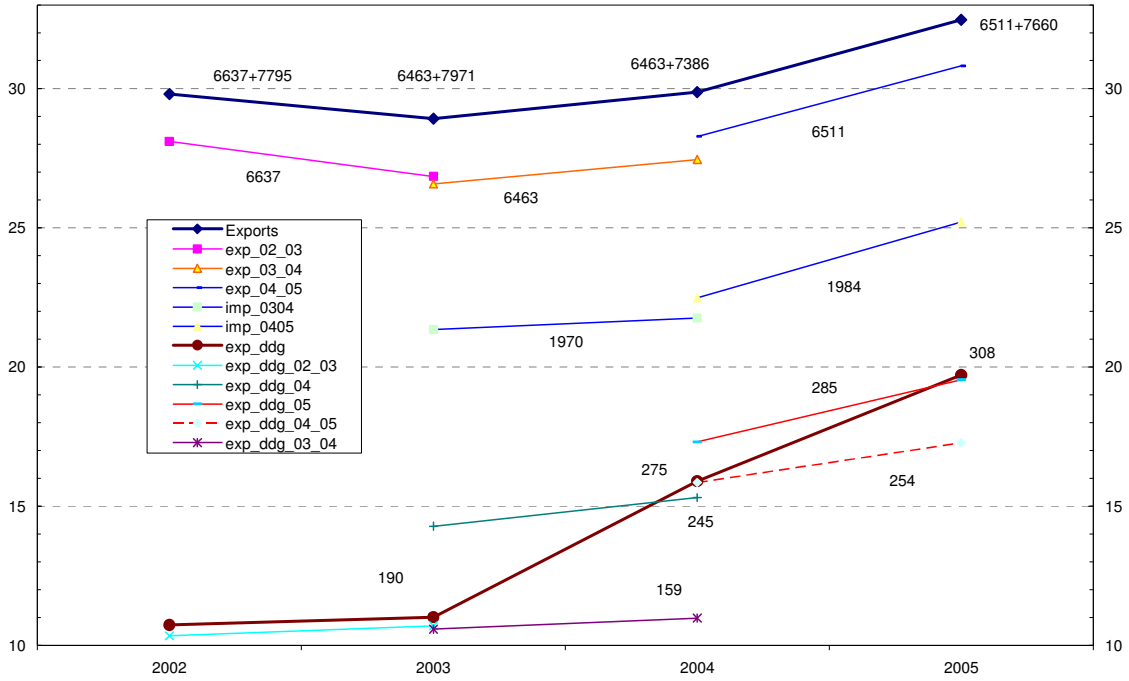
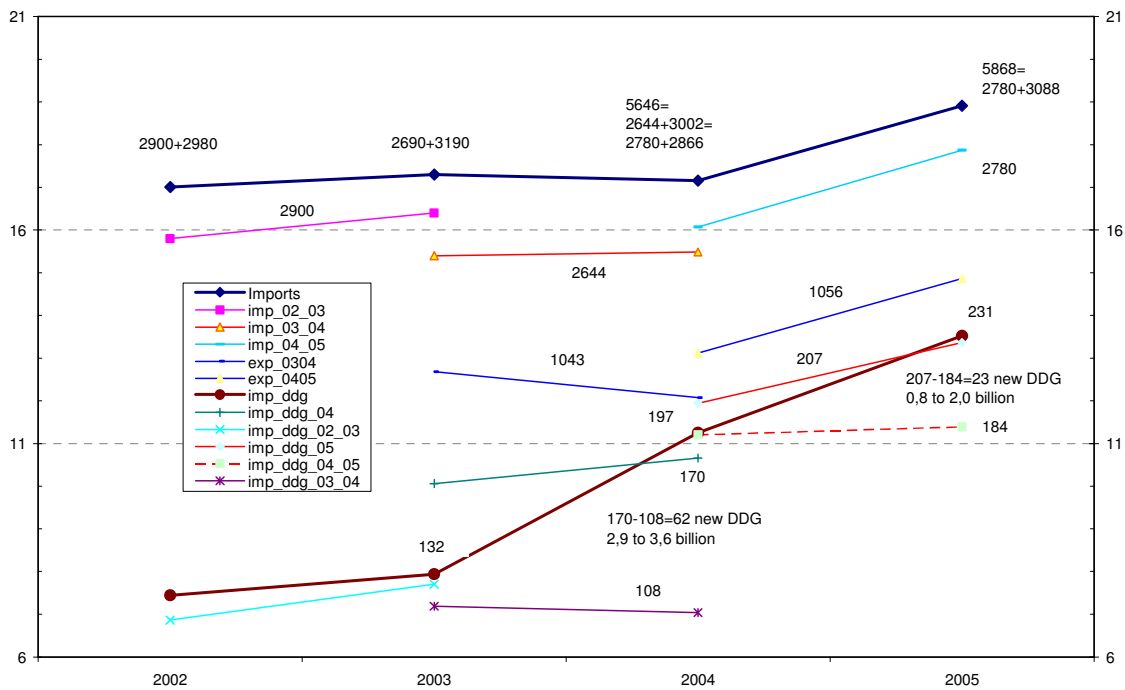
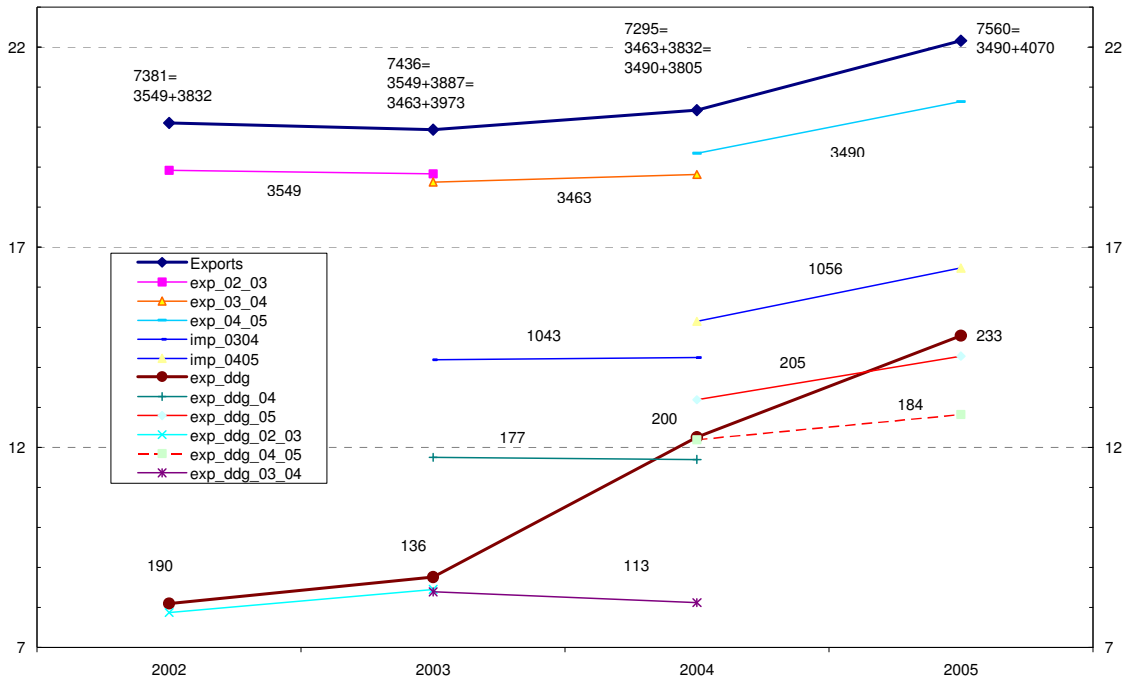


Figure 4: Trade in “new” services, billions of euros.

Communication, information, patent and trademark royalties, engineering, management fees,
other labor compensation, advertising, entertainment.

Numbers of identified entities internationally trading in services displayed aside the lines.



Transports, construction, insurance, financial, rents and miscellaneous services are excluded.

3. Trade with affiliates and call centers.

The direct reporters have to provide information on the counterparts of the trade operation, in particular when there is no payment through a bank because there is some netting or “payments” through internal accounts within affiliated companies.

The share of trade for “new” services with affiliated companies is about 20%, the share for all services, including transports, is smaller (Table 1). There is no trend in this share from 2000 to 2005. The increase in the number of companies directly reporting had to increase the recorded flows since trade with affiliates cannot be reported by banks. As exports and imports from directly reporting companies are about balanced and as the shares of trade with affiliates are about the same for imports and for exports, this increase in the number of directly reporting companies has no impact on the trade balance in services, but had to increase the recorded flows.

Table 1: shares in the affiliated flows for directly reporting companies

Year	Services		Transports excluded		New services	
	Receipts	Expenditures	Receipts	Expenditures	Receipts	Expenditures
2000	8.5	10.9	13.1	15.6	15.8	21.3
2001	7.8	11.2	8.9	15.1	10.2	19.4
2002	11.4	12.4	14.9	16.0	18.3	23.7
2003	15.6	15.5	21.8	21.6	26.6	30.4
2004	17.5	12.9	22.0	16.6	24.2	21.2
2005	15.2	13.1	17.3	17.8	18.8	22.5

Trade in “new” services increased by 11% for exports and by 9% for imports from 2003 to 2005 (Figure 4), while the share of direct reporting went up from 46% to 72% (for imports, 44% to 71% for exports). This increase by 26 points combined with a 20% share of hidden flows when companies are not directly reporting lead to an increase in recorded flows of 5.2% even without any genuine underlying increase. The recorded flows would have increased because flows between affiliates from companies becoming directly reporting companies were already there but unknown while their trade flows were measured through bank reports. Therefore about half of the recorded increase in the trade flows for new services between 2003 and 2005 could be attributed to a better measure.

At the tiniest level of industry classification there is the code 748h for “call centers”. There are 19 companies classified in this industry in 2004 with reports from banks for trade in services. Aggregating flows on these companies there appears a big shift from surplus to deficit (Table 2a). The expenditures remain pretty small (7.4 millions euros) and it is weird

that it comes from communications expenditures. One would expect the cost of foreign labor to be larger than the cost of communications from the domestic customers of the call centers companies with this foreign labor force. This labor cost should be classified in “technical assistance, inter-company cooperation”. It might be erroneously classified in “communications” itself. The true communication services to and from these call-centers would be provided by French companies.

Table 2a: Trade flows from call center companies (748h) by services in millions euros

	2002		2003		2004		2005	
	Receipts	Expend.	Receipts	Expend.	Receipts	Expend.	Receipts	Expend.
Communications	0.0	0.0	0.0	0.1	0.0	1.6	0.0	3.5
IT Services	0.1	0.0	0.3	2.4	0.4	0.5	0.5	1.4
Technical assistance	3.1	0.3	3.0	0.9	3.0	1.4	0.9	0.9
Advertising	2.2	0.0	4.5	0.0	1.3	0.3	0.0	0.0
Miscellaneous	0.0	0.1	0.1	0.5	1.8	1.8	0.4	1.0
All services	5.5	0.5	8.2	4.1	6.6	5.9	1.8	7.4

When turning to a geographical breakdown the big rise in expenditures comes from Morocco (Table 2b), and within the 5.3 millions of expenditures to Morocco in 2005, 2.6 are for Communications services and 1.3 are for IT services, and only 0.8 are for Technical assistance. There is indeed some sign of wrong classification.

Table 2b: Trade flows from call center companies (748h) by major countries in millions euros

	2002		2003		2004		2005	
	Receipts	Expend.	Receipts	Expend.	Receipts	Expend.	Receipts	Expend.
United Kingdom	4.6	0.0	7.4	0.2	4.0	0.0	1.1	0.3
Italy	0.0	0.0	0.0	1.1	0.0	0.4	0.0	0.0
Morocco	0.0	0.2	0.0	0.2	0.0	1.8	0.0	5.3
Netherlands	0.0	0.0	0.1	2.4	1.9	2.4	0.3	0.2
All countries	5.5	0.5	8.2	4.1	6.6	5.9	1.8	7.4

Finally the increase in expenditures for calls center from a country with French-speakers is found in the reported information. These expenditures are still very small. At least something shows up. Moreover the reporting system through banks enable to locate firms from specific industry with international trade in services which could be independently surveyed to know more about this trade.

4. Issues raised by a survey aiming at measuring trade in services.

The threshold of bank reporting for international payments is going to be lifted from 12,500 euros to 50,000 euros in 2008. The ensuing loss of information asks for some kind of response. A supplementary survey by the side of direct reporting sounds good. This part explains that without any information from banks, it would be very difficult to target firms for such a survey.

In order to carry out a firms' survey, one needs first to define the total reference population. The basic statistical unit in France is the legal unit paying taxes, registered with its address and a unique national number, which is very helpful to carry out surveys. These legal units are called "companies" and are more than five millions. Large or even middle-sized firms (say a couple of thousands employees) are usually made up of several affiliated "companies". A survey aiming at measuring international trade in services is obviously not going to draw a sample in the overall five millions "companies".

Assuming that there is no information from banks, the population surveyed has to be chosen with the following data: turnover, industry, trade in goods (from customs), number of employees, sales of services. These inputs are then used to feed a logit model estimated to predict the presence international trade in services, known by a bank settlement. Then a score (the predicted value of the logit regression) is given to each company. After classifying "companies" in strata according to three variables, their score, their industry and their legal status, and sorting the strata by their weight in the flows, it is possible to compute the size of the population in these strata to meet a given target share of trade in services. A stratified survey would then be carried out in these strata.

This set up is effective to locate firms that matter a lot to trade in services, direct reporters excluded. To get 15% of flows one needs strata made up of 17,500 companies. About 2,500 of these 17,500 actually traded. Remember that the first 1500 companies made up 95% of the flows. As the (virtual) direct reporters (after the 2003 decree, effectively reporting in 2005) account for about 70% of 2001 flows, adding the strata made up of 17,500 companies one reaches 85% of flows. The next strata needed to get to 90% are made up of 850,000 companies with only 8,000 actually internationally trading in services.

The above analysis has shown that it is difficult to spot the companies which made up the 14% (between 85% and 99%) of trade in services. This is not that surprising once one notices that in Figure 2 half the companies for about 5% of flows are disappearing and others

are appearing any year. Without bank information it would be difficult to find the companies making up about 15% of flows.

Sampling error after a survey

Forgetting this 15% gap (between 85% and 100%), one looks at the sampling error in a survey of the 17,500 companies defined above.

500 drawings of 5,000 companies among the reference population of 17,500 population defined above have been carried out to get an idea of the confidence interval of a manageable survey of 5,000 companies. The exports mean of the 500 drawings is 12.6 billions euros (no bias, figures for the overall population about 15% of all flows to go from the 70% from direct reporters to 85% of flows here including merchanting) with a 95% confidence interval of [7.5 21.0]. For imports the mean is 11.9 with a 95% CI of [7.7 22.7]. The intervals are pretty wide even though the sample is large relative to the population.

Loss of information following the increase in the threshold applied by banks for reporting settlements from 12,500 to 50,000 euros for settlements in euros within the eurozone.

The regulation for bank reporting for the balance of payments is going to change in 2008 in relation with the cost of payments across countries within the euro area which should converge toward the cost within a country. Banks have argued that the reporting burden had to be streamlined to reduce cost of non-domestic payments.

Aside from the difficulty to define a relevant population for a survey on companies trading services across borders without any indication from cross border bank settlements, there would be the issue of missing the next generation of direct reporters since the present generation has been defined with bank settlements. If a company became large for international trade it would likely be missed by the survey. This brings the question of the correlation across companies between the size of yearly overall trade and the size of the individual settlement. The declaration threshold is relevant for each single settlement, and it would be surprising that a company has so many small settlements that, without any big settlement, the yearly sum of the small settlements would matter.

Within the total amount of all bank settlements, the share of settlements smaller than 50,000 euros within the euro zone in euros in 2005 was 6.1% for imports and 4.9% for exports (Table 3). The bank settlements are about a third of flows. The overall impact on

service trade statistics of settlements below 50,000 in euros within the eurozone is therefore small.

Table 3: Shares in bank settlements in 2005
expenditures (imports) followed in each cell by and receipts (exports) ZE for euro zone %

	ZE in euros	ZE in other currencies	outside ZE in euros	Outside ZE in other currencies
12,500 to 50,000	6.1 ; 4.9	0.3 ; 0.2	4.7 ; 5.1	4.2 ; 2.3
> 50,000 euros	31.3 ; 28.9	2.4 ; 1.3	23.8 ; 33.8	27.2 ; 23.4

Among the 16235 identified companies in 2001 for which there had been bank reports, there were 6692 companies with settlements always smaller than 50,000 euros. The sum of their settlements was about half a billion euros either for exports or for imports. The amount of settlements reported by banks for unidentified companies was about 1.5 billion, with probably a large part which would not have been reported by banks with a higher threshold (these aggregated bank reports on unidentified companies are included in the larger than 50,000 reports Table 3). The sum of all settlements between 12,500 and 50,000 was 4% of flows or about 2.5 billion. Assuming that the geographical breakdown of settlements did not change between 2001 and 2005 more than half of these 2.5 billion came from trade with outside of the euro zone residents and would therefore still have to be reported by banks since the threshold would apply for settlements in euros within the eurozone.

Reports by banks of individual settlements above 50,000 euros would make possible to define the reference population of companies among which a sample might be drawn. There would not be any risk of asking information to companies without international trade in services. Furthermore, companies becoming important for trade in services would be spotted and canvassed as new direct reporters. Without any information from banks on eurozone payments the task of measuring international trade in services within the monetary union would be daunting except if companies which trade across countries in the eurozone also trade with other foreign countries, and would therefore be known to the statistician from bank settlements between France and a foreign country outside of the monetary union.

Appendix: From micro data to published figures

Millions euros

2004	Exports	Imports	Balance
I. Services	88 813	78 552	10 261
a. Tourism	32 834	23 023	9 811
b. Merchanting	1 770	0	1 770
c. Insurance	1 212	1 758	-546
d. Transports from fob correction	2 789	3 204	-415
e. Corrections for unrecorded small payments	4 346	4 989	-643
II. Services minus a. to e.	45 862	45 579	283
III. Micro data	46 024	45 664	360
Gap III-II	162	85	77

2003	Exports	Imports	Balance
I. Services	87 335	73 335	14 000
a. Tourism	32 347	20 713	11 634
b. Merchanting	2 592	0	2 592
c. Insurance	1 872	2 120	-248
d. Transports from fob correction	2 519	2 894	-376
e. Corrections for unrecorded small payments	4 476	5 293	-817
II. Services minus a. to e.	43 529	42 314	1 215
III. Micro data	43 680	42 390	1290
Gap III-II	151	76	75

2002	Exports	Imports	Balance
I. Services	91 033	72 866	18 167
a. Tourism	34 190	20 580	13 610
b. Merchanting	3 276		3 276
c. Insurance	1 154	1 641	-487
d. Transports from fob correction	2 464	2 967	-503
e. Corrections for unrecorded small payments	4 302	5 195	-893
II. Services minus a. to e.	45 647	42 483	3 164
III. Micro data	45 682	42 414	3 268
Gap III-II	35	-69	104