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Globalisation and Health in Brazil

Introduction

The aim of this paper is to discuss some characteristics of the Brazilian Health System and to examine the possible effects that globalisation can impose on developing countries, particularly in the health sector. Brazil is a big country with a large population, and consequently an important market for international products. Thus we believe that it is more vulnerable to global forces than small countries. Besides, it is a developing country that has not managed to build its welfare state. Brazil has one of the worst income distributions in the world and a large part of its population remains below the poverty line¹. This perverse income distribution has direct consequences for the health status of its population. Our opinion is that global forces are causing different effects among different social groups in our country, and that these effects can deepen the social disparity inside the country. On the other hand we also recognise direct favourable effects of globalisation in the health sector emphasising the transference of new technologies and medical procedures among countries.

We distinguish two different types of direct effects of globalisation on the Brazilian health sector that can already be clearly identified. The first type of effects, we call institutional effect. This is related to the way the government provides healthcare, organises and regulates the health sector. The second type is related to market forces, more specifically to the export and import of healthcare products. In this group we include mainly the changes that have occurred in the pharmaceutical market and the introduction of new technologies in the healthcare sector.

This paper is organised in three sections. We start with a brief description of recent changes in the Brazilian Health System, with emphasis on the creation of the Unified System of Health (*Sistema Unificado de Saúde* - SUS) in 1988. The second section presents some empirical evidence on the Brazilian health sector that might be important to understand the effects of globalisation. In the third section we discuss the two different types of globalisation effects referred to in the last paragraph – the effect of market forces will be basically discussed with respect to technological changes, while changes in the pharmaceutical sector will be discussed by Gilberto Calcagnotto (cf. his contribution in this issue).

1. Brief presentation of the Brazilian health system

1.1 The national level

The Brazilian Health System has seen important reforms since the sixties, but it was only since 1988 that it can be considered a National Health System. In 1988 the New Constitution consolidated the creation of the Brazilian Health System, denominated Unified Health System (*Sistema Único de Saúde* – SUS). This Constitution institutionalised the universalization of social rights, including the right of health, which then became a citizen's right and the state's obligation and responsibility. Since then all types of healthcare are organised in a national network in which each level of government has its role. Three main principles define the Brazilian Health System: decentralisation, comprehensiveness and social participation. The principle of decentralisation establishes that states and local municipalities are responsible for the healthcare services supply while the federal government is responsible mainly for the management, supervision and control of this supply. Comprehensiveness establishes that the state is responsible for all types of healthcare services but there is a priority to preventive services. There is no prohibition to the participation of the private sector in the national system. It can both finance and provide healthcare services. Besides, most services financed by the public sector are supplied by private providers that are contracted by the SUS. University hospitals and - mainly for ambulatory care – health centres constitute the most important public providers.

The resources to fund SUS integrate the Social Security Budget, the main sources are social contributions (payroll contribution and profit taxes). Recently the government created a new tax called *CPMF* (*Contribuição Compulsória sobre as Movimentações Financeiras*) that is a tax on financial transactions, being in that way a progressive tax. Historically the major part of the resources to finance health care were provided by the federal government, but after the decentralisation of healthcare services the participation of local municipalities in the financing has grown (Table 1). The public expenditures for health in Brazil are estimated to amount to around 4% of GNP.

The Brazilian Health System, thus, can be characterised as a mixed system. The private and public system do both finance and provide healthcare services. This duality results in a deep social inequality of the health status because richer groups can have double access to healthcare services (Noronha & And-

TABLE 1
SUS - Funding Share by Level of Government - 1994-1998

Level of Government	1994	1995	1996	1998
Federal	60,7	63,8	53,7	55,3
State	22,1	18,8	18,5	18,4
Local Municipalities	17,2	17,4	27,8	26,3
Total	100	100	100	100

Quelle: IPEA/DISOC and CGOP/DP/SIS/MS

rade, 2002, Travassos et al, 2000). The private system is organised in different types of health plans which can be classified into four main groups:

- 1) Health Maintenance Organisation - HMO (Medicina de Grupo)** – Consists of a network of medical doctors and hospitals which provide services based on set prices for each and every procedure. Under this program, individuals pay a monthly fee, which entitles them to use the plan's network of doctors and hospitals only. Approximately 18,4 million individuals are covered under such health plans.
- 2) Medical Co-operatives (Cooperativas Medicas - Unimed)** - These are entities formed by medical doctors and hospitals. Under such system, almost all hospitals are owned by the co-operative. Approximately 11 million Brazilians are covered under the so-called coop-plans.
- 3) Health Insurance (Seguro Saúde)** - Health insurance companies allow their clients to freely select doctors, hospitals and services. These companies reimburse their clients for their medical expenses, up to the limit set by the insurance policy. Nowadays health insurance plans can also have a network of providers. Brazilian health insurance companies provide medical assistance to approximately 3,9 million of people.
- 4) Self-Administration System (Autogestão)** – Under this mechanism, large companies either have an in-house medical facility or have a hospital or clinic outside the physical area of the company which caters exclusively to the company's employees and their relatives. Usually this type of plan is priced by community rating. This type of medical assistance plan covers about 7,8 million people.

The great expansion of the private sector in Brazil occurred between 1987 and 1994 when the level of coverage increased by 73.4% and the population with private coverage (24.4 million individuals in 1987) reached 42.3 millions in 1994 (PNAD, 1998)². This expansion coincides with the creation of SUS, being attributed both to the tributary incentives that the federal government created and to the lower quality of public health-care services (Médici, 1997)³. The State with the greatest participation of private medicine is São Paulo⁴. The access to private

TABLE 2
Level of Coverage by Region and Income

Decil	North**	Northeast	Midwest	Southeast	South
1	4,33	0,66	2,82	5,3	3,54
2	3,99	2,57	7,82	8,7	6,47
3	7,36	2,9	11,56	12,48	9,76
4	9,67	4,25	16,34	19,08	10,5
5	11,13	6,34	19,17	24,56	15,3
6	15	9,35	26,74	30,57	19,8
7	20,19	13,17	35,25	36,62	23,93
8	27,23	21,41	40,27	46,38	35,8
9	35,52	35,52	52,98	55,53	46,72
10	55,25	65,37	69,61	77,41	67,27

** it includes only urban area

Quelle: PNAD/98 – IBGE

TABLE 3
Level of Coverage by Region

	North	Northeast	Southeast	South	Midwest
1 Plan	17,51	14,37	29,53	25,41	21,73
More than 1 plan	1,41	1,68	2,03	2,67	1,97
Total	18,92	16,05	31,56	28,08	23,70

Quelle: Supplement of Health from PNAD/98 – IBGE

health care is not equally distributed between social groups and Brazilian regions. (Tables 2 and 3)

Even though the 1988 Brazilian constitution allowed the private sector to finance and provide healthcare services, there was no regulation of this sector until 1998. Recently the federal government recognised the importance of regulation creating a health regulation agency and implementing a new law⁵. We concentrate on four main aspects of the regulatory framework that we consider most important to the understanding of the Brazilian private system:

- (1) The new regulation standardises the design of benefits that are to be supplied creating four main types of plans: reference plan, ambulatory care plan, inpatient care including obstetrics care, inpatient care without obstetrics care and an odontological plan⁶. There is also a list of all clinical and ambulatory procedures that should be included in each type of plan. The main objective of the health plans standardisation is to protect the consumers that usually do not have accurate information about their needs. It is worth emphasising that health plans are free to offer any other clinical procedures that they want to include.
- (2) The government fixed a pricing rule conditioned on age. Seven age groups were created: 0-17 years, 18-29, 30-39, 40-49, 50-59, 60-69 and over 70. The price rule establishes that the highest age group rate can be at most six times the

lowest age group rate. The objective of this pricing rule was to establish a cross-subsidy between age groups. The main problem with this type of politics is that it introduces an adverse selection problem: young people will not buy private health plans.

- (3) Another important aspect of the regulation is that it allows foreign capital in the private health system, which is one of the aspects that should be considered in the analysis on globalisation effects.
- (4) Last, but not least, regulation has established a public financial control over private providers of health services. Nowadays, the national health agency can check all organisations that supply health plans or health insurance in order to guarantee the solvency in the long run.

1.2 The role of states and local municipalities

The main change introduced with the creation of SUS is the decentralisation of management and supply of healthcare services to local municipalities. Local municipalities took charge of healthcare supply. The rationale behind this strategy is to keep the health manager closer to the people, making it easier to identify their real needs. According to the Norma Operacional Básica (NOB/1996), the Brazilian law that regulates decentralisation, there are two types of management of the supply of healthcare services that local municipalities can adhere to:

- 1) Full management of primary care (Gestão Plena da Atenção Básica);
- 2) Full management of local municipality (Gestão Plena do Sistema Municipal).

In the first case the local municipality is in charge of all healthcare services concerning primary care (ambulatory services). In the second one, the local municipality is in charge of both, the ambulatory and in-patient care. The type of adherence depends on the facilities and available providers. Federal funding is conditioned on the adherence to one of these levels of management. Local municipalities receive a fixed amount per

TABLE 4
Family Health Program Coverage by Region

Region	Population (1)	Covered Population [2]	Number of Teams [(2) / 3.450]	% of Covered Population
North	12.133.705	2.038.462	591	16,8
Northeast	46.289.042	11.544.700	3.346	24,94
Center West	11.220.742	26.427.000	766	23,55
Southeast	69.858.115	8.059.200	2.366	11,54
South	24.445.950	3.285.400	952	13,44

Note: (1) IBGE Population - 1999. (2) Estimate - base of calculate 3.450 people for ESF.

Quelle: MS/SIAB - Cadernos de Indicadores Seleccionados, 2000. Referring data to the June month.

capita to supply primary care. Besides this fixed amount, there are other financial incentives conditioned on the adherence to special programmes. The most important programmes are the Family Health Program (Programa da Saúde da Família- PSF) and the Health Community Agents Program (Programa dos Agentes Comunitários da Saúde- PACS).

These programmes officially began in 1997 and represent the most important initiative of the federal government to change the health assistance model in Brazil. Their emphasis is on preventive care and on the promotion of health. The Health Community Agents Program consists of the contract of community agents by the local municipality. These agents have the duty to visit each family once a month, verifying health conditions and doing the necessary referrals. The only prerequisite to be a community agent is to live in the local municipality. Each agent is responsible for at most 150 families or 750 individuals. The Family Health Program is much more complex than PACS. In this case the local municipality contracts some health teams to provide ambulatory and preventive care. The team is composed by at least one doctor, one nurse and four community agents. Each team works in a limited region and takes care of at most 4500 people or 1000 families. The team also has the duty to register each family and give information about their socio-economic, demographic and epidemiological conditions.

TABLE 5
Local Municipalities Adhered to Gestão Plena da Atenção Básica

Region	Number of Mun(1)	Total Pop (2)	Mun. in GPAB(3)	% (3)/(1)x100	Covered Pop.(4)	% (4)/(2)x100
North	449	12.893.561	365	81,29	7.442.163	57,72
Northeast	1.787	47.693.253	1.641	91,83	30.165.982	63,25
Midwest	446	11.616.745	421	94,39	5.876.911	50,59
Southeast	1.666	72.297.351	1.380	82,83	35.852.256	49,59
South	1.159	25.089.783	1.115	96,2	17.530.231	69,87
BRASIL	5.507	169.590.693	4.922	89,38	96.867.543	57,12

** Census IBGE 2000.

TABLE 6
Municipalities Adhered to Gestao Plena do Sistema Municipal

Region	Mun. (1)	Total pop (2)	Mun.- GPSM(3)	% (3)/(1)x100	Covered Pop.(4)
North	449	12.893.561	74	16,48	5.384.351
Northeast	1.787	47.693.253	145	8,11	17.341.267
Midwest	446	11.616.745	25	5,6	5.739.834
Southeast	1.666	72.297.351	274	16,45	36.343.878
South	1.159	25.089.783	44	3,8	7.559.552
BRASIL	5.507	169.590.693	562	10,2	72.368.882

** Census, IBGE 2000.

Quelle: Health Ministry, 2001

The process of decentralisation is quite advanced in Brazil. As can be seen in tables 5 and 6, almost 100% of the local municipalities adhered to one of the two types of management.⁷ The majority of municipalities managed to provide primary care (90%). Only 10% of the municipalities have satisfactory facilities to provide also in-patient care. These municipalities represent 42% of the whole population. This is due to the small size of the majority of local municipalities in Brazil. Concerning the special programs (PSF and PACS), PACS is much more widespread across the country than PSF: only 25 % of the whole population is covered by this program. There are a lot of difficulties to implement PSF. We call attention to difficulties to attract doctors and nurses to remote/rural areas. Despite that, this is one of the most important things that federal government has done in the health sector.

Federal states are responsible for the planning, co-ordination and management mainly of in-patient care. Recently, the Health Ministry edited a law redefining the role of federal states in health management⁸. They should organise the network of in-patient care, plan and realise new investments in facilities and also guarantee access to all healthcare services to the whole population.

2. Some empirical evidence for changes within the Brazilian health system

In this section we present some data on the situation of health in Brazil. Health status has a lot of dimensions and it is very difficult to choose one indicator to summarise all the aspects that are involved its determination. Nevertheless we will look at a few indicators that are important for analysing the potential impacts of globalisation on health in Brazil.

In the last two decades Brazil has achieved great advances in health (Simões, 2002). We can clearly observe a transition in the epidemiological Brazilian pattern: deaths caused by infectious diseases, bad nutrition and reproductive health are being replaced by endogenous diseases like heart diseases and cancer. As a result we can observe a higher share of the old population⁹. On the other hand we can also observe an increase in deaths caused by homicides, particularly in the young male population (Table 7). This compensates part of the gains obtained with the reduction of infant mortality so that the gains in life expectancy are not so large as they could be. In some states like Rio de Janeiro and São Paulo, deaths by homicide can determine a loss of almost three years.¹⁰ This pattern of changes is common to all federal states.

Despite these great advances, Brazil continues to be a very heterogeneous country and still has a lot to improve in the provision of health services. Considering infant mortality we can still observe a very high level in some federal states. The states

TABLE 7

Mortality Rate by Homicide: Men from 20 to 29 Years by Federal Units (per 100,000 Inhabitants)

UF	1994	1995	1996	1998	1999
Rondônia	95,73	69,79	56,37	115,33	97,68
Acre	86,42	76,82	63,75	77,67	38,88
Amazonas	71,75	72,21	74,38	91,81	80,57
Roraima	67,59	97,35	118,44	166,26	170,5
Pará	54,26	55,26	48,25	58,15	45,24
Amapá	147,13	124,89	143,19	139,22	159,84
Tocantins	36,39	27,45	36,02	28,81	40,09
Maranhão	24,94	27,68	27,32	21,33	18,71
Piauí	17,71	16,52	16	20,99	27,46
Ceará	43,82	55,74	56,52	60,72	66,99
Rio G. do Norte	31,65	32,53	34,62	39	26,57
Paraíba	53,86	55,28	73,3	55,43	53,52
Pernambuco	162,17	156,11	170,97	272,78	257,52
Alagoas	85,4	93,69	103,35	79,23	81,07
Sergipe	86,01	65,08	55,45	45,19	75,4
Bahia	65,04	51,55	62,05	42	29,26
Minas Gerais	23,74	25,59	26,29	34,47	35,54
Espírito Santo	144,98	146,26	149,26	223,54	202,81
Rio de Janeiro	184,67	237,15	238,29	231,77	222,97
São Paulo	131,91	142,99	155	172,01	188,8
Paraná	49,34	55,72	56,86	63,24	67,45
Santa Catarina	22,95	26,93	27,48	26,83	22
R. G. do Sul	51,8	50,65	56,42	59,58	66,16
M. G. do Sul	92,72	108,78	126,51	107,36	90,03
M. Grosso	38,64	63,27	84,58	99,14	101,57
Goias	62,17	51,4	51,53	49,83	58,92
Distrito Federal	120,49	132,56	116,61	110,98	125,31

TABLE 8

Infant Mortality Rate by Brazilian States

States	1997	1998	1999
Rondônia	35	34,8	33,1
Acre	45,2	44,7	44,2
Amazonas	35,4	32,3	31
Roraima	38,8	38,5	38,3
Pará	36,2	34,9	34,6
Amapá	32,1	31,9	31,6
Tocantins	33,7	33,3	33
Maranhão	60,9	55,7	54,2
Piauí	51,9	46,4	45,3
Ceará	56,3	53,3	52,4
Rio G. do Norte	60,4	49,7	48,7
Paraíba	65,2	61,4	60,3
Pernambuco	62,7	59	58,2
Alagoas	74,1	68,2	66,1
Sergipe	54,1	46,6	45,5
Bahia	51	46,3	45,4
Minas Gerais	28,8	27	26,3
E. Santo	28,5	20,1	17,7
Rio de Janeiro	25,6	22,6	21,3
São Paulo	24,6	19,8	17,9
Paraná	28,5	21	19,7
Santa Catarina	23,4	17	16,4
R. G. do Sul	19,7	17,3	15,1
M. G. do Sul	27	25,2	24,9
M. Grosso	28,6	28	27,5
Goias	27,1	25,6	25
Distrito Federal	24,8	23,1	22,6

Quelle: MS/FUNASA/CENEPI - SIM

of the northeast have the highest rates, followed by the northern states. The federal states in the south and southeast are the ones with the best indicators (Table 8). This ranking can be obser-

ved for any indicator chosen. Compared to developed countries overall infant mortality is still very high in Brazil. Even in the states with the lowest rates, like the southern states, the rate is five times the rate observed in developed countries. In some part this infant mortality is still caused by avoidable diseases and bad sanitary conditions.

Table 9 and 10 look at the literacy rates in the different Brazilian states. We see that almost 20% of Brazilian population is

TABLE 9
% of Illiterate Individuals by Brazilian States

States	1991		2000	
	Literate	Illiterate	Literate	Illiterate
Rorônia	64,31	35,69	74,43	25,57
Acre	49,14	50,86	61,15	38,85
Amazonas	57,1	42,9	67,13	32,87
Roraima	62,96	37,04	71,16	28,84
Pará	56,53	43,47	67,23	32,77
Amapá	60,72	39,28	70,3	29,7
Tocantins	53,27	46,73	68,57	31,43
Maranhão	43,64	56,36	59,67	40,33
Piauí	44,46	55,54	59,81	40,19
Ceará	49,58	50,42	63,03	36,97
Rio Grande do Norte	51,64	48,36	64,91	35,09
Paraíba	46,61	53,39	62,27	37,73
Pernambuco	53,18	46,82	65,59	34,41
Alagoas	42,05	57,95	55,92	44,08
Sergipe	50,63	49,37	64,1	35,9
Bahia	51,41	48,59	66,67	33,33
Minas Gerais	69,31	30,69	78,17	21,83
Espirito Santo	69,68	30,32	78,01	21,99
Rio de Janeiro	79,12	20,88	83,03	16,97
São Paulo	77,91	22,09	82,65	17,35
Paraná	73,36	26,64	80,23	19,77
Santa Catarina	76,74	23,26	82,96	17,04
Rio Grande do Sul	78,12	21,88	83,01	16,99
Mato Grosso do Sul	69,83	30,17	77,9	22,1
Mato Grosso	66,28	33,72	76,41	23,59
Goiás	69,53	30,47	77,9	22,1
Distrito Federal	76,73	23,27	82,22	17,78
Total	66,43	33,57	75,24	24,76

TABLE 10
Illiterate Individuals According to Age Groups (%)

Age Group	1991		2000	
	Literate	Illiterate	Literate	Illiterate
10 a 14 years	82,27	17,73	92,75	7,25
15 a 19 years	87,95	12,05	95	5
20 a 29 years	87,57	12,43	92,68	7,32
30 a 39 years	84,66	15,34	89,78	10,22
40 a 49 years	76,23	23,77	86,1	13,9
50 a 59 years	68,56	31,44	77,41	22,59
60 a 69 years	60,25	39,75	69,13	30,87
70 a 79 years	51,15	48,85	62,11	37,89
over 80	51,74	48,26	52,23	47,77
Total	66,59	33,41	75,24	24,76

Quelle: IBGE - Censur 1991 e 2000.

still illiterate. A great part of this population is adult and suffers from precarious labour conditions. These data clearly reveal a very unfavourable portrait of Brazilian reality, nevertheless in the last years there were important advances in education as well. The major advances in education in recent years, mainly after the introduction of the so-called Plano Real in 1994, were reached among children. Nowadays, 97% of children are able to go to school and attending classes.

Table 11 presents data on the sanitary conditions in the federal states. These data show that despite the great effort in health sector there is still some space for public interventions. Table 12 shows the share of deaths registered without a clear definition of the cause of death in the last five years. This indicator is usually perceived as an indicator of absence of medical assistance. In most states we observe a reduction of this share between 1994 and 1999, which suggests a certain improvement in the course of these five years, nevertheless in many states this share is still very high and points, once more, to the high level of heterogeneity across the states.

Another important aspect that helps to evaluate the quality of health services in Brazil is the equity of access to healthcare services. The major health policy goal in most countries has been the promotion of an equitable healthcare distribution. However, empirical works point to a general healthcare inequality that favours high-income groups. Empirical evidence shows that there is inequality in the access to healthcare in many countries that is favourable to the wealthy¹¹. Such an outcome was even observed in developed countries where economic disparities are not so outstanding and in countries in which healthcare services are free of charge. Studies on Brazil support these results¹². This can be a consequence of differences in the level of medical assistance available to different socioeconomic groups.

The social inequality in health and the way the supply of healthcare services is organised in Brazil suggest the presence of social inequality in the access to such care. In order to better understand the dimension of social inequality in Brazil we estimated a hurdle binomial model (Noronha and Andrade, 2002)¹³. The hurdle binomial model is an econometric model to count data estimated in two stages. In the first stage we estimate the probability of using a medical service and in the second stage we estimate the expected number of services received by the patient. Trying to better understand the Brazilian case, we estimated two models that differ in the type of healthcare and sub-sample. The first model refers to ambulatory care, so the dependent variable is doctor visits. The second model refers to in-patient care. We considered two sub-samples: the whole population and the occupied population. The analysis of the occupied population allowed us to understand some aspects of equity related to insertion in the labour market.

TABLE 11
Households According to Sanitary conditions

States	Number of Households	Households with sewerage	Households with access to public water-supply	Households with garbage collection
Rondônia	347 194	3,69	30,75	57,28
Acre	129 439	19,50	36,09	55,85
Amazonas	570 938	20,00	60,03	64,74
Roraima	74 451	10,71	79,24	68,93
Pará	1 309 033	7,40	42,64	53,44
Amapá	98 576	6,15	50,75	71,75
Tocantins	280 281	2,75	66,26	56,86
Maranhão	1 235 496	9,21	52,95	34,32
Piauí	661 366	4,00	60,80	43,73
Ceará	1 757 888	21,44	60,80	61,48
Rio Grande do Norte	671 993	16,52	78,24	73,66
Paraíba	849 378	28,90	68,78	65,91
Pernambuco	1 968 761	34,25	70,53	68,65
Alagoas	649 365	15,29	63,40	68,89
Sergipe	436 735	27,81	75,57	69,84
Bahia	3 170 403	34,51	69,51	61,67
Minas Gerais	4 765 258	68,19	82,96	78,35
Espírito Santo	841 096	56,25	80,76	77,57
Rio de Janeiro	4 253 763	62,51	83,22	92,82
São Paulo	10 364 152	81,69	93,50	95,83
Paraná	2 664 276	37,66	83,62	83,22
Santa Catarina	1 498 742	19,50	74,56	83,05
Rio Grande do Sul	3 042 039	27,43	79,66	84,09
Mato Grosso do Sul	562 902	11,83	78,27	80,60
Mato Grosso	645 905	15,66	63,67	71,68
Goiás	1 398 015	30,36	69,48	81,14
Distrito Federal	547 656	83,48	88,68	96,14
Brasil	44 795 101	47,24	77,82	79,01

Quelle: IBGE, Censo Demográfico 2000.

TABLE 12
Proporcional Mortality Due to Undefined Cause of Death

States	1994	1995	1996	1998	1999
Rondônia	16,67	18,44	18,32	14,66	15,38
Acre	30,57	25,5	27,09	32,46	31,67
Amazonas	30,75	25,62	23,15	22,85	23,82
Roraima	7,59	8,27	4,57	3,93	9
Pará	32,05	29,95	27,44	27,82	28,11
Amapá	7,73	6,28	5,65	9,83	10,53
Tocantins	32,69	32,38	30,28	28,58	24,63
Maranhão	47,36	42,43	40,06	39,98	40,72
Piauí	37,37	35,96	34,06	32,66	31,39
Ceará	43,54	38,11	30,95	24,02	21,92
Rio G. do Norte	35,81	30,34	29,9	29,47	29,52
Paraíba	54,02	50,25	50,41	47,55	53,49
Pernambuco	31,15	27,91	27,07	24,74	24,57
Alagoas	42,35	40,04	41,16	34,76	34,44
Sergipe	28,63	32,98	32,07	31,99	31,71
Bahia	30,86	30,32	28,58	28,2	29,85
Minas Gerais	15,47	14,99	14,39	14,82	16,13
Espírito Santo	19,79	20,19	19,88	19,41	19,27
Rio de Janeiro	9,89	9,8	9,63	10,96	10,88
São Paulo	6,5	6,6	6,04	6,67	6,57
Paraná	10,71	10,77	9,83	7,06	6,6
Santa Catarina	14,73	15,06	15,26	14,23	13
R. G. do Sul	6,45	6,05	5,62	5,57	4,97
M. G. do Sul	10,35	10,39	10,88	10,13	9,23
M. Grosso	18,97	15,23	10,05	9,23	7,47
Goiás	15,96	18,03	14,74	13,89	13,56
Distrito Federal	1,56	1,48	1,2	3,85	4,92

Quelle: MS/FUNASA/CENEPI - SIM

The results are quite different depending on the type of healthcare and sub-sample used. The results reveal social inequality in the access to ambulatory healthcare services in Brazil in favour of more privileged socioeconomic groups, even if morbidity, occupational characteristics and health insurance coverage are controlled. For the in-patient care, however, the model reveals social inequality with respect to access which is favourable to less privileged socioeconomic groups.

The probability of an individual having at least one visit to the doctor increases with income. The odds ratio is equal to 0.73 for the individuals in the first income decile, which implies a 27% lower probability of a medical visit as compared to the probability of those in the last decile. Such a difference between the ninth and the tenth income groups amounts to 12% only. In the second stage of the model, the coefficients estimated for the income dummies were not significant, indicating that there is no difference in the expected number of doctor visits across social groups. Such a relation between income and access to ambulatory services in Brazil suggests that the barrier encountered by low-income individuals occurs before the contact is made. The income affects only the decision to search healthcare. In the Brazilian case the patient is entirely responsible for this decision, there is no gatekeeper in the health system.

Two hypotheses may be related to this result. The first is concerned with the difference between the expected assistance among both the low and high-income individuals. As they possess a health insurance coverage, the richer individuals always expect to be assisted whenever searching for such services. The poorer individuals, on the other hand, generally show negative expectations about medical assistance, which make them give up searching. Thus, even after controlling for the existence of health plans, richer individuals have better access probably because they search for these services more intensively¹⁴. The expectation of not being assisted may reflect an unattended demand in the past. If he/she did not manage to be assisted when searching for healthcare services, the individual will prefer not to demand such services any more as he/she expects not to be assisted again.

Another hypothesis is related to the opportunity cost for the people searching for healthcare services that tends to be higher for lower-income classes. Generally speaking, time spent in lines and the monetary costs of shifting to the place of medical assistance are higher for the less-privileged socioeconomic groups. Furthermore, the way such income classes are inserted in the market tends to be more precarious, causing a certain employment instability and thus a higher opportunity cost for the search of such services.

When the occupied population is taken into account, one can observe again that the higher the income, the greater the probability of an individual to visit the doctor at least once

reinforcing the presence of social inequality in the access to ambulatory services. The probability of a medical visit is 32% lower for the individuals in the first decile as compared to those in the tenth decile. For those in the ninth decile, this probability is 13% lower. The results in the second stage are different from that obtained for the whole population: income affects the frequency of medical visits in favour of the more privileged socio-economic groups. The average number of medical visits is 17% lower for the individuals in the first decile and only 7% lower for those in the eighth decile as compared with those in the tenth income decile.

This result may be associated with the opportunity costs of searching other healthcare services. Usually this cost is higher to lower income groups due to the more precarious insertion in the labour market. This result is different from the one encountered in the case of the model estimated for the whole sample. When the total population was considered, the most vulnerable population groups in terms of health status – the children and the elderly – who cannot postpone healthcare were included.

Related to in-patient care the most important socioeconomic indicator for explaining access is the family income per capita. The estimated results show that there is social inequality in the country in the access to in-patient care that is favourable to the poorer. This can be verified only when the estimated model for the whole sample is considered¹⁵. The probability of an individual belonging to the first decile be hospitalized is 76.6% higher than the chance of an individual in the tenth decile and 9% higher for those in the sixth income group. In the second stage of the estimation, income is again favourable to the poorer. The average number of days in the hospital is 30%, 31% and 41% higher for individuals in the first three deciles, respectively, as compared to the highest income group. This result seem to reflect the fact that the poorer search for some healthcare when their health conditions are worsened thus needing a more intensive treatment. In spite of the fact that the model controls for morbidity measures, such variables may not be totally reflecting the treatment needs of low-income groups and the disease severity, specially for the most vulnerable age groups: the children and the elderly.

3. Globalisation and health: some introductory investigations

Globalisation is a complex phenomenon, and it is very hard to measure the impacts that results from it. The understanding of its effects would require a counterfactual analysis that is quite impossible to be made. Moreover, there is no agreement about which is the right temporal period to be considered. Despite all these difficulties we shall try to discuss some globalisation effects in the Brazilian health sector, considering more specif-

ically the nineties, the period when liberalization began more intensively in Brazil.

The health status itself is a very complex issue that presents a lot of different dimensions. We saw that in the Brazilian case, there is still a lot to be improved in health status concerning primary care, avoidable diseases and sanitary conditions as was presented in the last section. This dimension of health is much more related to life conditions than to the supply of healthcare services. In this way, globalisation effects are very widespread in the Brazilian Health System. In this essay, we will limit our analysis to the direct effects. We call direct effects the ones that are directly related to the supply of medical services. We organise our analysis taking into consideration three characteristics of the health care market: the presence of externalities, the distributive aspect (health as a merit good) and the presence of scale economies.

We recognize two types of globalisation effects in the Brazilian case. The first type of effects concerns the organization and management of the health system. We will call them *institutional effects*. The second type of direct impacts concerns trade with medical products and procedures.

Concerning the institutional effects, it is possible to perceive at least two important changes in the Brazilian health system. First of all there is a great influence of the English health system in the design of public programs that are being implemented in Brazil. Both the family health program and the community agent program were inspired in the English model in which there is a gatekeeper. These programs reinforce a change of pattern of medical assistance in Brazil in which the preventive care and the promotion of health are the main targets of the system. The valuation of primary care to the detriment of curative care is an international trend not being restricted to the English model but it is worth emphasizing the close relationship between both health ministries¹⁶. There is no doubt about the importance of globalisation to developing countries in the building of their health systems.

We can also point out another institutional effect in the Brazilian health system that concerns the private sector. As presented in the first section, in comparison to other countries the Brazilian private sector is quite large with 40 million individuals already having some type of private coverage. There was a great expansion of this sector during the beginning of the nineties and we expect it to continue to expand. In this way, this market is very attractive to foreign capital. As described above, there is no restriction to the share of foreign capital in this market. We expect that this share will expand in the short run. Quite probably, this expansion will bring important innovations, especially in the contractual relationships in the health insurance and health plans supplied. In 2001 the national health agency tried to introduce managed care innovations

into the Brazilian market, but there was great resistance from the medical class. Despite that, we expect that in the short run these innovations will be introduced in Brazilian private health market, as they seem to reduce health costs¹⁷.

The second type of globalisation effects concerns the trade with healthcare-related goods and medical procedures. Globalisation intensifies trade and knowledge interchange between countries. Related to health products, Brazil is able to export mainly some pharmaceutical products as vaccines and anodynes (“pain-killers”) and is an importer of health equipment¹⁸. Most healthcare services are technology intensive, one of the globalisation effects in this sector probably is the increasing import of new health equipment. In the Brazilian case with both public and private funding this effect can be very important. There are some international studies showing that the introduction and diffusion of new technologies is closely related to the type of funding (Weisbrood, 1991). According to this author, in economies with public health system decisions to introduce new technologies or new procedures are centralised. In the case of private funding, however, health organisations take this decision. As consumers do not have perfect information about the benefits of all health procedures, usually they tend to accept the more generous design of benefits. In this respect we can expect specific effects of globalisation on the Brazilian Health System. We expect a quick diffusion of new technologies and health procedures. This diffusion tends to begin in the private sector, probably causing an increase in costs and deepening of the distance between rich and poor. Poor people only have access to health care services through the public system, so if the introduction of new technologies in the public sector is slower than in the private sector, this time lag tends to deepen social inequality in access to healthcare services. So, considering distributive aspects, on the one hand, globalisation tends to reduce the differences of healthcare received in different countries, as the diffusion and interchange of knowledge is becoming easier. This is a very important step with respect to advances in science. On the other hand, inside the country, particularly in the case of mixed systems like in Brazil, global forces can deepen the distance among social groups, thus enlarging social inequality.

Another important aspect of globalisation concerns the importance of externalities in health. The most important example of the presence of externalities in health concerns the effects of communicable diseases. Nowadays, despite the fact that the majority of these diseases are under control, some authors argue that the concept of externalities should be seen in its broad meaning. As health affects directly the quality of life of individuals, it is reasonable to argue that individuals are worried about the health status of others individuals. In this way, it makes sense to expect that globalisation can intensify

worldwide politics in health improving the health status of all humankind.

Footnotes:

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¹ The gini coefficient in Brazil is 0,60 since 1993; the richest 10% of the population receives 50% of the whole national income while the poorest 50% receives only 10%. In 1994 34% of the population were below the poverty line. (Lisboa et al., 2002).

² 25% of the whole population have private coverage (PNAD data). PNAD (Pesquisa Nacional de Amostra Domiciliar) is a national household survey conducted by the Brazilian Institute of Geography (IBGE). In 1998 PNAD had an additional survey on health.

³ The federal government determined that health expenses could be deducted from the income tax.

⁴ 20% of the individuals with private coverage live in the state of São Paulo.

⁵ The whole framework of regulation can be accessed in the health ministry site: www.saude.gov.br

⁶ The reference plan includes all types of in-patient and ambulatory care, including obstetric care. There are not covered in the reference plans healthcare concerning: esthetical treatment, imported drugs, homecare, artificial insemination.

⁷ There are only 23 municipalities that are not managing any kind of health service.

⁸ NOAS – Norma Operacional de Assistência a Saúde/2000.

⁹ This higher share of old population is also result of the fertility reduction. Brazil is clearly passing through a demographic transition.

¹⁰ Andrade e Lisboa, 2001.

¹¹ Pereira, 1995, Doorslaer e Wagstaff, 1992 and Waters, 2000.

¹² For international literature, see Pereira, 1995 and Doorslaer et al, 1997. For the Brazilian case, see Noronha e Andrade, 2001, Campino et al, 1999, and Travassos et al, 2000.

¹³ Cf. Noronha and Andrade (2002) for the results presented here.

¹⁴ The variable “health insurance coverage” informs only whether individuals are covered or not by some healthcare plan. However, it does not allow us to determine its coverage degree. Thus, even if the healthcare plan existence is controlled, the differences of access amongst the socioeconomic groups may persist also due to the differences in the coverage degree.

¹⁵ The income was not significant in the two stages of the model, when the analysis was restricted to individuals between 15 and 65 years of age.

¹⁶ Recently the Brazilian government contracted a study about resource allocation methodologies. The health ministry intends to expand the criteria that define the resource allocation from federal governments to local municipalities and federal states. The methodology that is being proposed is similar to RAWP. RAWP is the name of the English criteria that was established till 1996. There is a little brief about this research available at health ministry site. www.saude.gov.br

¹⁷ There is a great literature trying to show that managed care reduced costs in the United States (Culyer and Newhouse, 2000)

¹⁸ On the effects of globalisation in the pharmaceutical sector cf. Calcagnotto in this issue.

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