BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS
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STATISTICS OF INTERNATIONAL TRADE IN SERVICE:
CHALLENGES AND GOOD PRACTICES

REGIONAL WORKSHOP FOR LATIN AMERICAN AND
CARIBBEAN COUNTRIES

STATISTICS OF EXPORT OF SERVICES IN BRAZIL: DIFFICULTIES, LIMITATIONS, CHALLENGES, GOOD PRACTICES AND RESULTS FOR THE 2003-2007 PERIOD

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Abstract

This report aims to present the difficulties, limitations and challenges in the statistics of export of services stemming from the Annual Survey of Services of IBGE, and the goods practices that guide the production of statistics.

The report also set outs an analysis of the main results of the Annual Survey of Services concerning to service export, the more relevant activities that contribute to exports and their evolution in the period from 2003 to 2007.

IBGE, through the Annual Survey of Services joints to other sources of data to give more information about this expanding market.

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1 - Introduction

The service sector has assumed growing importance in the Brazilian economy, both in terms of contribution to GDP, amounting to 54.5% (excluding trade) and in employment generation, 44.6% of the employed population.

Over the past 30 years, the techno-revolution has been responsible for major changes in the functioning of western economies, resulting in a new dynamic in the way of doing business and changing the routine of the people and governments. The fast development and popularization of information technology (computers, telephones and television) have been essential in speeding up trade and financial transactions between countries.

Changes caused by the microelectronics and information-intensive services have streamlined the traditional services and allowed the expansion of modern services, which led the service sector to surpass the traditional industrial sector. These changes have produced evidence of the emergence of a new society, the so-called post-industrial society, in which the center of production would be based on the production of intangible or immaterial goods.

The new information technologies and the service growth also boosted international trade in services, increasing the flow of service transactions between countries, which already assume greater importance in trade balances, especially in more developed countries.

The growth of service sector has also generated an increased demand for information and led the National Statistics Offices to expand their production programs of economic statistics, to include the service sector.

Following this trend, IBGE has implemented the Annual Survey of Services-PAS, to monitor the developments and structural changes in this important expanding sector.

2 – Statistics of Export of Services

The correct understanding of the data on export of services requires first knowing the characteristics of the Annual Survey of Services, which integrates the program of the IBGE statistical production.

2.1 – Annual Survey of Services

The Annual Survey of Services-PAS was implemented in 1998 aiming to measure and monitor the service sector, represented by the non-financial business segments. The Annual Survey of Services-PAS only surveys lawful enterprises with the Fiscal Number (CNPJ), of the Federal Income Tax Secretariat of the Finance Ministry. Lawless enterprises (without Fiscal Number) or autonomous or liberal workers are not included in the survey.

The PAS seeks to serve the following purposes:

- To build an information system by measuring the major economic variables such as revenue, expenditure, employment, wages, value added and so on;
- To identify the basic structure of the non-financial business services;
- To measure the activities at the regional level and
- To provide information to the National Accounts System

The PAS encompass the following activities, according to ISIC Rev.3:
- Households services
    - Accommodations services
    - Foods and drinking services
    - Recreational and cultural services
    - Personal services (laundry, cleaning and dyeing services; hairdressing and barbers' services; beauty centers, funerals services and so on)
    - Complementary education (language courses; ballet, dancing, art and music schools; pilot schools and so on)

- Information services
    - Telecommunication
    - Computer services
    - Audiovisual services
    - News agencies

- Business services
    - Professional, scientific and technical services
    - Employment services
    - Investigation and security services
    - Services to buildings and dwellings

- Transportation, support activities for transportation and postal services
    - Railroad transportation
    - Road transportation
    - Water transportation
    - Air transportation
    - Travel agencies
    - Support activities for transportation (airport and port operation, warehousing, cargo handling, loading and unloading services, freight agency services, towing services, cargo salvage services and so on)
    - Postal services

- Real state and rental activities

- Other services
    - Support activities for agriculture and forestry
    - Agents and brokers for trade
    - Support activities for financial and insurance
    - Repair and maintenance services
    - Waste management and remediation services

The survey year of reference 2008 will be published in accordance with the ISIC Rev.4, which shall include the activities of Editing and Printing in information services. These activities in ISIC Rev.3 were surveyed in the Annual Survey of Manufacturing.

PAS does not include:
- Financial and insurance services
- Public administration
- Educational services
- Health care services
- Social assistance
- Non-profit organizations

The PAS is a national survey, with the following sample:
- Total sample: 85.500 enterprises
    - Certainty stratum: 50.500 enterprises
    - Sampled stratum: 35.000 enterprises

The certainty stratum is constituted by all enterprises with 20 or more employees and the sampled stratum by enterprises with less than 20 employees

According to Table 1, the PAS' certainty stratum has a great representation, accounting for 63,3% of the total of employees and 79,9% of the net revenue of the non-financial business services.

Table 1 - Representation of the Certainty Stratum in the Total of PAS

Services Activities	Representation (%)		
	Number of enterprises	Employees	Net revenue
Total	5,0	63,3	79,9
Household services	4,5	39,3	59,4
Information services	5,0	67,1	93,7
Professional, administrative and support services	5,5	76,8	71,6
Transportation, support activities for transportation and postal service	8,6	76,5	88,7
Real state and rental services	5,8	39,2	57,3
Repair and maintenance services	2,2	19,4	36,3
Other activities	2,9	58,1	63,4

Source: Annual Survey of Services 2007

The survey has undergone some breakthrough over the years, especially the introduction of the Special Questionnaires of Product for Services in 2000 and the inclusion of variables of export of services in 2003.

These Special Questionnaires have been implemented for a selected set of activities, encompassing transportation (railroad, road, water and air transportation), computer services, telecommunications, audiovisual services and engineering and architecture services. They had the main goal to survey the products of services and to the build a classification of service products.

2.2 – Criteria for Accounting

As regards the criteria for accounting, it is important to note that PAS is based on principles of business accounting, in which the time of register of the transactions must meet the accrual basis, that is, when the economic value is created, transformed, transferred, exchange or extinguished.

The accrual basis of accounting differs from cash flow basis, that registers financial flows, that is, payments or cash receipts at the time it takes a certain transaction.

In the accrual basis of accounting, the flows are recorded when occurs the exchange of property, regardless of your payment. Similarly, services are recorded when they are performed, the record of production occurs when the products are made and the intermediate consumption when using the materials or outsourcing services.

This explanation is important in order to make the proper difference between data from PAS and other sources of information, noting that the exports of services recorded in PAS follow the principles of business accounting, which by law are based on the accrual basis, not on a cash flow basis.

2.3 – Main Variables

The PAS comprises a set of accounting variables needed to calculate the macroeconomic aggregates, such as production value, intermediate consumption, value added and other important variables, which are as follows:

- Gross revenue
  - Services
  - Trade
  - Manufacturing
  - Construction
  - Other activities

- Deductions over gross revenue (direct taxes and other deductions)

- Net revenue

- Other receipts
  - Rental
  - Financial receipts

- Origin of net revenue (%)
  - Domestic market
  - Foreign market
    - Exports of goods
    - Exports of services

- Number of employees

- Employee compensation
  - Wages and salaries
  - Owner withdrawal
  - Social Security
  - Indemnities
  - Benefits

- Cost of materials consumed in services activities

- General expenditures

- Financial expenditures

- Depreciation and provisions

- Investments and sold of fixed assets

- Data by States of Federation
  - Number of employees
  - Wages and salaries
  - Number of establishments
  - Gross revenue of services

2.4 – Difficulties, Limitations, Challenges and Good Practices

Transactions in exports of services are surveyed in the main questionnaire of the Annual Survey of Services, which request the origin of net revenue in the domestic and foreign markets, as a percentage of net revenue, as shown below.

ORIGEM DA RECEITA LÍQUIDA NO ANO (Registrada no Código 028)	CÓD	PERCENTUAL
ORIGIN OF NET REVENUE IN THE YEAR		
Mercado Interno (Domestic market)	036	⎿⎿⎿⎿⏌ %
Mercado externo (Foreign market) Exportação de mercadorias (Export of goods)	037	⎿⎿⎿⎿⏌ %
Exportação de serviços (1) (Export of services)	038	⎿⎿⎿⎿⏌ %
Total		100%

(1) Considerar as transações entre empresas sediadas no país e empresas sediadas no exterior ou clientes residentes no exterior, inclusive embaixadas. Exemplos: exportação de *softwares*, serviços de consultoria, chamadas internacionais geradas no exterior - inclusive *roaming* internacional, fretes contratados no exterior, manutenção de aeronaves de empresas aéreas estrangeiras, fornecimento de refeições para empresas aéreas estrangeiras (*catering*), serviços prestados em embarcações estrangeiras, contratação de pacotes turísticos obtidos no exterior, etc.

This information is then transformed into value for disclosure purposes.

However, one of the main difficulties in the investigation of this variable is to send the questionnaire to the most qualified professional to give these information, such as Financial Director, Chief Executive Officer or controller of the company. In practice, in the majority of enterprises, the account (book keeper) or accounting firm hired is the responsible for answering the questionnaire and they do not have the detailed information about exports of services.

Another feature of this statistic lies in the fact that it is a rare event and the frame does not have information to identify previously the firms with exports. It's important to identify previously this population to ensure greater control of this variable when occurs the sample selection. This difficulty implies in some limits on the use of data in the time series, since the changes in values can occur in function of the number of the respondents who take part of the sample every year.

As a challenge to improve this process and to meet the goods practices in the statistical production, IBGE is deploying new ways of data entry, especially the CATI (Computer Assisted Telephone Interview), in which variables of exports of services may be informed by more qualified professional.
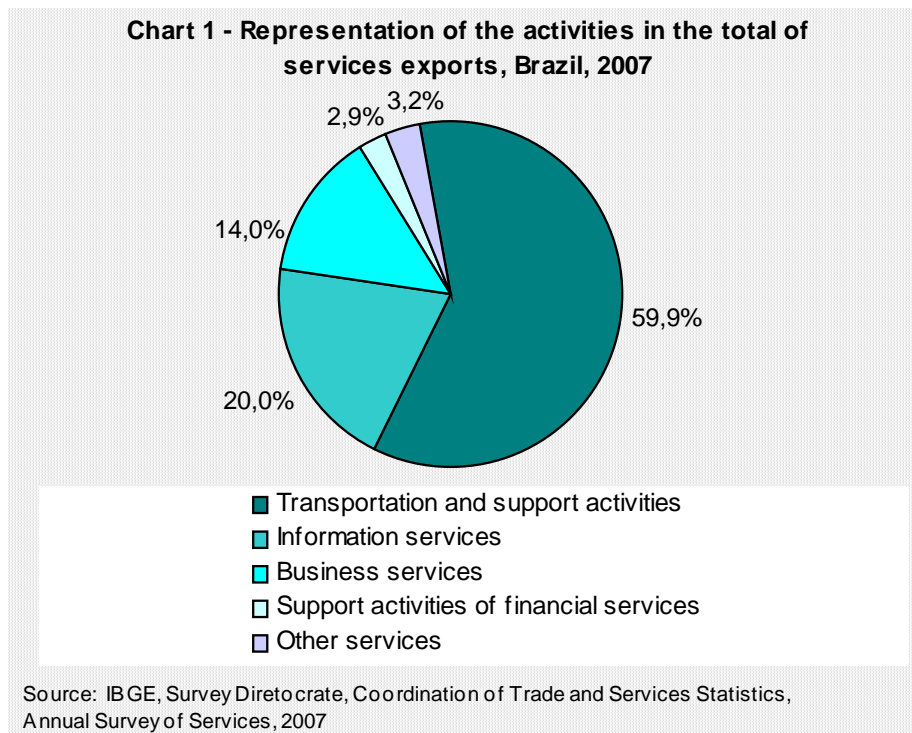
Another change under consideration would be to survey these variables only in enterprises belong to certainty stratum that would ensure greater stability in the time series data.

3 – Exports of Services

The export of services in Brazil amounted US$ 8.4 billions in 2007, accounting for 2.8% of net operating revenue of service enterprises.
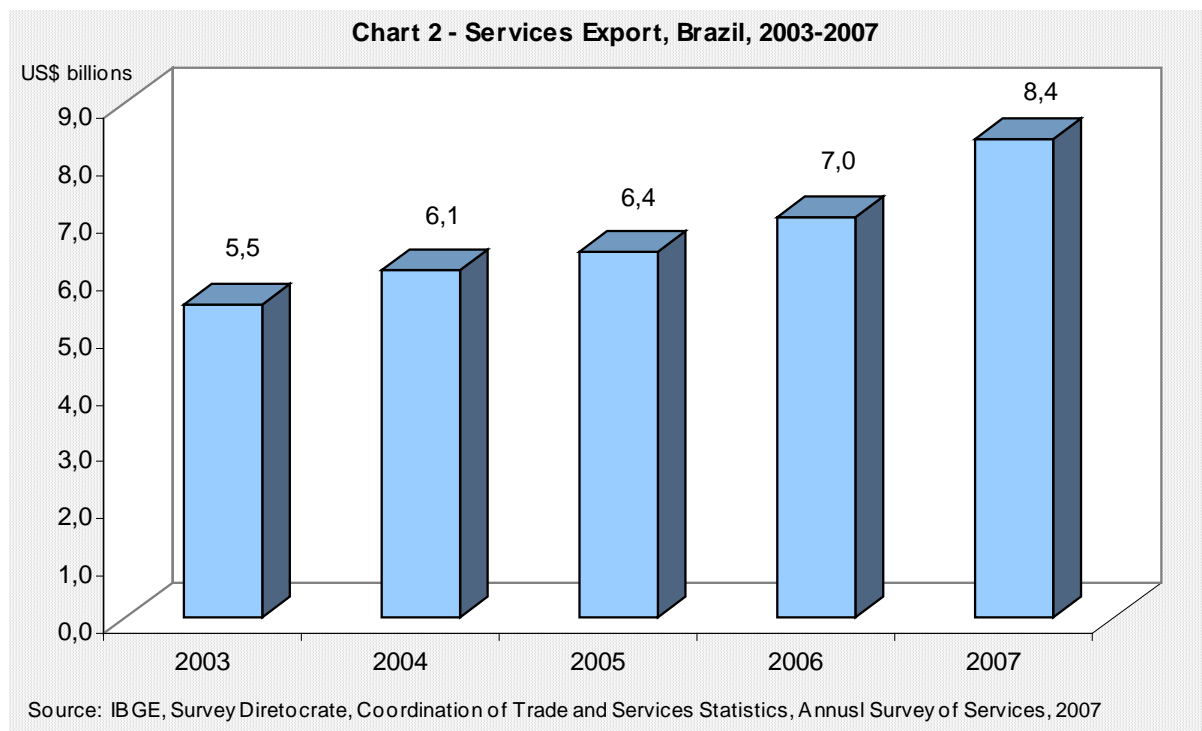
The structure of exports sets out the predominance of the traditional services, represented by the transportation and support services of transportation, with 59.9% of total exports. The modern services and knowledge-intensive services,

represented by the information services and business services also account for significant proportion, 34.0% of total exports in 2007 (Chart 1).

Chart 1 - Representation of the activities in the total of services exports, Brazil, 2007

- Transportation and support activities
- Information services
- Business services
- Support activities of financial services
- Other services

Source: IBGE, Survey Diretocrate, Coordination of Trade and Services Statistics, Annual Survey of Services, 2007

The data series from 2003 to 2007 indicate a significant expansion of exports, which increased from US$ 5.5 billions in 2003 to US$ 8.4 billions in 2007, representing a cumulative growth of 52.7% in the period and an average growth of 11.2% per year (Chart 2)[1].

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[1] Note: The export values from 2003 to 2006 have been inflated to 2007 based on the average of the Consumer Price Index Extended-IPCA of IBGE. The series have been converted from Real to Dollar based on the average of the exchange rate of 2007.

Chart 2 - Services Export, Brazil, 2003-2007

US$ billions

Year	Value
2003	5,5
2004	6,1
2005	6,4
2006	7,0
2007	8,4

Source: IBGE, Survey Diretocrate, Coordination of Trade and Services Statistics, Annusl Survey of Services, 2007

This evolution also reflects the increase in the number of exporters of services, which increased from 1,635 in 2003 to 3,494 enterprises in 2007.

3.1 – Transportation Services

The structural approach of the transportation sector sets out the air transportation as the most representative in terms of volume of exports, with 33.9% of the total sector, followed by support services for transportation, with 27.2%. The water transportation accounts for 20.7% of exports of the sector and road transport, 13.1% (Chart 3).

Chart 3 - Representation of the activities in the total of exports of transportation services, Brazil, 2007
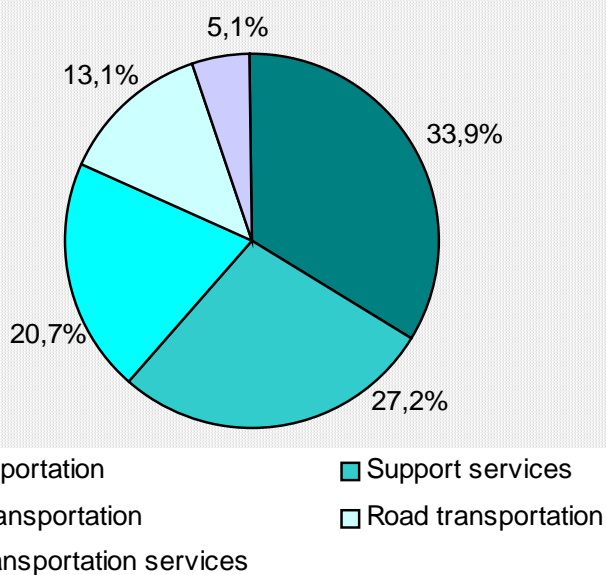
- 33,9% Air transportation
- 27,2% Support services
- 20,7% Water transportation
- 13,1% Road transportation
- 5,1% Other transportation services

■ Air transportation   □ Support services
□ Water transportation   □ Road transportation
□ Other transportation services

Source: IBGE, Survey Directorate, Coordination of Trade and services Statistics,
Annual Survey of Services 2007

In terms of expansion, exports of transportation services and support services for transportation increased from US$ 3.2 billions in 2003 to US$ 5.0 billions in 2007, setting up a cumulative growth of 56.5% and a growth average of 11.8% per year (Chart 4).
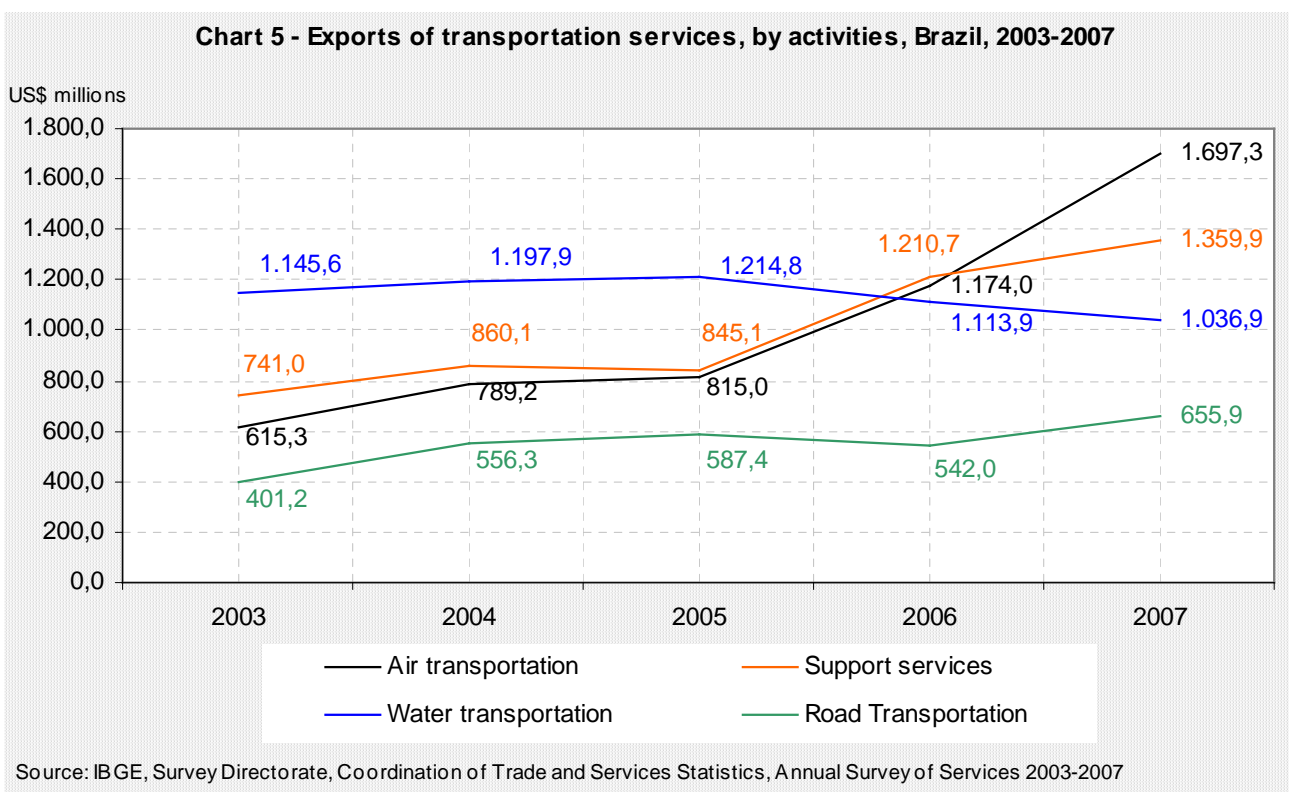
Chart 4 - Exports of transportation services and support services, Brazil, 2003-2007
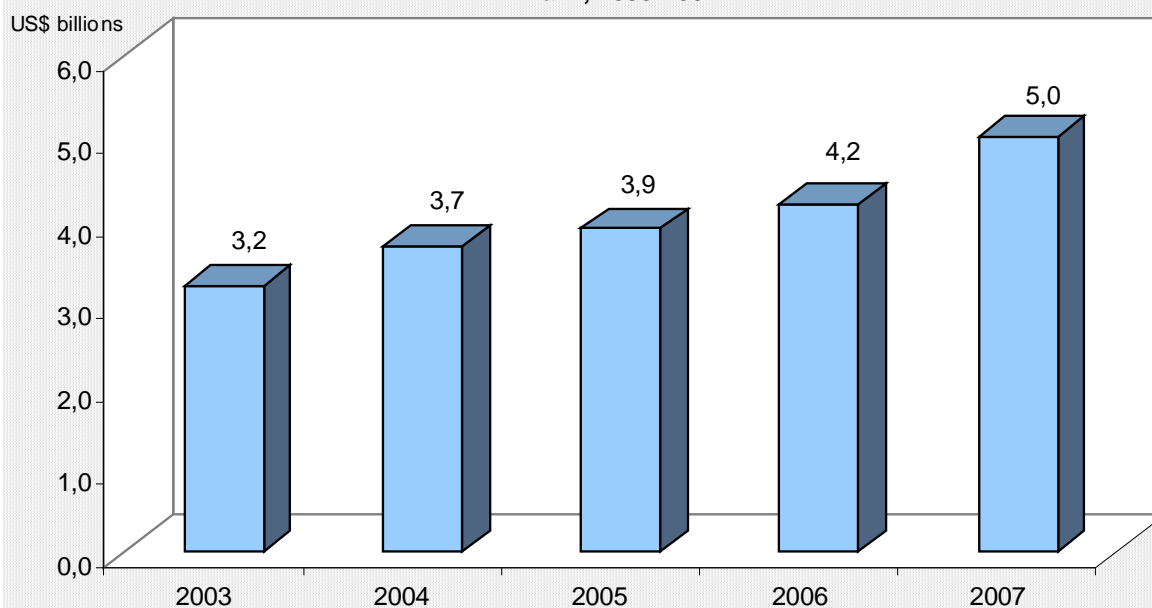
US$ billions

Year	US$ billions
2003	3,2
2004	3,7
2005	3,9
2006	4,2
2007	5,0

Source: IBGE, Survey Directorate, Coordination of Trade and Services Statistics, Annual Survey of Services 2007

In the period from 2003 to 2007 air transportation was the segment with the biggest growth in exports of services, expanding from US$ 615.3 millions to US$ 1.697.3 millions, an accumulated growth of 175.9% and an average growth of 28.9% per year. In addition, the air transportation stood third in 2003 and took the top spot in 2007. These exports are predominantly made up of ticket and freight sales abroad and maintenance services performed in aircraft of foreign airlines.

In a reverse path to the air transportation, water transport, which stood in first position in 2003, declined to be in the third position in 2007, due to a cumulative decline of 9.5%. In this segment, exports are basically made up of freight contracted abroad (Chart 5).

Chart 5 - Exports of transportation services, by activities, Brazil, 2003-2007

US$ millions

	Air transportation	Support services	Water transportation	Road Transportation
2003	615,3	741,0	1.145,6	401,2
2004	789,2	860,1	1.197,9	556,3
2005	815,0	845,1	1.214,8	587,4
2006	1.174,0	1.210,7	1.113,9	542,0
2007	1.697,3	1.359,9	1.036,9	655,9

Source: IBGE, Survey Directorate, Coordination of Trade and Services Statistics, Annual Survey of Services 2003-2007

The road transport has maintained its position with small oscillations.

3.2 – Information Services

The information sector has a balance in its structural composition in terms of on exports, in which computer services account for 46.7% and telecommunication 46.4% of the exports. Audiovisual services constitute 6.4% of total exports of the sector (Chart 6). However, it should be stressed the high concentration of the telecommunications segment, consisting of 33 enterprises exporting services, in contrast to computer services, consisting of 587 exporting enterprises.

Chart 6 - Representation of the segments in the total of the exports of information services, Brazil, 2007
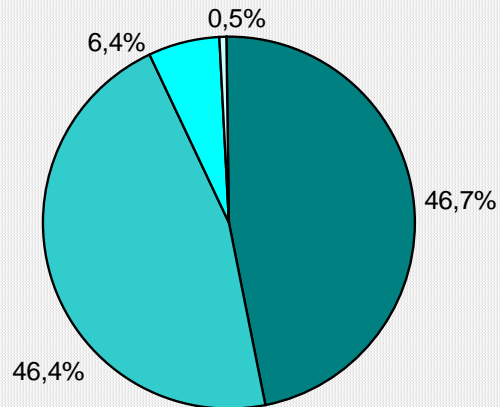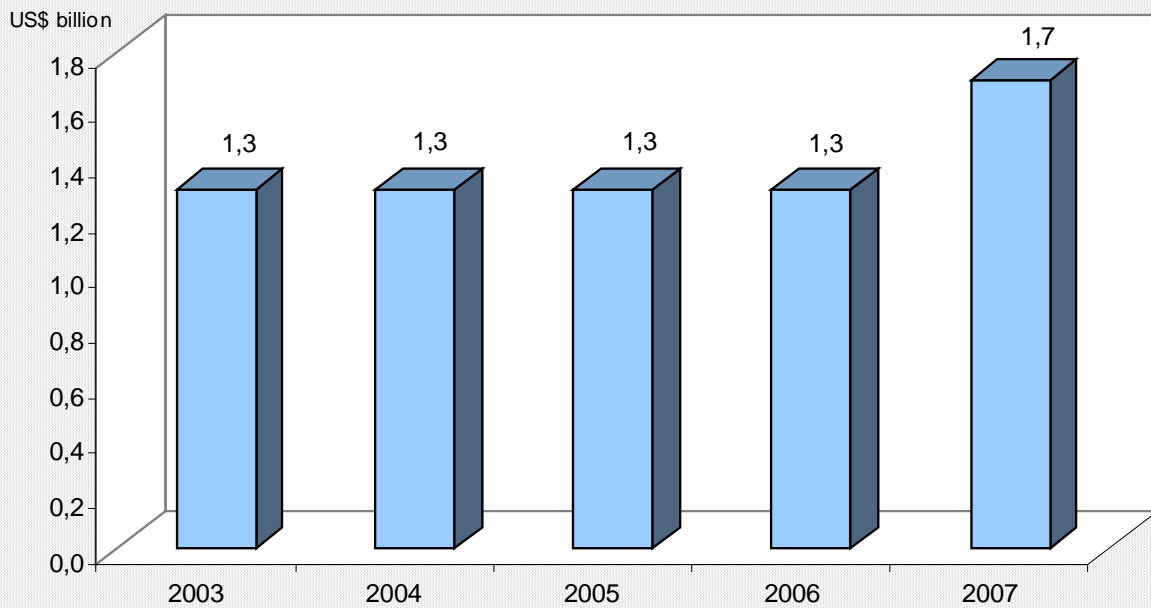
0,5%

6,4%

46,7%

46,4%

- ■ Computer services
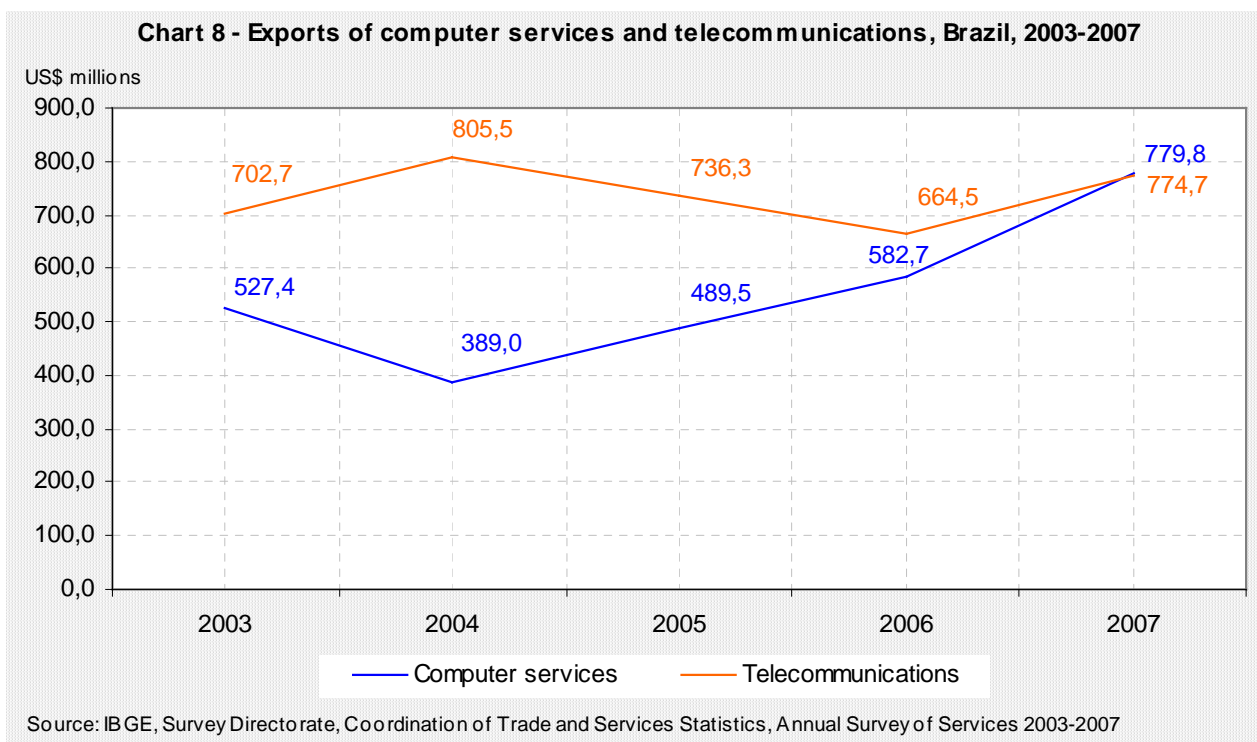- ■ Telecommunications
- ■ Audiovisual services
- □ News agencies

In terms of expansion, the exports of the sector as a whole remained stable over the period 2003 to 2006, around US$ 1.3 billion, increasing in 2007, when stood at US$ 1.7 billion (Chart 7).

Chart 7- Exports of information services, Brazil, 2003-2007

US$ billion

	2003	2004	2005	2006	2007
	1,3	1,3	1,3	1,3	1,7

The Chart 8 shows that the evolution of two major segments of the information sector showed different trends for the period 2003 to 2007. The computer services, after a reduction in 2004, made successive recoveries in 2005 and 2006, reaching the level of US$ 779.8 millions in 2007. The telecommunications services grew in 2004, with successive drops of export revenue in 2005 and 2006, recovering in 2007 to reach the amount of US$ 774.7 millions.

Chart 8 - Exports of computer services and telecommunications, Brazil, 2003-2007

US$ millions

	2003	2004	2005	2006	2007
Telecommunications	702,7	805,5	736,3	664,5	774,7
Computer services	527,4	389,0	489,5	582,7	779,8

— Computer services — Telecommunications

Source: IBGE, Survey Directorate, Coordination of Trade and Services Statistics, Annual Survey of Services 2003-2007

Export revenues of telecommunications services, consist basically of incoming telephone traffic and satellite services, especially for transmission of data, images and sounds to Brazil. The computer services are represented by exports of software and consulting services in information technology.

3.3 – Business Services

Export revenues of business services are very significant and after a contraction in 2004, presented successive growth, registering a total of US$ 1.173.5 millions in 2007 (Chart 9).

Chart 9 - Exports of business services, Brazil, 2003-2007
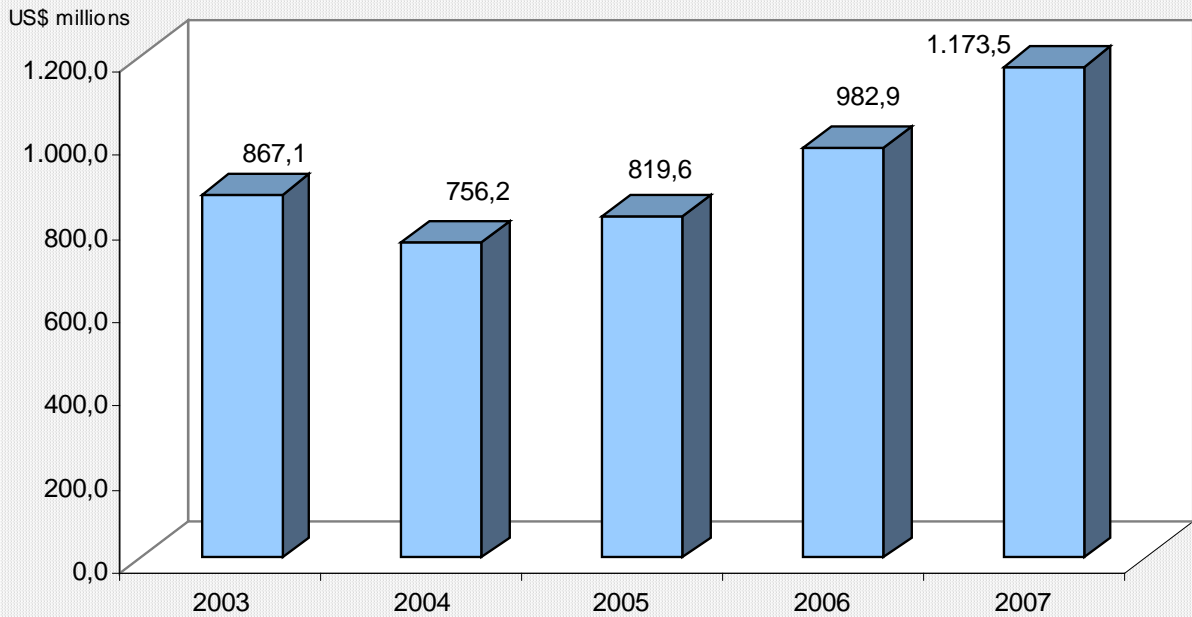
US$ millions

Year	Value
2003	867,1
2004	756,2
2005	819,6
2006	982,9
2007	1.173,5

Source: IBGE, Survey Directorate, Coordination of Trade and Services Statistics, Annual Survey of Services 2003-2007

The business services are represented basically by the professional, scientific and technical services, which encompass a set of skilled professional services such as legal services, account services, auditing, consulting, engineering and architecture services, advertising and so on.

4 – Final Comments

Notwithstanding the limitations of the Annual Survey of Services, the available data allowed to detect a significant increase in revenues of exports of services, with a predominance of traditional services, represented by the transportation sector. Besides, the dynamic services, represented by the information services and the knowledge-intensive services, represented by business services account for significant portions of the Brazilian exports of services.