"The Public Transfers Flows between generations: Uruguay (1994)" [1]

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1. Introduction

Uruguay is one of the smallest (176,220 km2) and less densely populated countries in Latin America, with a comparative low growth population rate. In 2005, population was about 3.4 million, 91.8% of which lived in urban areas and more specifically, 50% resided in the capital city Montevideo. Being a Latin-American country, another distinguishable characteristic is the high weight of the elderly: according to recent estimations of the Statistical Office (*INE*), 18% of the population is older than 60 years old.

Uruguayan economy relies on agriculture and agri-industry, which account for two-thirds of exports. Manufacturing accounts for 22% of GDP and agriculture for 9% whereas services are around 60% of GDP. In the nineties, the GDP had an increasing trend but between 1998 and 2002, the country went through a severe economic and financial crisis. As a result of economic and change rate fluctuations, in 1994 GDP per capita was 5,400 American dollars and declined to 3,700 in 2003. The recovery began in 2003 and in 2005, GDP per capita was 5,100 American dollars.

Compared to Latin-American standards, Uruguay boasts a long tradition of publicly provided services and benefits and has had a good performance of education, health and social indicators. Compulsory of primary school was introduced in 1877 and full enforcement was achieved in the middle of 20th century. Nowadays, literacy rate is 97% for men and 98% for women. Health indicators are also successful compared to the region. Infant mortality rate is 14 per thousand and life expectancy is 76 years. As regards to the social security system, its coverage has been extended since the creation of the first program at the end of 19th century. Nowadays, legislation seeks to insure the whole labor force but informality is quite important. In the last decades, between 30 and 40% of workers did not contribute to the system. Nevertheless, 88% of people older than 65 years receive a pension from the social security system.

According to official estimations, social public expenditure was on average 25% of GDP between 1999 and 2003 (OPP, 2004). The process of population aging has become a concern of policy makers because its impact on the social security system which is mainly address to the elder. Indeed, in the last decade, spending in pensions has represented around 17% of GDP. On the other hand, many indicators have been showing some deterioration in living standards of children. Thus, the debate and decisions about social spending allocation have been reflecting some tension due to intergenerational differences in well-being.

The aim of this study is to present the estimations of the National Transfers (NT) flow accounts focusing on public transfers. The methodology is explained in Mason et al (2006), and in the project web page (www.schemearts.com/proj/nta/). Because lacks of information, we used data of

1994. The document is organized as follows. Section 2 provides a description of demographic aspects and Section 3 presents the main characteristics of the tax and benefit system in Uruguay. Section 4 describes the available data used to build the NT accounts estimations. Section 5 presents the results and highlights the most important features. Finally, section 6 concludes.

2. Demographic background

At the beginning of the 20th century, Uruguay has already had a low fecundity rate and a high life expectancy compared to Latin-American standards. A decreasing trend of the former and a rise of the latter during the century meant that today the country is in an advanced demographic transition stage.

Indeed, the global fecundity rate declined from 2.8 per thousand in 1963 to 2.04 per thousand in 2005. It is worth to note that fecundity rate behavior has been heterogeneous: women with low education, labor participation and resources have a greater fecundity rate than the rest. (Varela, 2007). This differentiated pattern helps to explain that the incidence of poorness among children is much more extended than among elderly. According to official estimations made by *INE*, in 2006 8% of population older than 64 years old were poor whereas this incidence was 48% for children above 13 years old.

In turn, life expectancy increased form 66 in the 1950's to 76 nowadays.

Data of 1990-95 allow comparing Uruguayan situation to the Latin American average: fecundity rate was 2.5 per thousand for the former and 3 per thousand for the latter (Paredes & Varela, 2005). Life expectancy was 73.0 in Uruguay and 68.7 in Latin America.

The demographic result of these two trends was reinforced by an important emigration of people of working age during the last four decades. According to Pellegrino et al (2004), 450,000 Uruguayan live overseas which represent 13% of the population.

As a result, Uruguay has a low population growth rate and one of the most elderly population in Latin America and the Caribbean. In the period 1995-2000, population growth was 7.1 for thousand in Uruguay and 15.6 in Latin America.

Population according to the last two Census and the age structure of the country are shown in Table 1. The increase of population between 1996 and 2005 has been 2.2%, taking place to the lowest historical intercensal growth rate. Both years show the high share of elderly. In 1996, the weight of elder than 60 or more years old was 17% of the population whereas children less than 14 represented 14% of the population.

Table 1: Age structure by age group. Uruguay. 1996 and 2005

	1996		2005	
	Persons	Percentage	Persons	Percentage
0 – 13	769,566	24	737,731	22
14 – 59	1,905,855	59	1,986,426	60
60 +	560,128	17	581,566	18
Total	3,235,549	100	3,305,723	100

Source: Population projections by *INE*

3. The tax-benefit public system

In this section we describe the key features of the tax-benefit system current in 1994, year for which we estimate the NT accounts. It is worth to note that since then, most of the main features of the system have been some stable. However, a restructure of public spending seeking to increase the burden of education began in 1995. Second, a reform of the social security system was introduced in 1996. Third, in 1997 a minor modification was introduced in the health benefits system. Fourth, two modifications in the family allowances program looked for targeting it to the poorest children (1995 and 2001). Fifth, in 2005 the government created some programs targeted to alleviate poverty. Finally, the government is looking for implementing a major tax reform and a new scheme of the health system in 2006.

3.1. Taxes and Contributions

In the last decades, the tax and contribution system has not had major changes. There are multiple taxes but few of them account for most of the revenues of the government. The most important institution in this collection is the Tax Office and is followed by the *Banco de Previsión Social (BPS)* that collects contributions and administers the social security system.

In 1994, the revenues of the government were composed by 67% of taxes –most of them non-assigned to specific programs- and 33% of contributions to the social security system. These resources represented 24% of the GDP. Its structure in 1994 and 2005 is shown in Table 2.

Most of the revenues come from indirect taxes (48% in 1994) and more specifically, the Value Added Tax (VAT). The VAT, with a standard tax of 22%, represented 31% of the revenues in 1994. The rest of consumption taxes comes from a tax on VAT-exempted goods (14% of the revenues) and on trade (3%).

Among the direct taxes, there is taxation on property that applies to the wealth of natural persons and enterprises. It includes the taxation of land; plants, cattle and whatever grows or lives upon the land; buildings; shares in any property and equities. Value's wealth is assessed by the tax-payer. Taxation on properties represented 5% of the revenues in 1994. It is worth to note that buildings are also subject to a tax collected at the municipality level but information of its collection is not available.

Enterprises are also taxed according their utilities. This source represented 7% of the government resources in 1994.

Table 2: Distribution of taxes and contributions in public revenues. In percentage.

	1994	**2005**
Indirect Taxes	**48,1**	**54,9**
VAT	30,6	38,4
Trade	3,1	1,2
Other	14,4	15,4
Direct Taxes	**19,1**	**23,2**
Personal retributions	3,2	3,8
Property	5,1	6,9
Utilities	7,4	11,3
Others	3,2	1,2
Contributions	**32,7**	**21,2**
IVS	27,9	17,7
DISSE	4,8	3,5
Total	100,0	100,0

Source: estimations based on CGN (1994, 2005) and BPS (2006)

In turn, the most important tax on personal income is the so-called Tax on Personal Retributions that applies to current in-cash income derived from labor and pensions. In 1994, it represented 3% of the revenues of the government. Its rate tax increases with income and varies among type of income and occupation. For private employees, they have turned around 2% for wages between 2 and 6 minimum wages[2] and 6% for higher earnings; employees should pay an additional 1%. These

[2] Minimum wage was quite low in 1994. Since its creation in 1967, many taxes and public benefits were linked to the minimum wage so its increases pushed down public revenues and pushed up public spending. Thus, the government had little incentive to adjust it with inflation and it has been used rather as an instrument of fiscal

rates have been quite stable except during some period during the crisis of the beginning of the millennium. The tax is collected throughout the year when income is generated and there no deductions are allowed. Additionally, labor is subject to a tax assigned to finance active labor programs that varied around 0.125 and 0.25% of the wage and is shared by employers and employees.

Contributions are assigned to finance the Social Security System. The first programs of this system were created at the end of the 19th century in order to give a pension after retirement of workers in some occupations. These programs were strongly based on an insurance principle. Since then, the system has experienced many changes. On one hand, it has expanded to the whole labor force although difficulties of enforcement remain. On the other hand, it has multiplied the benefits covering new risks (unemployment, sickness, etc.). Additionally, assistance programs were created. At the beginning, different funds and institutions covered different risks and occupations. With the creation of BPS, the whole system passed to be in charge of one institution that unified all the funds. Only few workers have their own special system: police and armed forces personnel, bank employees and self-employed university graduates.

There are two types of contributions to the *BPS* that support two different funds. The most important is the one allocated to finance the *IVS Program*, which represented 28% of the resources of the government in 1994. This program covers the risks of retirement, death, unemployment, maternity and disability. These contributions are compulsory for both employees and self-employed. In the case of the former, employers and workers share contributions. Contribution rates vary among occupations and there are more than fifty exemption causes. As a consequence, the rate structure is quite complex. Anyway, we can depict the 1994 big picture considering a rate of 13% of the payroll paid by employees plus 14% paid by employers.

Until 1995, the *IVS Program* was organized in a pay-as-you-go regime that financed both contributory and assistance programs.[3] A long-run structural and increasing deficit led to a rising requirement of additional resources. Thus, in 1994 contributions were 65% of *BPS* resources and other public resources covered the deficit.

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policy than an instrument of wage policy. As a consequence, minimum wage suffered a continuous declination in real terms until 2004.

[3] A reform implemented in 1996 introduced a saving accounts pillar administered by private firms. Workers below a threshold continued to serve the pay-as-you-go regime administered by BPS unless they explicitly chose to deposit half of their contributions in a personal account. Workers with higher wages must contribute to both pillars; specifically, they must save in a personal account for the amount that exceeds the mentioned threshold. Meanwhile, employers contributions finance only the pay-as-you-go regime. According to BPS estimations, the BPS pay-as-you go regime will be representing around three quarters of the spending in pensions when the reformed system reaches its maturity (Camacho, 1997). Until now, there are no retirements subjected to the reform's rules.

The other fund collected by *BPS* is assigned to the *DISSE Program.* Private employee must contribute with 3% of their wages and the fund collects an additional 5% of wages that is paid by employers. These contributions represented 5% of the government resources in 1994. The purpose of this fund is to support workers during sickness and to contribute to the financing of health care attendance in private sector.

Fiscal evasion has been traditionally a matter of concern and in some periods, different Administrations made an effort to strengthen enforcement. According to Grau et al (2004), Silvani & Brondolo estimated that in 1993, VAT evasion was 29.7% of VAT potential collection. Grau himself estimated it in 19.5% for 1997-2004. In turn, Cobas et al (2005) estimated a higher figure: 35.4% in 1995-2001. In turn, evasion to the Social Security System is also relevant. In the last twenty years, around 30-40% of the labor force did not contribute. However, the practice of reaching a contributory pension even for non-contributors has been quite extended, as suggested by Rius (2003). Estimations of *BPS* conclude that in the middle of the 1990's, 23% of the spending on contributory pensions was not supported by past contributions (Camacho, 1997).

3.2. Benefits of the Social Security System

As already mentioned, *BPS* administers the social security system of most of the workers; indeed, it has traditionally paid almost 90% of the pensions. It has in charge both contributory (*IVS* and *DISSE*) and assistance programs.

Contributors to the *IVS program* are entitled to some benefits during their working life, conditioned to some qualifying requirements, and to a pension after retirement.

Private-sector employees may enjoy an unemployment subsidy of 50% of the lost wage (and a dependent's supplement equal to 20% of the benefit) up to six months. In case of work injury, the damaged worker benefits of 66% of lost earnings. In case of birth, the mother enjoys a paid leave of 6 weeks and the *BPS* pays the wage. Additionally, *BPS* provides health care for mothers and children. Finally, there is a family allowances program that gives a monetary transfer per child conditioned to school attendance. In 1994, the benefit was equal to 8% of the minimum wage per child.

The old age, disability and survivors pension is the most important component of the program. In 1994, the retirement required at least 30 years of coverage and a minimum age of 55 for women and 60 for men. Additional years of service were computed for hazardous occupations. The pension was calculated as a percentage of the earnings of the three years previous to retirement. The replacement rate increased for each year of deferral.

In spite of the contributory character of the program, the system did not have a register of the labor history of workers at least until 1996.[4] The lack of this kind of registration may explain some features of the system as the calculus of the retirement pension, based on the last three years' wages. Another consequence was that the retirement procedure required the presence of a witness who could declare that the worker qualified to the benefit. There is a general opinion that these rules meant an over-declaration of contribution years and a combination of an under-report of earnings in most working life and an over-report of earnings in the three years prior to retirement.

The *DISSE Program* entitles contributors to the provision of health care in a private institution. Additionally, in case of sickness the worker receives a benefit equal to 70% of earnings payable –after a 3-days waiting period- for up to one year; the benefit may be extended for an additionally year. More information about *DISSE* is given in section 3.4 where the main characteristics of the health system are depicted.

Finally, assistance programs have a low share in BPS spending. The main one is the pension to needy elderly and disabled. The benefit consists on a non-contributory means-tested pension that in case of non-disability requires being at least 65 years old. The resources involved in this program are very little: indeed, in 1994 contributory pensions are 95% of total pensions and assistance ones are only 5%. These figures have been quite stable.

3.3. Educational system

The educational system is organized in four cycles: elementary school (six years), junior high school (three years), senior high school (three years) and tertiary level. A technical public institution provides vocational training after elementary school, technique education at the senior high level and some courses at the tertiary level. In turn, university courses and teacher studies are the main components of tertiary education.

All the cycles of education are provided both by public and private institutions. However, the public sector offer has traditionally been much more important. In 1994, it represented 78% of the students in the elementary level, 86% of high school level and 96% of university students. In a study of

[4] The 1996 reform (see note 2) looked for tightening the relationship between pensions and contributions and postponing the age of retirement. Modifications included an increase from 30 to 35 years of contributions, a minimum age of 60 years old for both sexes, a replacement rate more sensitive to both retirement age and contributions period and a raise of the number of labour years considered for computing the pension. An important institutional measure consisted on the starting of a workers history labour registration.

student's performance, ANEP (2005) suggests that private system would provide a better quality than public one.

Elementary school and junior high school are compulsory. The starting age at elementary school is 6 years old and the expected age of ending junior high school is 14 years old. There is almost full enforcement of attendance up to 12 years old and although dropouts start at the junior high school level, they are not very important before children reach 14 years old. A high incidence of repetition and an important drop out among teenagers mean a low coverage of tertiary education compared to other Latin-American countries. Thus, in 1994 the attendance rate was 98% for children of 7-13 years old, 70% for teenager aged 14-17 and 34% for 18-22 youth. However, only 16% of 18-22 youth were attending tertiary education.

On the other hand, the minimum working age allowed is 14 years and child labor under this age is almost inexistent. Special labor norms regulate work between 14 and 17 years old for which the participation rate was 20% in 1994. In these ages, the entrance into the labor market mainly comes from boys of poor households.

3.4. Health system

Attendance in the health system requires being entitled in some health institution. In urban areas, entitlement is very extended: in 1994, 94% of urban population had some kind of coverage. Around 40% of the population was entitled in public health care institutions and 54% in private ones.

Public hospitals were created in 18th century in order to assist the health care of the poor. In 1911 the administration of public health care was centralized and remain targeting the low resources population. The main provider of public health care is the Ministry of Public Health (*MSP*) that in 1994 covered 29% of the population and more than three quarters of public health care beneficiaries. Attendance in *MSP* is free only for the poor but the fees are low compared to the private system and private payments are not an important resource. *MSP* services are mainly used by people in low income households. Indeed, in the 46% of *MSP* beneficiaries were below the 20-percentil of the income distribution. On the other hand, only 1% of the 20% richest was entitled to MSP services.

The other public services are free or closed to occupations. The most important providers are the public university hospital (ruled analogously to *MSP*), the army and police force health institutions (closed to this personal) and the already mentioned *BPS* service addressed to birth and child care.

The private system is composed by different medical schemes. Almost all of the private provision is made by a mutual insurance system (*IAMC*). The first *IAMC* institution was created in the capital in the 18th century and nowadays there are many institutions all over the country.

The payment of a monthly fee entitles to attention in *IAMC* institution. Additionally, it is normally required a specific payment each time the person makes use of the service. The role of *DISSE* program consists on financing the monthly fee of contributors. As already mentioned, this contribution is compulsory for private employees. As a counterpart, they obtain the entitlement in an *IAMC* institution of their choice. This entitlement disallows health care in the public system.

The state exercises some legal and technical control but the *IAMC* institutions have a high degree of autonomy. Nevertheless, government has an important incidence because it regulates the adjustment of monthly fees and has an important role as a financial support. Indeed, *DISSE* is an important client of the *IAMC* system. In 1994, 30% of its affiliates were *DISSE* contributors.

4. Data

The macro information comes from the National Income and Product Accounts (*NIPA*) estimated by the Central Bank of Uruguay (*BCU*). However, *BCU* does not provide all the desegregations needed for the estimation of NT accounts. Thus, we had to turn to other sources of information and ensure its compatibility with *NIPA*. As regards to micro data, we used two different sources in order to estimate the profiles by age: the Household Survey (*HS*) and the Household Expenditure Survey (*HES*), both collected by *INE*. The *HS* is an annual urban survey that reports information about personal and labor characteristics of the individuals and their income. We used the data of 1994. The *HES* was collected between June 1994 and May 1995 in towns with more than 5.000 inhabitants. A detailed description of the data and methods are reported in Bucheli, Ceni & González (2007).

NIPA reports the public consumption as a whole. So, we used the structure of public spending in order to estimate the value of three components: education, health and the rest of consumption. Unlike *NIPA*, the public health component includes the share of private services financed by *DISSE*. This means that we added the value of in-kind pubic services and the amount collected by *DISSE*. The latter was subtracted from the *NIPA* estimation of private consumption.

In order to estimate the public education consumption profile we used *HS*. As this database reports age, attendance to school and schooling of individuals, we assigned to each student an estimation of the average spending of the education level he attended. On the other hand, the *HS* asks individuals if they have required some medical care (in some period previous to the interview) and reports information about the health care institution entitlement. Thus, in order to estimate public health consumption profile by age, we proceeded in a similar way than for education. We assigned to each "sick" person the average spending of the corresponding public program. In the case of *DISSE* 's

contributors, we assigned the average spending of *IAMC* system. Finally, the rest of public consumption was distributed in a per capita way.

NIPA does not provide disaggregated private consumption information either. To estimate education and health private consumption we used the expenditure structure that stems from the *HES*.

In order to estimate the age profile of consumption we had to deal with the fact that expenditure is reported at the household level. However, information about individual characteristics of the household members helped us to assign some items.

Education expenditure was treated in two different ways. First, the per capita value of items clearly linked to a specific level of education (for example the fee) was assigned to the household members who were attending that level. Second, expenditure in other educational items (for example, textbooks) was assigned to students of the household using the regression method suggested in the website of the NTA Project.

As regards to health, we also distinguished two kinds of items. Those related to sickness (medicines, doctor's appointment fee, etc.) were assigned to individual reporting having felt sick at least one day in the last month prior the interview. On the other hand, those unrelated to sickness (contraceptive pills, diapers, etc.) were assigned according estimation by a regression method suggested by the NTA Project.

The rest of private consumption profile was estimated using equivalence scales.

NIPA informs national income but does not give an estimation of its components. Thus, we used the *HS* to estimate labor income (earnings, benefits and self-employment income) as well as its profile by age.

The *HS* reports earnings after deducing contributions and the Tax on Personal Retributions. Thus, we tried to identify in the most accurate way the rate the person was taxed. Private employees who did not report to be entitled in the *IAMC* system through *DISSE* were supposed informal: we assigned them zero contributions. Additionally, we supposed that they did not neither pay the Tax on Personal Retributions. Respect to self-employed, we considered 2/3 of the reported income.

This procedure allowed to estimate also the profile of contributions. The total amount considered was the reported by *BPS*. Note that we did not take into account the special schemes mentioned above.

Finally, we used the Tax Office information about taxes, which do no consider municipality taxes. The profile of direct taxes was estimated on the base of *HS* information. In the case of the Tax on Personal Retribution, we obtained it when estimating labor income. The property tax profile was

estimated according the age distribution of the head of households that owned their house. Lastly, we estimated the profile of taxes on utilities using *HS* information about entrepreneurs.

In turn, the indirect taxes profile by age was estimated using the *HES* information. We assigned to each item the specific rate that taxes its sale. In this case, we did not do an evasion micro level adjustment.

5. Results

Overall picture

Table 3 presents an overall picture of the per capita NT flow accounts in 1994. According to these estimations, there is a span of 30 years of life-cycle surplus that elapses between 26 and 55 years old.

Table 3. National Transfer Flow Accounts for Uruguay in 1994 (mean per capita pesos)

	0-17	18-25	26-55	56-69	70+
Lifecycle deficit	**16075**	**8137**	**-6965**	**16401**	**28200**
Consumption	16392	22669	25422	29398	29054
Public	*4622*	*3142*	*2913*	*3352*	*3810*
Private	*11769*	*19527*	*22509*	*26047*	*25244*
Less: Labor income	317	14532	32387	12998	854
Age reallocations	**16075**	**8137**	**-6965**	**16401**	**28200**
Asset-based reallocations	**-4365**	**-5658**	**16105**	**21258**	**18574**
Public	144	489	-72	-473	-313
Income on assets	*-92*	*-240*	*39*	*273*	*161*
Less: saving	*-236*	*-729*	*111*	*745*	*473*
Private	-4509	-6147	16177	21731	18887
Income on assets	*18*	*1994*	*16171*	*17510*	*9233*
Less: saving	*4527*	*8140*	*-6*	*-4221*	*-9653*
Transfers	**20440**	**13795**	**-23070**	**-4858**	**9626**
Public	2900	-3188	-7290	5079	13778
Private	17541	16983	-15780	-9936	-4152

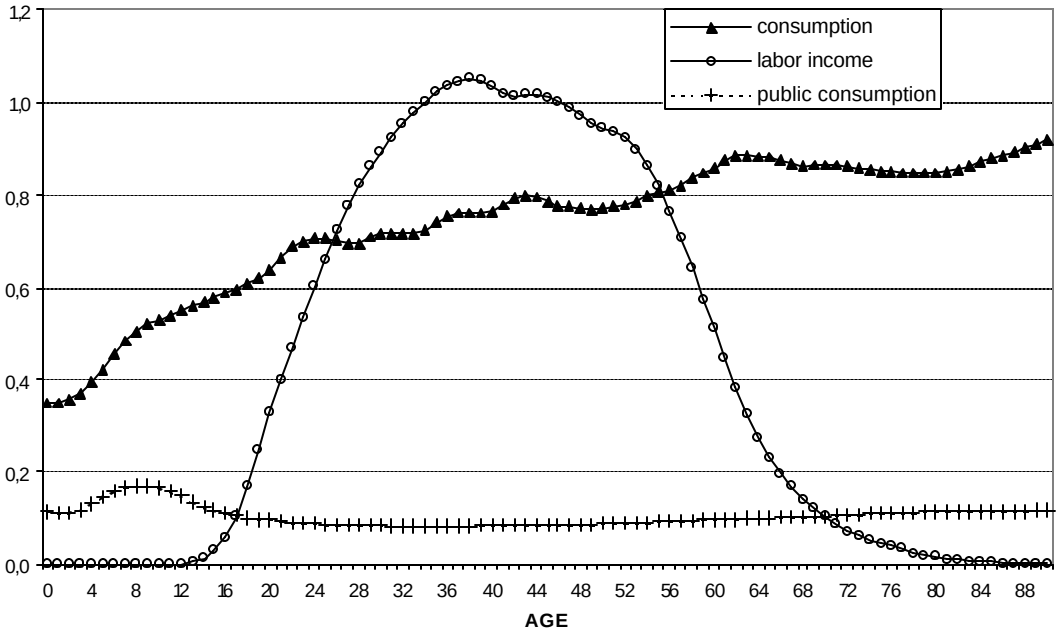
Financing sources of life-cycle deficit vary among age groups. The consumption of children less than 18 years old is strongly supported by public and private transfers. Private transfers are also important between 18 and 25 years old but at these ages, net transfers through public channels are negative.

These patterns of financing are different for people who are more than 55 years old. At these ages, part of the consumption is financed by dissaving whereas there is a net outflow via private

transfers. For ages grater than 69, the net outflow private transfer is overcompensated by a net inflow transfers received through public channels. This is not observed for ages ranged between 56 and 69: although there is a net inflow that comes from public mechanisms, private outflows are big enough to make net transfers to be negative.

Life-cycle deficit and surplus by age are depicted in Figure 1, which shows the profile of per capita consumption and labor income. More specifically, we present the smooth per capita value for each age related to the average labor income of the ages ranged between 30 and 49 years old. Labor income has a peak in the late thirties while consumption has an increasing trend through ages.

Figure 1.Age profile of labor income and consumption. Values related to the 30-49 years old mean labor income.



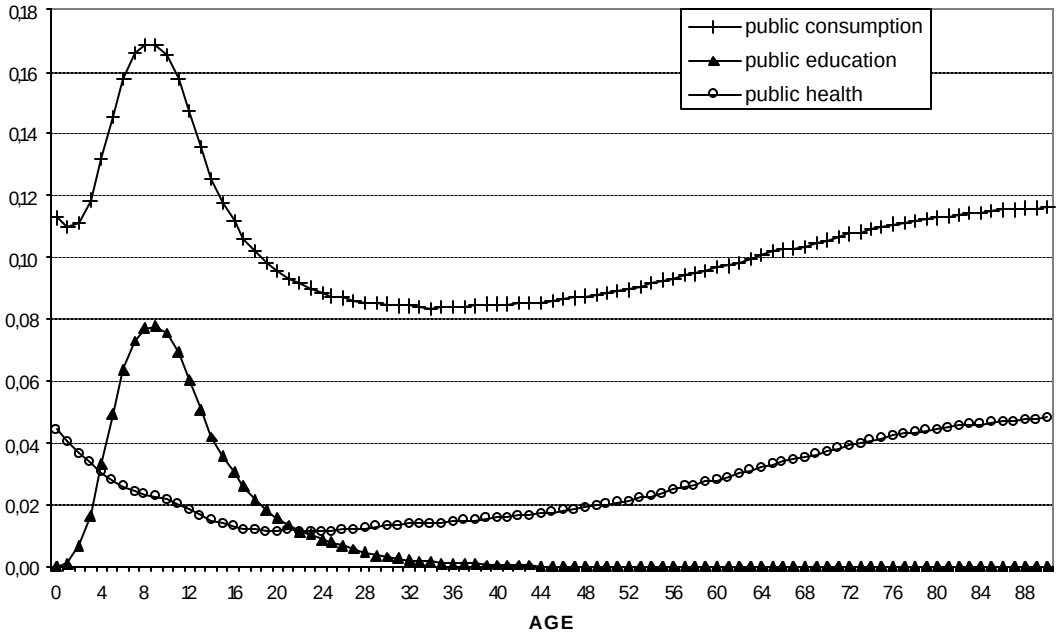
The profile of public consumption is also illustrated in Figure 1. Its values denote that public consumption is lower than private for all ages. However, it is quite more important in childhood. Indeed, public sector represents 28% of total consumption for less than 18 years old and 12% for older than 25.

Public transfers

A better picture of the age profile of public consumption is shown in Figure 2. For early ages, the main component is education: when considering population less than 18 years old, public education

is 32% of public consumption. In turn, health share is 18% at these ages whereas it reaches 36% for population older than 55. Meanwhile, the per capita value of the rest of public consumption is the same for all the ages because of construction (we assumed a per capita allocation among population).

Figure 2. Age profile of public consumption. Values related to 30-49 years old mean labor income



Per capita public consumption increases with age during childhood reaching a peak at 9 years old. Then, it declines up to 35 years old for taking zero value. The bump in childhood and its peak is explained by the age profile of public education. It is worth to note that private education consumption by age presents a similar pattern but the peak is reached at 13 years old. In fact, per capita public education consumption is higher than private for children between 6 and 13 years old. On the other hand, for teen years the private component of education consumption is higher than the public one.

In turn, health profile presents a U-shape that reflects morbidity profile. It is high in early childhood and declines up to teen years. Then it grows and after having reached the late thirties, it pushes up per capita public consumption.

Figure 3 shows the profile of the two components of health public consumption: the direct provision offered by public establishments and the *DISSE* financing of health care in private institutions. The former component is more important for early ages, especially in the first stages of childhood. On the other hand, *DISSE* financing is especially higher for population older than 50 years

older. Notice that this profile does not reflect the direct beneficiaries (contributors) distribution but the result of intergenerational transfers inside the mutual system. As morbidity profile is U-shaped but the fee is flat, the *DISSE* support to middle age people indirectly subsidy child and elder health care.

Figure 3. Age profile of public health transfers. Values related to the 30-49 years old mean labor income

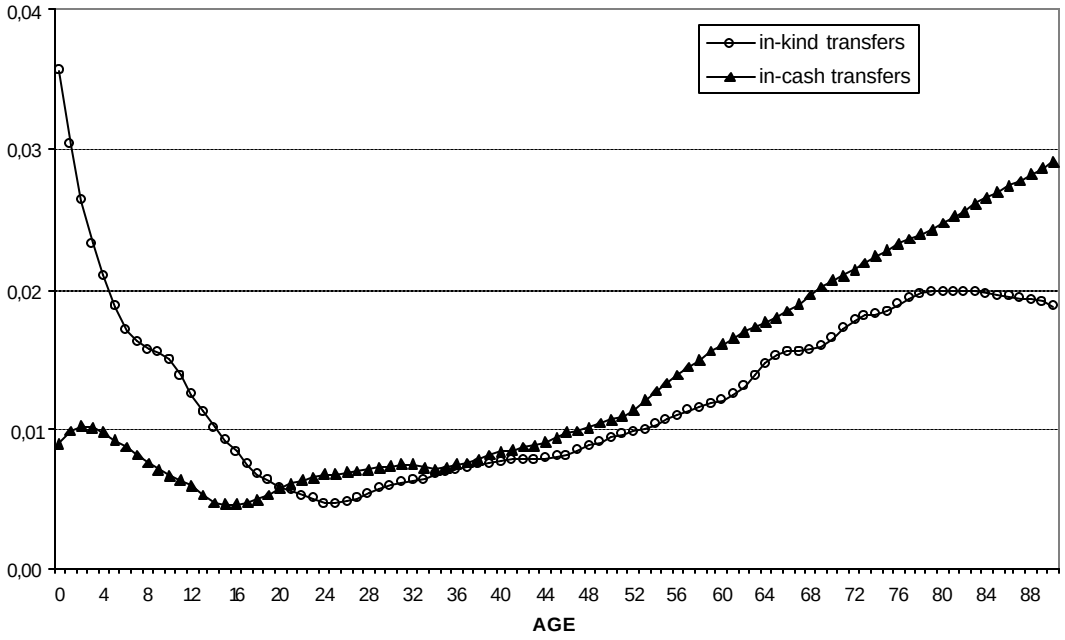
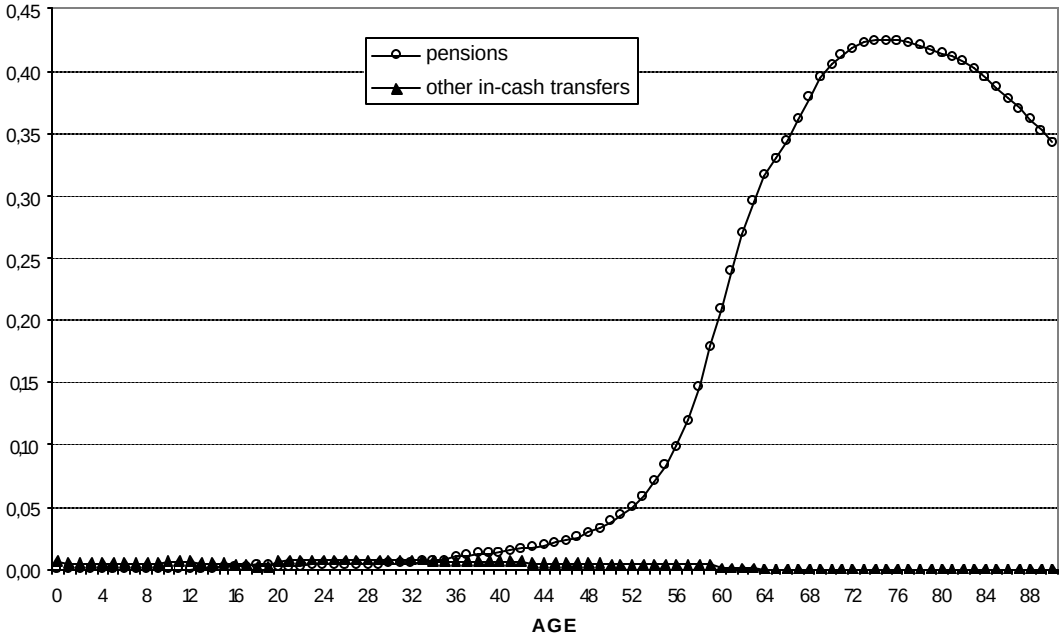


Figure 4 shows the in-cash benefits profile paid by the social security system. Pensions (contributive and assistance) are undoubtedly the most important payments. The highest per capita values are observed between 70 and 80 years old, exceeding 40% of the average 30-49 labor income. On the other hand, the rest of the benefits (family allowances, maternity, unemployment or sickness subsidy, etc.) are less than 1% of the average 30-49 labor income. Their highest values (0.7-0.8%) are reached for ages ranged between 20 and 39.

Figure 4. Age profile of benefits from social security system. Values related to the 30-49 years old mean labor income



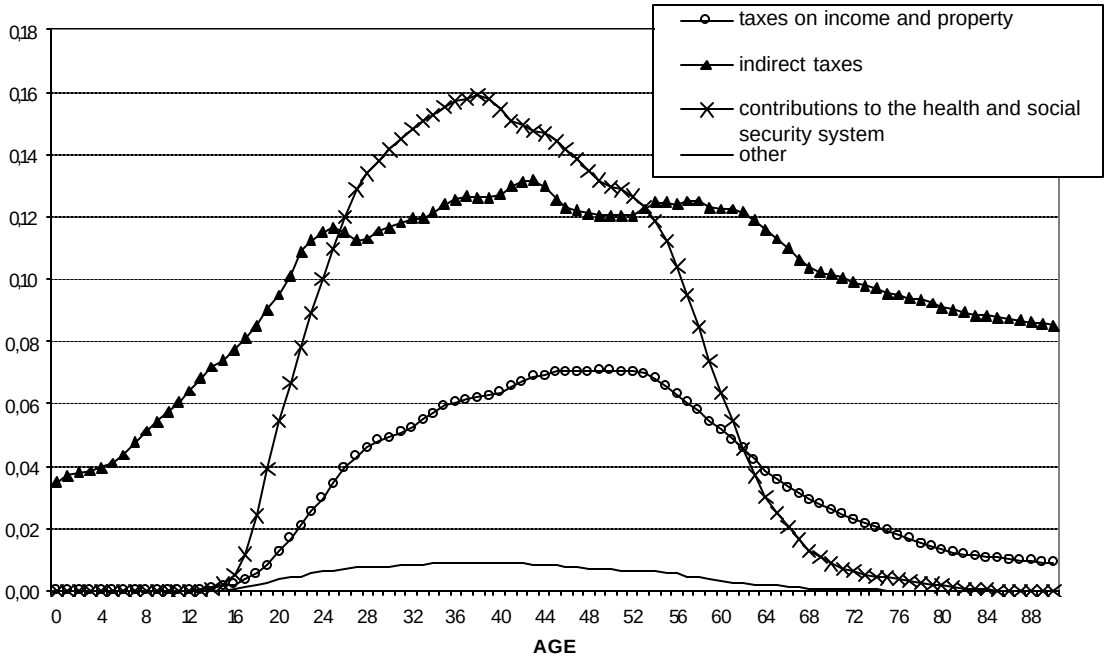
Notice that the top values of per capita pensions are quite higher than the top values of per capita public consumption, which are around 16-17% of the average 30-49-labor income. In fact, the aggregate values indicate that pensions are 40% of total inflows stemming from public sector (Table 4).

Table 4. Share of different inflow public transfers in NTA aggregate totals by age groups. In percentage.

	0 - 17	18 - 25	26 - 55	56 - 69	70 +	Total
Public Education	31	13	1	0	0	8
Public Health Care	17	11	14	8	8	12
Public Pensions	0	3	18	72	79	40
Other Social Protection	4	6	6	0	0	3
Collective Goods and Services	48	66	61	19	13	37
Total	100	100	100	100	100	100

Public outflows are depicted in Figure 5. All the curves point out that both taxes and contributions are mainly paid by ages ranged between 25 and 65 years old.

Figure 5.Age profile of taxes and contributions. Values related to the 30-49 years old mean labor income.



As expected, the profile of contributions to the social security system follows the same pattern than labor income profile, reaching a peak at the late thirties. Between 26 and 53 years old, they represent the most important outflow to public sector.

The shape of taxes on income and property profile is some similar to the contribution and labor income profiles. However, the top values are some at the right: the highest values are reached between 45 and 55 years old. This is explained by the more aging profile both of entrepreneurs and dwelling-owners (head of the households) than working people. Additionally, unlike contributions, taxes on income and property are paid also by elderly.

Although linked to sales, indirect taxes do not have the same profile as consumption. Its per capita values show a *plateau* for middle ages and lower values for ages less that 25 and plus than 65, due mainly to VAT exemptions of education and health.

The profiles of the inflows and outflows stemming from public sector are drawn in Figure 6. In turn, Figure 7 shows the life-cycle deficit and net public transfers profiles.

Figure 6. Age profile of public transfers inflows and outflows. Values related to the 30-49 years old mean labor income.

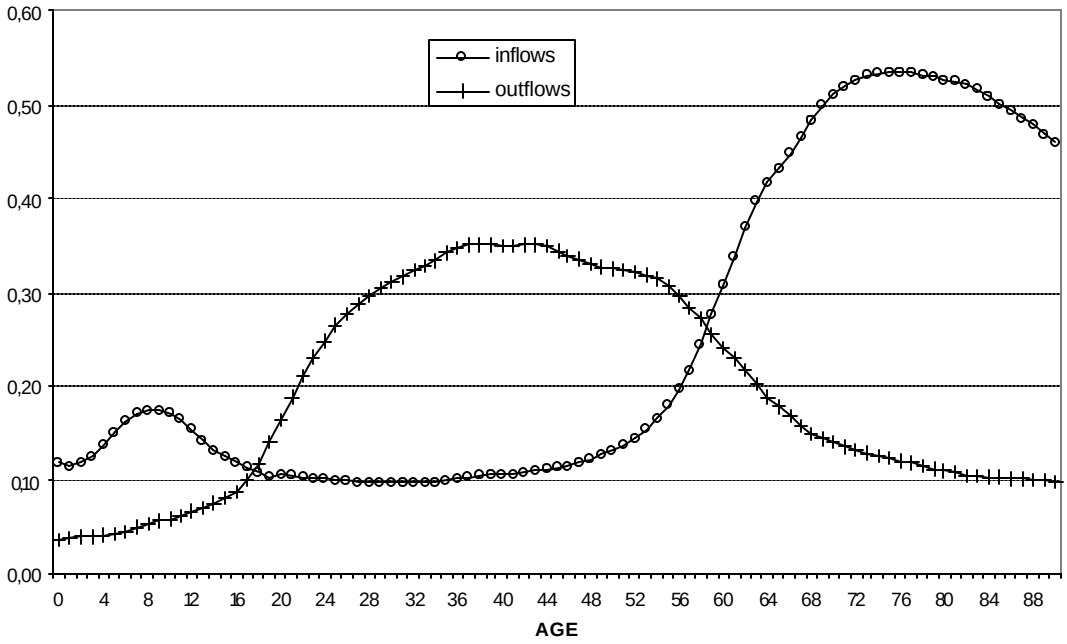
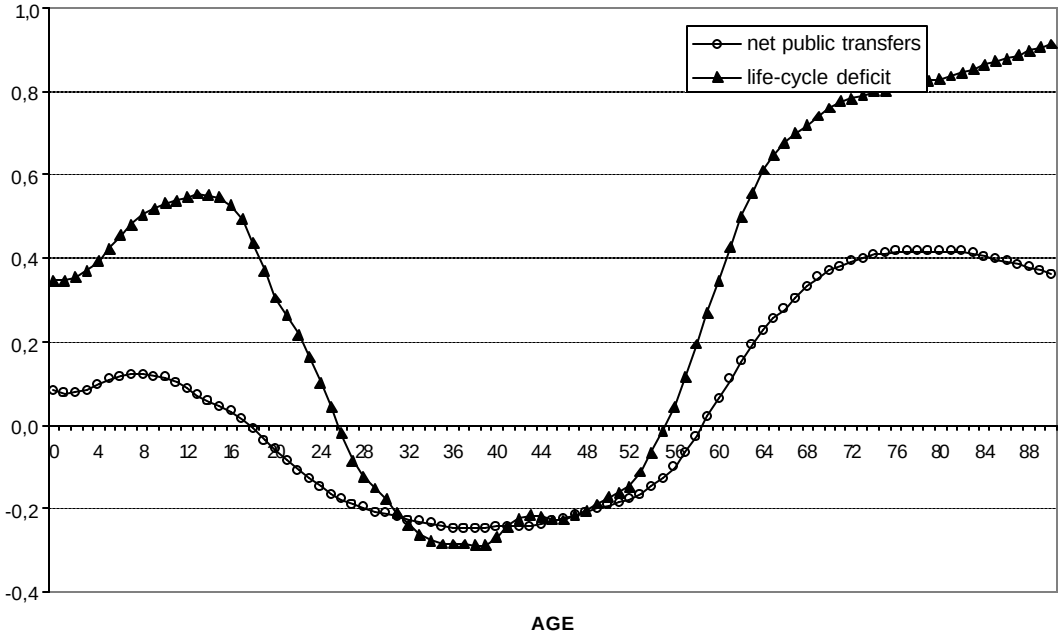


Figure 7. Age profile of the life-cycle deficit and the net public transfers. Values related to the 30-49 years old mean labor income



In childhood ages, inflows reach their highest values between 7 and 10 years old, an amount equivalent to 17% of the 30-49 years old labor income. This figure is 45% at 66 years old and increases to 53% for ages greater than 70. As elder do transfers through the public sector, these differences narrow when considering net transfers: the ratios are 12% at 7-9 years old, 28% at 66 and 40-42% after 70 years old.

6. Conclusions

According to 1994 estimations, consumption is higher than labor income for younger than 26 years old and older tan 55. The pattern that supports the deficit for the youngest and the oldest is quite different. One of the main features is that dissaving plays an important role in elderly. In turn, deficit in childhood is mainly supported by private transfers whereas elder are net receivers of public transfers but net givers through private channels. More specifically, elderly receive in-cash public transfers through the social security system and contribute to the support of younger generations through intra and inter-household transfers. This type of transfers is obviously based on family liaisons thus we may say that childhood is highly dependent of family support. These patterns would have some impact on the perspective of income distribution.

Finally, it would be interesting to have estimations for a recent year in order to make possible intertemporal comparisons and investigate possible changes in the age profile over time. This is possible because of the implementation of an expenditure survey in 2005-2006. The comparison of 1994 and 2006 is relevant because the country carried on important reforms in this period, which are closely related to public transfers as the social security system reform in 1996 and the recent pro-poor programs.

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