THE 1988 CONSTITUTION AND ACCESS TO SOCIAL SECURITY IN RURAL BRAZIL: TOWARDS UNIVERSALIZATION

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ABSTRACT

The paper analyses the situation of the Brazilian Rural population with respect to Labor Force participation, Social Insurance and Social Assistance in over a decade (between 1988 and 2002), focusing on constitutional changes and on gender differences. The 1988 Constitution defined new rules with respect to eligibility conditions and benefit values for the rural population with major changes, mainly for the female population. But it was only in July 1991, with Law #8213, that these changes became legally binding. We compare, by gender and individual age, activity rates and probability of receiving benefits along the period. Before 1988 only the head of household was eligible for a pension benefit; nowadays all workers including the husband and the wife in a single family are eligible. The eligibility age had been 65 years for rural males, an identical limit to that of urban workers. The Constitution determined a 5-year shift in the eligibility age. Rural males now have access to the benefit at age 60, whereas females have access to the benefit five years earlier, *i.e.* at age 55. Somehow, this change in legislation affected family patterns and the empty nest of yesteryears now incorporates not only sons and daughters but grandchildren as well. Therefore, the paper also compares family structure and the importance of elderly income in the family budget.

1 – INTRODUCTION

Legislation dealing with Social Security rights of the rural population in Brazil has trodden lengthy and sinuous paths with many ups and downs. In December 1988 there was a total of 3.9 million rural beneficiaries receiving benefits and in December 2002 this number had grown to 7.4 million. The expansion of coverage for the rural population has represented a major achievement with respect to universalizing the system, reducing inequality and eradicating absolute poverty in Brazil. This was mainly due to the fact that the 1988 Constitution softened rules for eligibility to benefits, as well as doubling the value of Social Security and Social Assistance benefits. Parallel to these, the labor force participation also underwent remarkable changes with respect to formalization of work ties and to the growth of the female work force. This paper is aimed at making a comparative analysis of the situation of the Brazilian rural population with regard to labor participation and Social Security ties along the 1988-2002 period, i.e., both under the rules prior to the enactment of new constitutional directives and later, when these had been fully deployed. Our intention is to contribute to the debate involving issues of gender equity and poverty alleviation both regarding the labor market and the collection of Social Security pension benefits.

Section 2 presents a historical overview of the Brazilian Social Security Legislation with emphasis on those directives pertinent to the coverage of the rural population. Sections 3 to 5 compare the situation of the rural population with regard to the labor force and Social Security benefits from different points of view in the 1988-2002

period. Section 3 also briefly discusses the evolution of the Brazilian rural population. Finally, in Section 6, conclusions and comments are presented.

2 – EVOLUTION OF BRAZILIAN SOCIAL SECURITY LEGISLATION WITH EMPHASIS ON RURAL CLIENTELE

Even though Social Security legislation already existed in 19th Century Brazil, especially with regard to military personnel and federal government employees, it is the Eloy Chaves Law, passed in 1923 after a ten-year wait in Congress that is considered to be the legal landmark of the Social Security system currently in effect in Brazil. Coverage was initially restricted to a segment of urban employees from select companies, and was later extended gradually to include other groups: employees from all other remaining enterprises on the formal labor market, employers, the self-employed, domestic servants, rural workers, and so on.

The first step taken to include rural workers as beneficiaries of the Social Security system occurred in 1945, when Getúlio Vargas, then president of Brazil, signed the Organic Law of the Social Services[1] creating the Brazilian Social Service Institute (ISSB[2]) with centralized administration and control. Thus, there was a merging of all social security institutions already in existence and social security benefits were supposed to be extended to the entire active adult population in the country. However, the government that took office in 1946 entirely disregarded the budget allocated for the implementation of the new

[1] *Lei Orgânica do Serviço Social*

agency, despite the fundamental importance of this initiative – the first attempt ever at universalizing social security in Brazil – and so, this agency never came into being.

It was only a decade later that new efforts were made to bring social coverage to rural workers: in 1955 the Rural Social Service[3] (SSR) was created, an agency basically financed by urban industrial companies to provide social assistance to the rural population. Its activities officially began in 1957, but it was only in 1961 that it picked up momentum. In 1962 (Delegated Law # 11 of October 11), the SSR was integrated into the Department for Agrarian Policy (SUPRA[4]).

The inclusion of rural workers into the scope of social security legislation truly became effective in 1963 with the approval of the Rural Workers' Edict[5] that, from amongst other measures, created the Fund for Social Security and Assistance of Rural Workers (Funrural).[6] A contribution of 1% over the value of the first sale of rural produce was established to finance the fund, to be paid by the producer himself or, according to prior agreement, by the buyer. One year after collecting contributions, benefits would be made available. These contributions were transferred to and administered by the Industrial Workers Pension Institute (IAPI[7]). These would consist of disability pensions, old-age pensions, survivors' benefit, maternity care, sick leave, funeral coverage and medical assistance. Responsibility for the paying out of benefits was also handed over to the now extinct IAPI. Although the Rural Workers' Edict presented an ample array of benefits, the

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[2] *Instituto de Serviços Sociais do Brasil.*
[3] *Serviço Social Rural.*
[4] *Superintendência de Política Agrária.*
[5] *Estatuto do Trabalhador Rural*
[6] *Fundo de Assistência e Previdência do Trabalhador Rural*
[7] *Instituto de Aposentadoria e Pensões dos Industriários.*

practical application of the social security measures was quite limited due to scarcity of financial resources.

The Rural Workers' Edict was reformulated in 1967 in an attempt to adjust it to its budgetary constraints. The contributions collected were transferred to the newly created National Social Security Institute (INPS[8]) and the benefit plan was restricted to social and medical assistance, leaving out cash benefits. Decree Law #276 also altered the contribution system. Though it continued to be collected as a percentage over the first sale of rural produce, the obligation to pay now fell to the buyer and not to the producer, unless the latter were to process his own produce. Such a measure aimed at making inspection easier. It was believed that the firm that industrialized the produce would already have a link to the Social Security System.

In order to insure that social security services were to reach rural workers effectively, the Basic Plan of the Social Security System[9] was created in 1969. It was initially directed at supporting rural workers in the sugar cane industry and it would be funded by contributions from both employees and employers. In 1969 the Basic Plan was extended to other rural activities. The benefit plan was similar to the Rural Workers' Edict, except for the exclusion of medical coverage and maternity care and the inclusion of a pension for the family of imprisoned workers. Even so, it did not satisfactorily fulfill the primary purpose, compelling the government, therefore, to take other initiatives in the field of rural social security.

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[8] *Instituto Nacional de Previdência Social.*
[9] *Plano Básico da Previdência Social*

In 1971, a Complementary Law extinguished the Basic Plan and replaced it with the Assistance Program for Rural Workers.[10] This plan offered old age and disability pensions, survivors' benefit, social and medical assistance to rural workers and their family members. Responsibility for running the program fell to Funrural, which was given judicial framework as an autarchy. According to Complementary Law #11, a producer working in a rural activity with no hired help would receive the same status as that of a rural worker. Later on, through Decrees #71,498 dated December 5, 1972 and #75,208 dated January 10, 1975, Pro-Rural benefits were extended, respectively, to fishermen and prospectors alike.

In 1974, the array of Social Security benefits was broadened to include two new categories: a) Social Assistance for those 70 years and over and for the permanently disabled for work, who had no alternative source of income (Law #6179 dated December 11); and b) Disability Insurance for Rural Workers (Law #6195 dated December 19). It is worthwhile noting that no measures were taken to assure the means to finance these social security benefits. These categories were incorporated later on to the corresponding urban benefit as social assistance (monthly income for life due to old age and permanent disability). They became extinct, however, with the promulgation of the 1996 Organic Law for Social Assistance. Rural employees, so far excluded from the system being instated, were then included among beneficiaries of Funrural under Law #6260 dated November 6, 1975, becoming eligible for the following benefits: old-age and disability pensions, survivors' benefit, funeral expenses, medical and social assistance and professional re-adaptation.

[10] Pró-Rural – *Programa de Assistência ao Trabalhador Rural*

Until 1977, the rural and urban clientele were covered, respectively, by two separate agencies: Funrural and the National Social Security Institute (INPS).[11] These agencies were responsible not only for providing benefits and medical and social assistance but also for the entire administrative and financial structure of their respective programs.

With the institution of the National Social Security and Assistance System (Sinpas[12]), under Law #6439 dated September 1, 1977, rural and urban clientele were unified and each function became the mandate of a specific agency. Consequently, certain agencies were created and other existing ones had their activities redefined.

INPS was placed in charge of maintenance and concession of benefits for beneficiaries of the former INPS as well as for those of the former Funrural, now extinct due to the same law. Medical assistance for both urban and rural workers as well as employers came under the domain of an autarchy created especially for this purpose: the National Social Security Institute for Medical Assistance (Inamps[13]). One other autarchy, the Financial Administrative Institute for the Social Security System (Iapas[14]) came into being so as to specifically see to the administration, financing and patrimonial estate of the system. Social assistance to the deprived segment of the population was left up to the Brazilian Social Assistance Foundation (LBA[15]). Aside from these organizations, Sinpas was also composed of the National Foundation for the Welfare of Minors (Funabem[16]), the

[11] *Instituto Nacional de Previdência Social.*
[12] *Sistema Nacional de Previdência e Assistência Social.*
[13] *Instituto Nacional de Assistência Médica da Previdência Social.*
[14] *Instituto de Administração Financeira da Previdência e Assistência Social.*
[15] *Fundação Legião Brasileira de Assistência.*
[16] *Fundação Nacional do Bem-Estar do Menor.*

Social Security Data Processing Company (Dataprev[17]) and the Medication Center (Ceme[18]).

Even with the maintenance of distinct and disparate benefit plans for urban and rural workers, the fact remains that the beginnings of a single social security system arose with the advent of Sinpas, symbolizing a new phase: universal coverage provided by social security programs in Brazil.

Until the 1988 Constitution, eligibility for the rural workers' old age pension benefit was defined at 65 (as was the case for male urban workers), reserved solely for the head of the household. The pension amounted to ½ a minimum wage, except for the disability benefit for work-related accidents, which was set as ¾ of the minimum wage. Survivors' benefit was set at even lower values. In sync with Social Security benefits, there appeared as well social assistance benefits: lifelong monthly income for old age (eligibility at 70), and for disability, also amounting to ½ a minimum wage, covering the segment of the rural population that could not otherwise prove their previous occupational activities.

The 1988 Constitution set up new parameters for the rural population: the eligibility age for benefits at 60 for males and 55 for females (five years less than that of their urban counterparts)[19] and the minimum benefit equal to the minimum wage (as well as for survivors' benefit), aside from universalizing in practice the benefit for the entire rural population. Both spouses, males and females, were both given equal access. It is worth

[17] *Empresa de Processamento de Dados da Previdência Social.*
[18] *Central de Medicamentos.*
[19] This was done under the correct assumption that life expectancy at birth for the rural population is lower than that of the urban population. Actually, though, in each state of the Union, life expectancy for the urban population is equal or lower to that of the rural population. As the majority of rural workers are concentrated in states with the lowest life expectancy, the national average by household situation (urban/rural) inverts the local pattern.

noting that after a long period of military regime, the new Constitution included all possible minute details on every aspect, assuming correctly that changing the Constitution would be a much harder task than changing regular laws. This holds true also with respect to Social Security. The whole Social Security System is detailed in the Constitution, therein included, eligibility conditions, minimum and maximum values and so on.

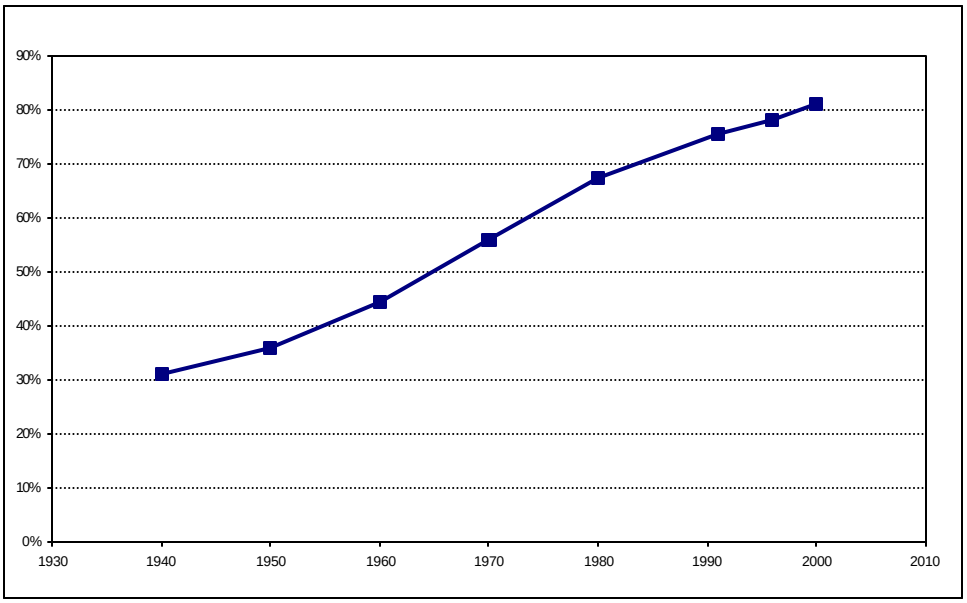
Nevertheless, it was only in 1991 that these modifications became totally binding. The law that "deals with Social Security and Benefit Plans and other provisions" guarantees retirement eligibility by old age in article 48: "… reducing these limits to 60 and 55 years of age for rural workers, respectively, for males and females …". Establishing the benefit value in the current legislation equal to that of the minimum wage was deemed unnecessary. Even so, this right was reiterated in article 33 of Law #8213 but the value had been immediately put in practice in 1988. Later on other changes in the Social Security System were introduced by way of Constitutional Amendment #20 in 1998, and Constitutional Amendment #41 in 2003. These changes, though, did not affect the rural population.

3 – EVOLUTION OF RURAL POPULATION: ACTIVE AND BENEFICIARIES

The Brazilian population that was mostly rural in the 40's (see Graph 1) is primarily urban today. The degree of urbanization followed a logistic curve with values close to 30% in 1940 (date of the first Census with information on the rural/urban situation of households) and crossing the 80% mark in the year 2000 (the last available Census count). The rural population, despite its high migration rate to urban areas, managed to

keep up a positive rate of increase until 1970; from then on the rural population count declined in absolute values at an annual rate of approximately 0.84%.

Graph 1 – Percentage of urban population in total population (degree of urbanization) – Brazil – 1940/2000



Source: IBGE, 1940, 1950, 1960, 1970, 1980, 1991, 1996 and 2000 Censuses.

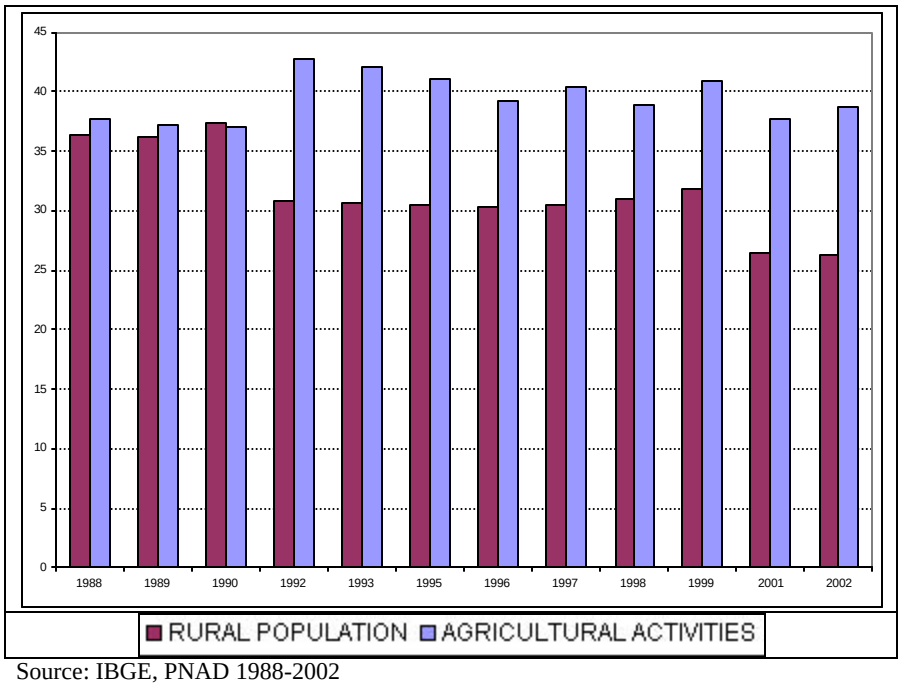
The indicators of spatial distribution of the Brazilian Population show an increase in the concentration of population in urban areas and in big cities. Approximately 81.2% of the Brazilian population was living in urban areas in 2000 and these were heavily concentrated along the coast. The percentage of the population living in cities with more than 20 thousand inhabitants rose from 16% in 1940 to 80% in 2000. Around 17% of the Brazilian population was living, in the year 2000, in just two metropolitan areas: São Paulo and Rio de Janeiro.

Even considering the relatively modest position of the rural population in Brazil vis-à-vis the urban population, it is worth noting that given the country's continental dimensions, there were about 31.8 million inhabitants in rural areas by September 2000. The entire Brazilian population totaled 170 million inhabitants at that same point in time.

The Brazilian Central Statistical Office - IBGE,[20] with regard to Censuses and Household Surveys, considers that: "According to the location of the household, the situation can be classified as urban or rural in compliance with municipal laws currently in effect. In the Urban category are classified urbanized and non-urbanized areas corresponding to cities (municipal seats), to villages (districts) or to isolated urban areas. The Rural category encompasses all areas located outside of these limits, including rural clusters of urban extensions, villages and hamlets." This definition overestimates the urban population and, conversely, underestimates the rural one. Therefore, to overcome this drawback, in this study we have worked with the concept of the population involved in agricultural activities, i.e., all families with a majority of members working in agricultural activities and all other families with no members in the active population but who are living in rural areas according to the IBGE definition. In Graph 2 one can see the evolution of the two population groups: the rural and the one involved with agricultural activities. The population involved in agricultural activities is always larger than the rural one[21]. We can see that the opposite holds true for the urban population and the one in other non-agricultural activities, as shown in Graph 3. Part of the increase in discrepancy between the two definitions found from 1992 onwards can be attributed to the change in the concept of active population: from 1992 onwards, the concept has been much more encompassing, including as part of the active population those cultivating crops for their own consumption as well as those working with no direct pay in family businesses. Furthermore, there was a decrease in the working hours used as the lower boundary to define the active population.

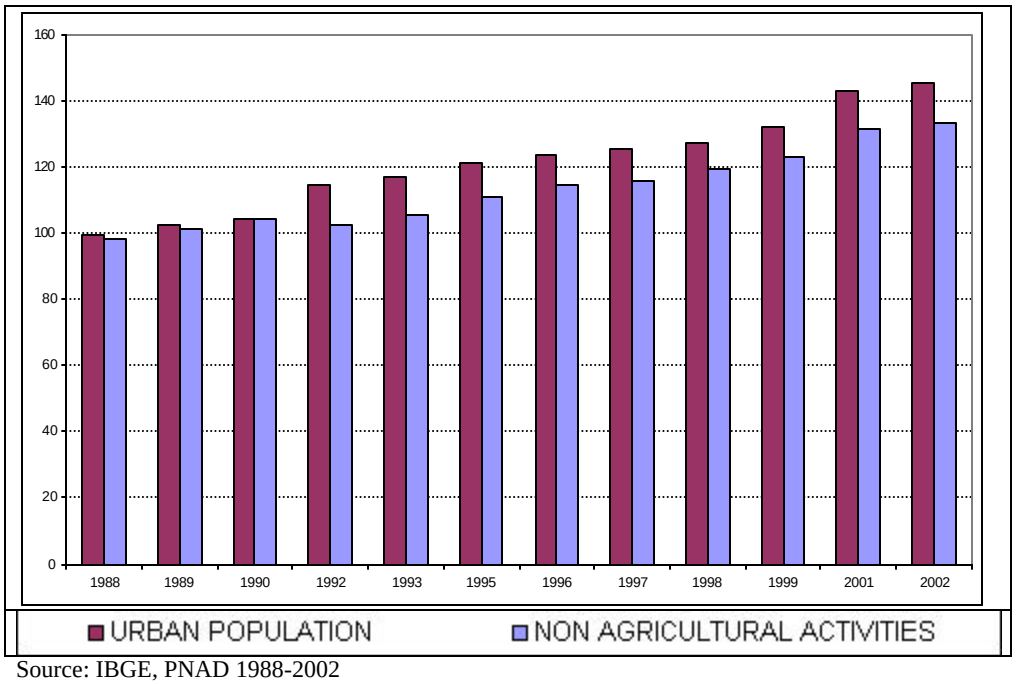
[20] *Instituto Brasileiro de Geografia e Estatística*.
[21] Rural day-workers are tallied in this population, even if they live in urban areas.

Graph 2 - Population in the rural area and in agricultural activities (in millions) – Brazil – 1988-2002



Source: IBGE, PNAD 1988-2002

Graph 3 – Population in the urban area and in non-agricultural activities (in millions) – Brazil 1988-2002

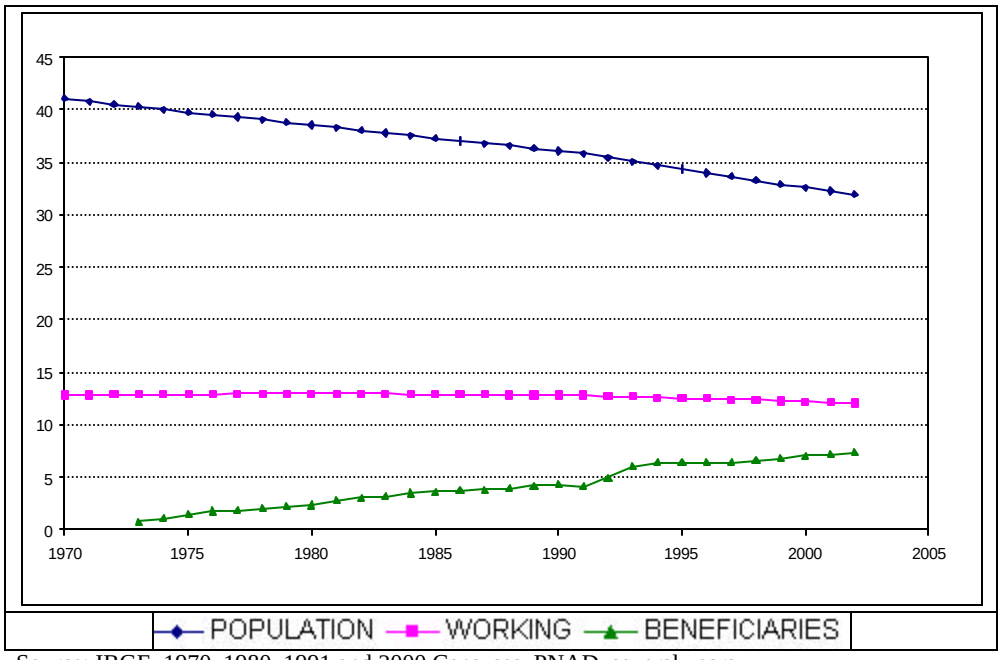


Source: IBGE, PNAD 1988-2002

Graph 4 shows the evolution of selected segments of the total rural population, namely, the economically active population (EAP) and beneficiaries (social security and social assistance recipients), for the period 1970-2002. Despite the systematic drop in total

rural population (9.2 million between 1970 and 2000), the EAP remained quite stable (a drop of 0.9 million for the same period – 0.25% decrease per annum), the consequence of an older population profile. In tandem, there is vigorous initial growth of the inactive segment *vis-à-vis* the active workforce. The rising numbers of beneficiaries in the rural social security segment are also in great evidence, the result of the lower age for eligibility established in the 1988 Constitution (considering as well the four-year delay in promulgation of complementary laws).

Graph 4 – Rural population (millions) – Total, working and beneficiaries – Brazil – 1970-2002



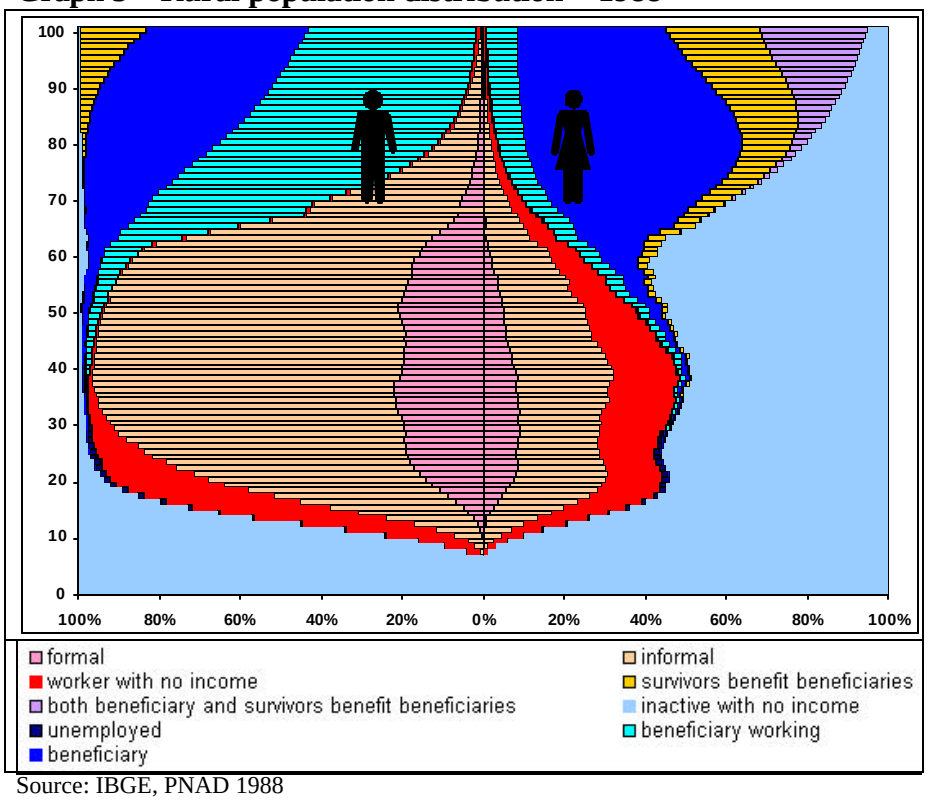
Source: IBGE, 1970, 1980, 1991 and 2000 Censuses. PNAD, several years.

Graphs 5 and 6 present the ten-year-and-over rural population distributed according to age, gender and condition of benefit/activity, respectively, for 1988 (the year the new Constitution was promulgated) and 2002 (the most recent Brazilian National Household Sample Survey available - PNAD[22]). PNAD data is collected annually by IBGE

[22] *Pesquisa Nacional por Amostra de Domicílios.* When this text was written, the 2003 data were not yet made available.

except in Census years. As previously noted, IBGE adopts the administrative definition of areas considered urban and rural depending on the municipal legislation. On principle, all municipal, district and village seats are considered urban and so are their inhabitants. PNAD does not include rural areas in the Northern Region (except for the State of Tocantins). We have opted for breaking down the population into nine groups: "workers actively working in the formal[23] sector", "workers actively working in the informal sector", "active individuals with no income", "the unemployed", "beneficiaries still in activity", "beneficiaries not working" "survivors' benefit beneficiaries", "individuals accumulating both pensions and survivors' benefit", "inactive individuals with no income" [24].

Graph 5 – Rural population distribution – 1988



Source: IBGE, PNAD 1988

[23] In Brazil in spite of the mandatory character of the Social Security, there is a large portion of the labor force that is not covered by the system. We will refer to those workers not covered by the system as "informal workers" or "workers in the informal labor market".

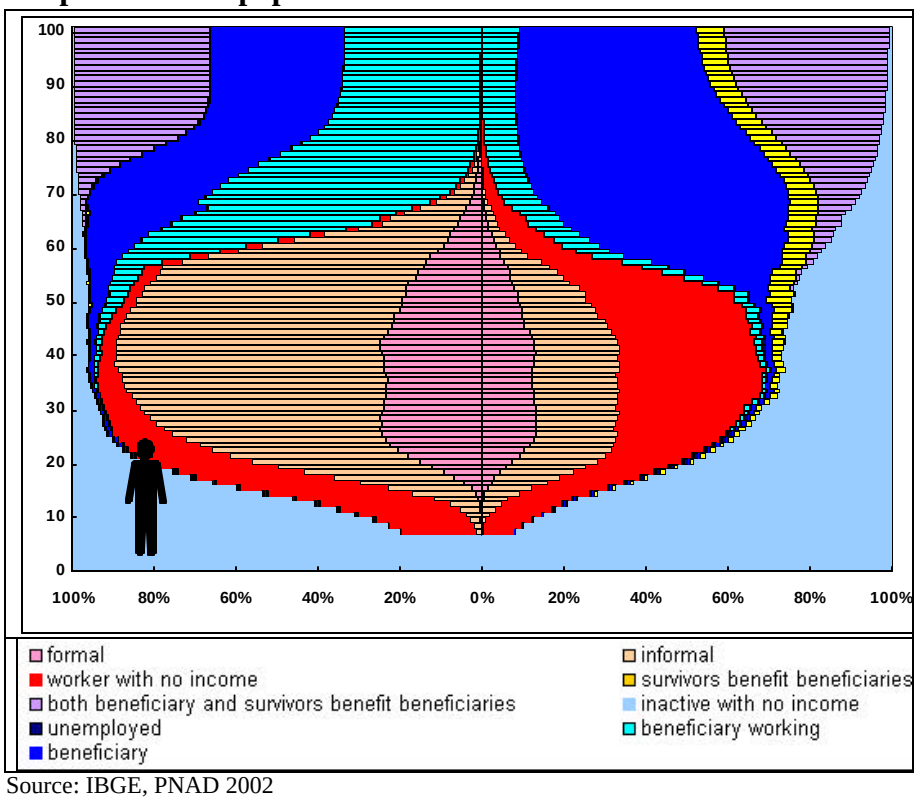
[24] "Workers actively working" either in the formal or the informal sector collect no pensions; conversely, the "beneficiaries still in activity" were defined as those who had a monthly income from their main occupation and who also collected pensions; the "inactive with no income" were defined as those who had nil monthly income from all possible sources and did not work.

At first glance one is to a certain extent surprised at the high incidence of male individuals who claimed to keep on working in spite of collecting a pension. This holds true even for those individuals in later stages of life, mainly in 2002 (see Graph 6). For instance, in 1988 approximately 43.6% of males at the age of 70 continued to be active, though on social security benefits. Although the value of benefits increased, i.e., they actually doubled, based on the number of minimum wages[25], the pattern persists in 2002. This fact may be viewed as a social bias, inflicted on the information collected, since society in general associates a positive value to the "vigorous" elderly individuals who, despite their years, continue to work.

The age distribution for the rural female working population is bimodal both for the ones declaring to work informally and for those active with no pay, in 1988 and 2002, but more noticeably so in 2002. In the latter year, this pattern is also noticeable for the formal market. This is typical in societies where women quit working during the reproductive period and resume working after the children are of school age. For the total female workforce the shape is very similar to the distribution for the male workforce, only on a smaller scale. In both years considered, the male workforce presents a bell-shaped curve. The male population in the formal market presents a bimodal distribution.

[25] The fact remains that using the number of minimum wages as the measurement referential is really inadequate for the purpose of making a deeper assessment. It would be necessary to establish a scale that could reflect the purchasing power of pensioners at both moments under consideration. This is, unfortunately, outside the scope of this work. The current value, corrected by INPC, was used as proxy.

Graph 6 – Rural population distribution - 2002



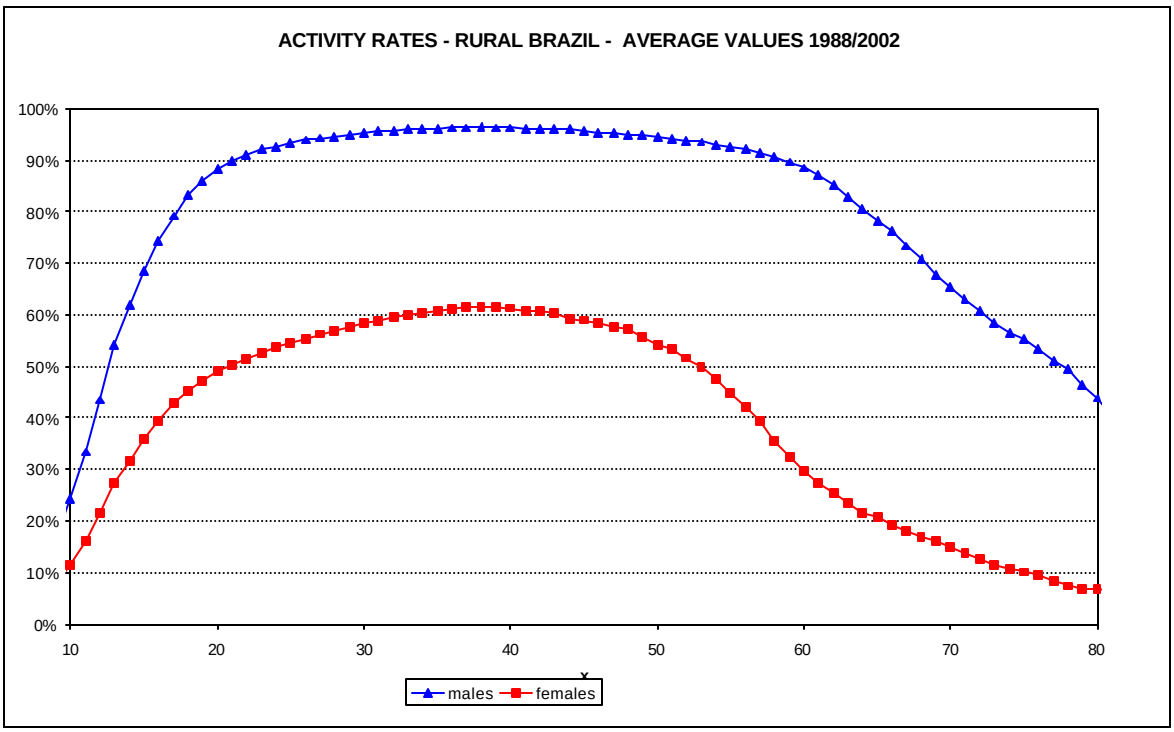
Source: IBGE, PNAD 2002

There is a problem in Brazil with regard to measuring female activity - mainly in the countryside, though the problem occurs in the city as well. This is because the work of women is not valued as highly as that of men and it is thus not accurately reported during interviews. Besides, more often than not, a woman's work is restricted to the region around the house, therein included the plot of land used for subsistence, which is not commonly associated with economic activity. In the graphs, mainly in 2002, active workers with no pay are a much more prominent group among women than men.

In what follows, to impart the evolution of any of the rates under study (e.g. activity rates) we will present the information as averages for the period (1988-2002) and the corresponding annual average rate of change in the same period. The former shall impact the level and structure of the rates in question and the latter, the dynamic process involved.

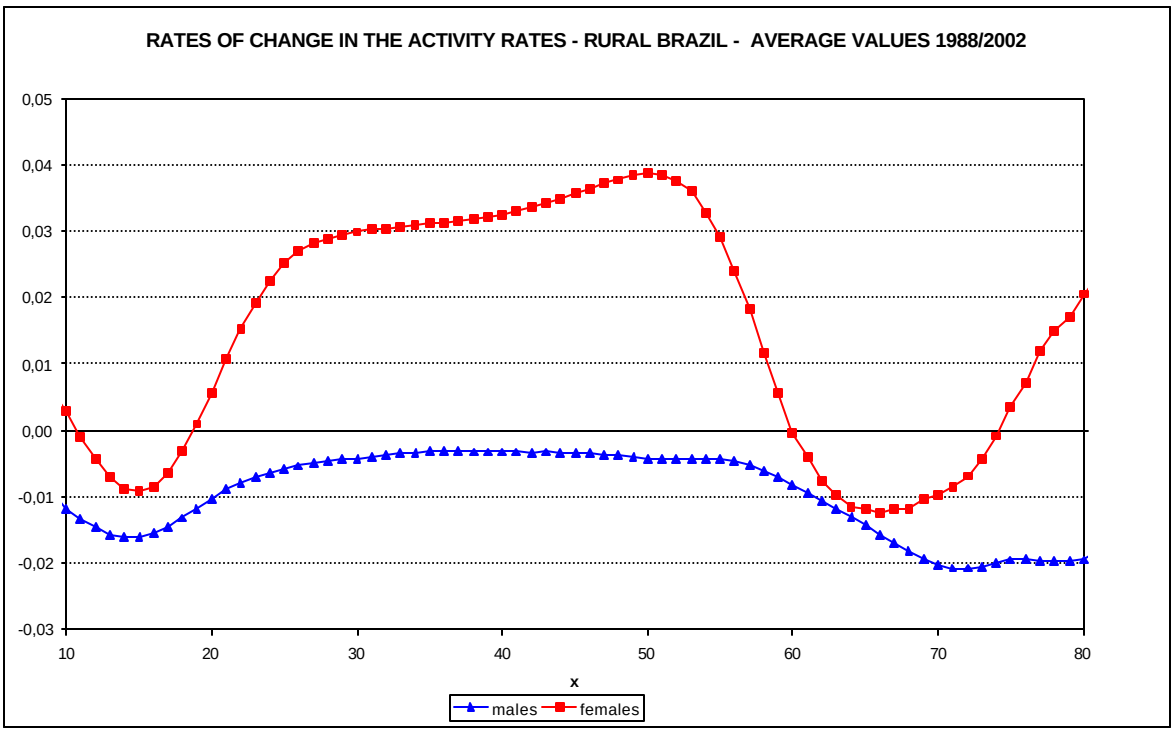
Graph 7 shows average age/sex specific activity rates in the time period considered. As expected, males show a higher activity rate than females for all ages. The curves are rather similar: a steep slope at early ages, a plateau in the middle age range and a slow decline at old age, with an earlier start for female decline. Activity rates here include formal workers, informal workers, workers that already receive benefits, the unemployed and workers with no monetary income. On the other hand, Graph 8 shows rates of change in the activity rates presented in Graph 7, and we can note that there is a major change going on in the rural labor market: women present positive rates of change during the period considered for all ages, and higher rates between 20 and 60 years, implying an increase in activity rates; males present a decrease (negative rates) for all ages.

Graph 7



Source: IBGE, PNAD 1988-2002

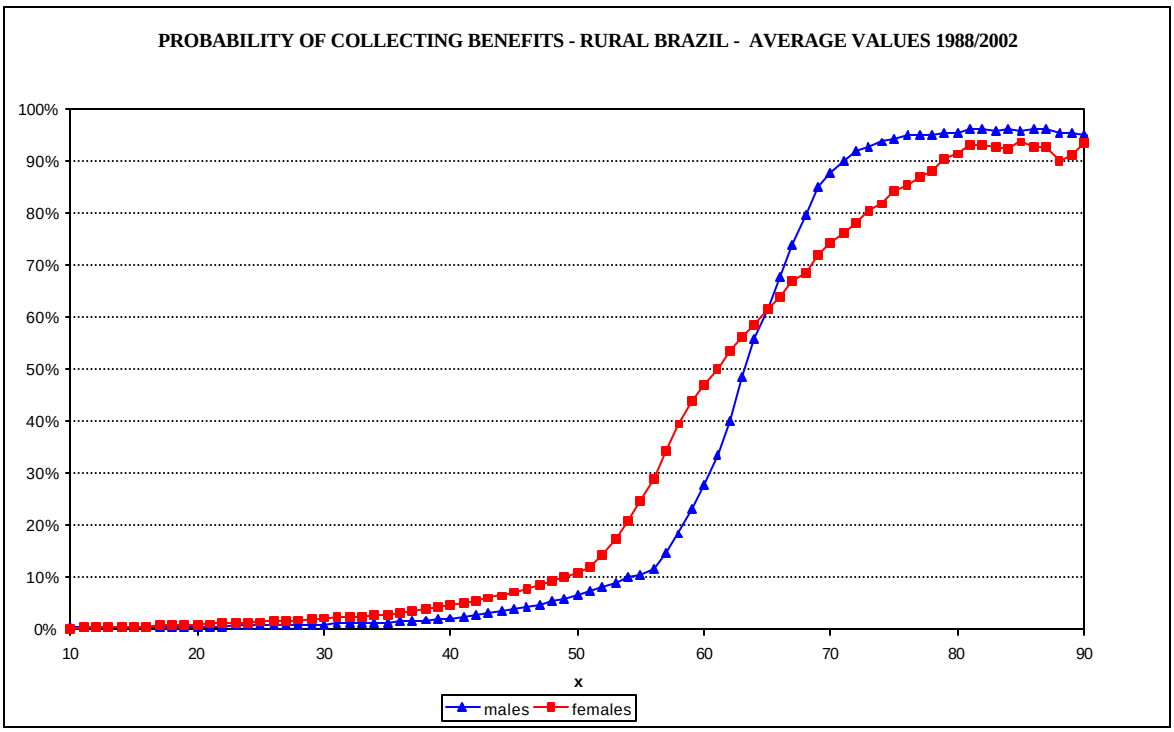
Graph 8



Source: IBGE, PNAD 1988-2002

On the other hand, in the case of benefits, the age of receiving benefits starts earlier for females, as can be seen in Graph 9, which shows average probability of collecting benefits in the period considered. The rates of benefit collection start to increase rapidly as a function of age around 50 for women and around 55 for men. The slope for females is less steep than that for males. At 65 there is a crossover. Afterwards males have higher coverage than females, up to 80 years of age when both rates are close to 95%. As mentioned in the introduction, there is a possible cohort effect, since up to the 1988 Constitution only the head of the household (usually considered the male) was eligible for the benefit. Data then pointed to a gender gap with respect to collecting benefits. The trend towards universalization of access to benefits, will not only narrow the gap, but also revert it, since women are eligible at an earlier age.

Graph 9

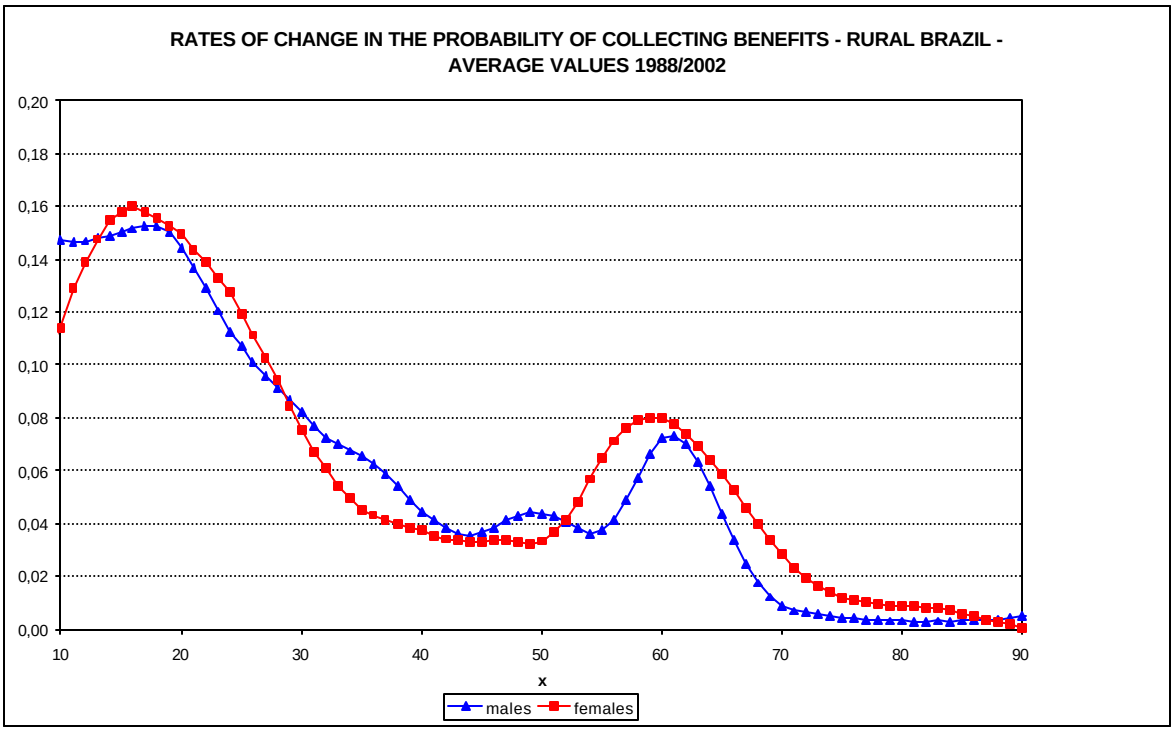


Source: IBGE, PNAD 1988-2002

Graph 10 shows the rates of increase in the probability of collecting benefits, which is positive for all age brackets in the period considered. Yet the rate of increase is higher for younger ages and shows a local maximum at 59 for women and 61 for men. The bumps are related to the 5 years reduction in age eligibility implemented in 1992. The high values for young adults are most probably due to the increase in disability benefits among rural dwellers suggesting increasingly better coverage. Though it is difficult to isolate the effects of new constitutional provisions on rural social security and assistance in order to prove them the sole cause of change, it is very likely that they have in fact played a major role. By reducing the eligibility age for retirement, these provisions seem to have provoked a boom in the proportional share of pensioners.

The less steep slope for females in Graph 9 combined with the wider bump in Graph 10 suggests a more diffuse age distribution and more drastic change of pattern in access to benefits for women.

Graph 10



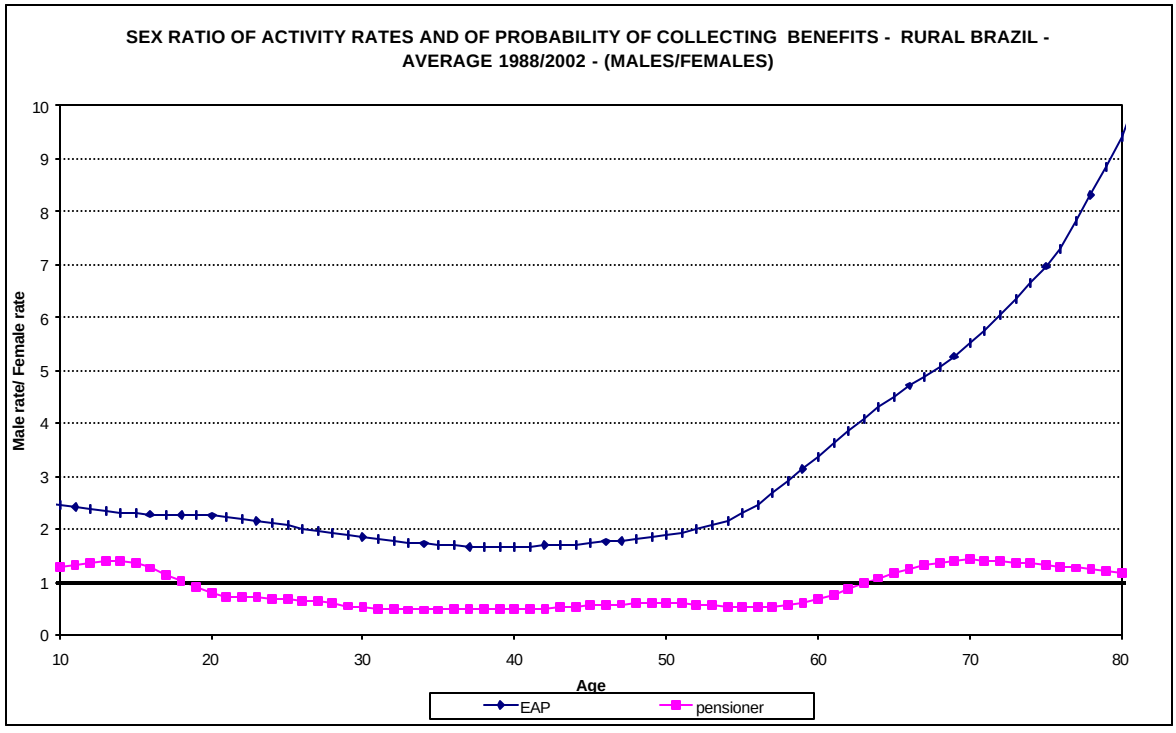
Source: IBGE, PNAD 1988-2002

To estimate the gender gap in the period considered, Graph 11 shows the sex ratio of the activity rate. We find ever-greater ratios according to age, ranging from slightly below 2 for the 27 to 51-age bracket to higher ratio values at more advanced ages. In other words, as previously mentioned, the rural workforce is male to the extreme. However, the same does not hold true for benefits. The sex ratio curve regarding the probability of collecting benefits is roughly U-shaped: at early ages (under 19) the incidence is greater among men, perhaps due to disability retirement (not shown in the graph). From then on, the female incidence is ever greater (due to the concession of survivors' benefits), until the ratio hits a low mark (around 40 years of age), at which point it begins to increase again.

From them on, the gender-gap increases continuously (due to previous legislation that restricted awarding benefits solely to the heads of household) and reaches a relative maximum at age 70, with the male/female ratio decreasing from this age onwards.

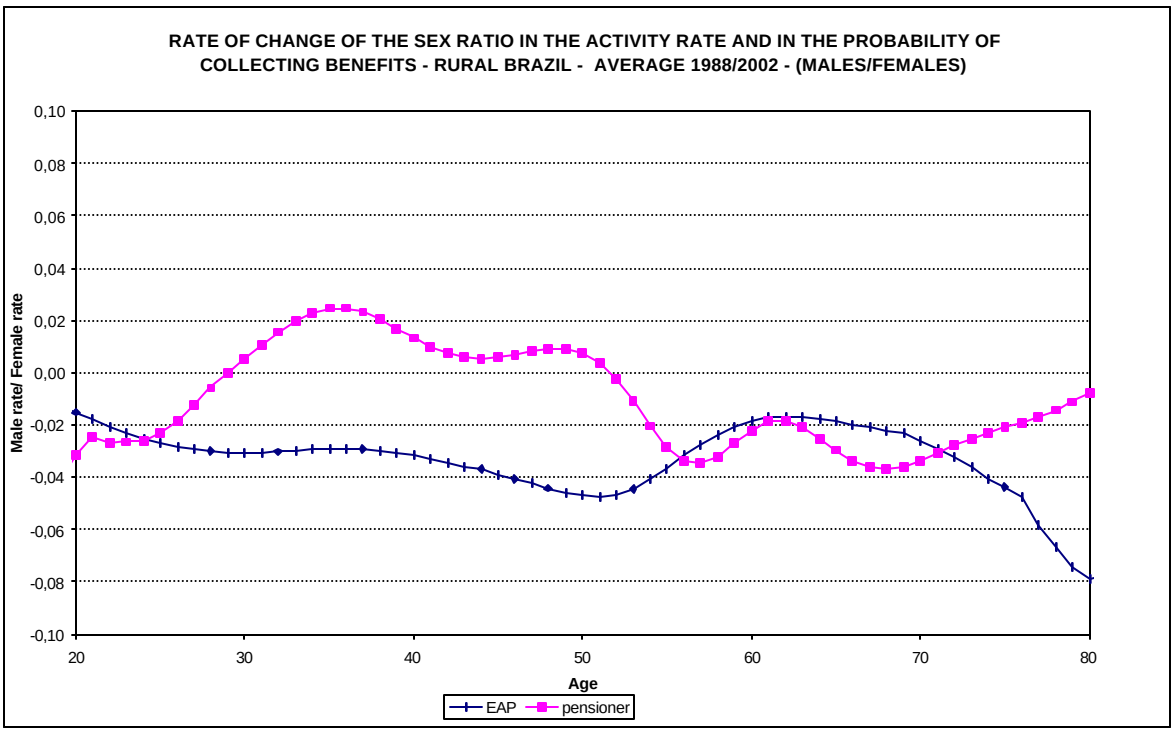
When the rates of change in the sex ratios of the activity rate and probability of collecting benefits are analyzed (see Graph 12), it turns out that with regard to the active population, the sex ratio decreases implying that there are proportionally more women than men entering the labor market, and even some male dropouts. With regard to the population collecting benefits, there are more males than females becoming eligible and collecting benefits in the 28-to-52 year age bracket. The opposite is true, i.e. more females than males for entries above 52. This confirms the initial impression of an increase in disability benefits for younger males and in old-age benefits for females above 55 among rural dwellers.

Graph 11



Source: IBGE, PNAD 1988-2002

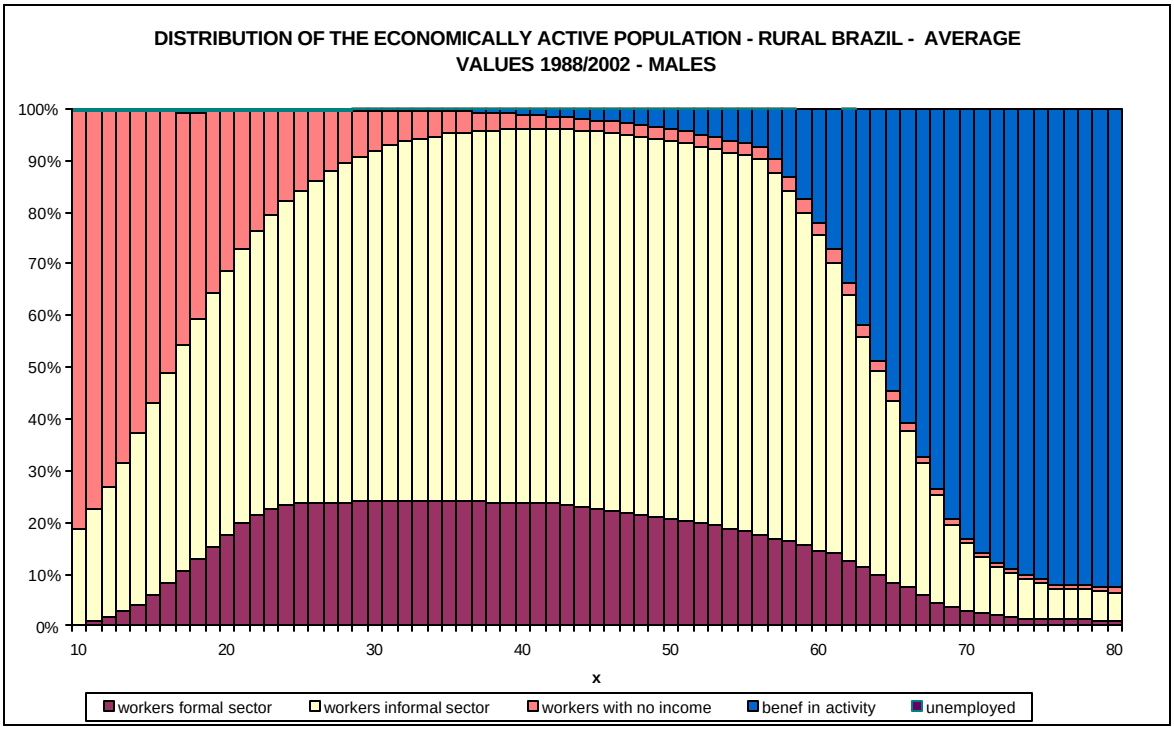
Graph 12



Source: IBGE, PNAD 1988-2002

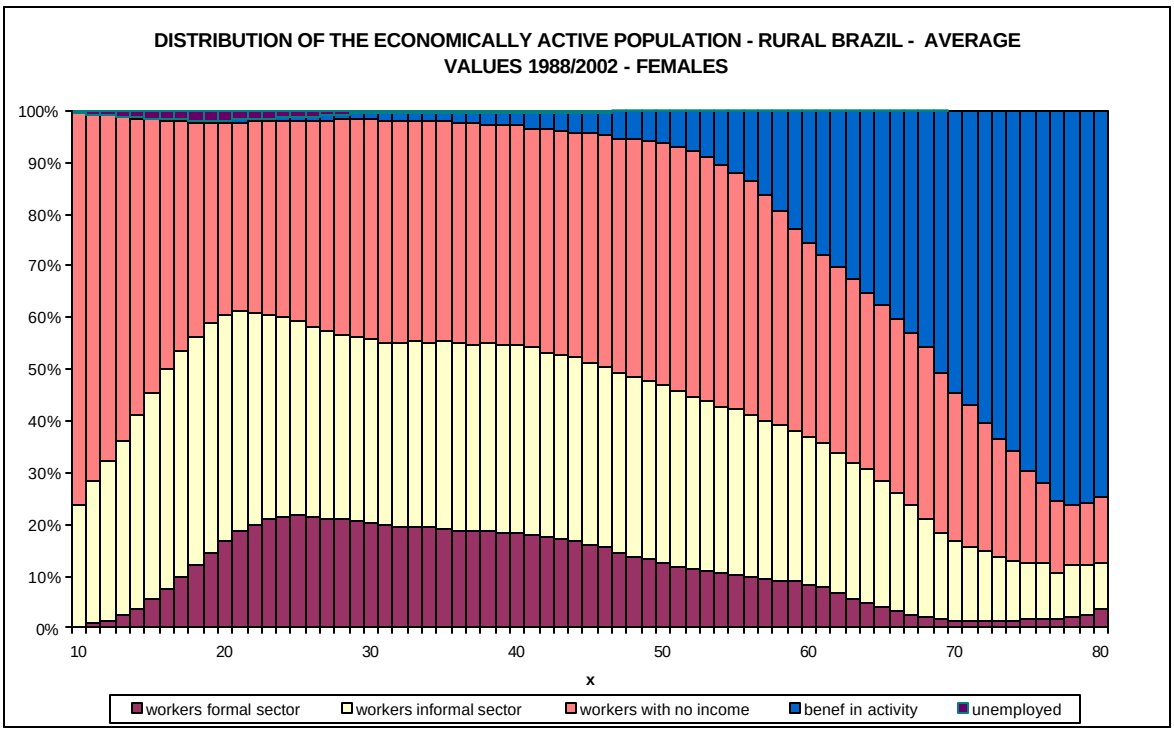
In order to describe in greater detail the transformation going on in the labor market we will also discuss the economically active population (EAP) in terms of the relative participation of its components: formal workers, informal workers, workers that already receive benefits, the unemployed and workers with no pay. Graph 13 and Graph 14 show the average relative participation of the five above-mentioned groups for males and females, respectively, during the period considered. Males present a higher participation both in the formal and informal labor markets and the participation of male workers with no income decreases with age to almost nil. Women present high rates of participation for workers with no income for basically the entire age range, though also decreasing. Both genders present high percentage of working beneficiaries and relatively small unemployment.

Graph 13



Source: IBGE, PNAD 1988-2002

Graph 14

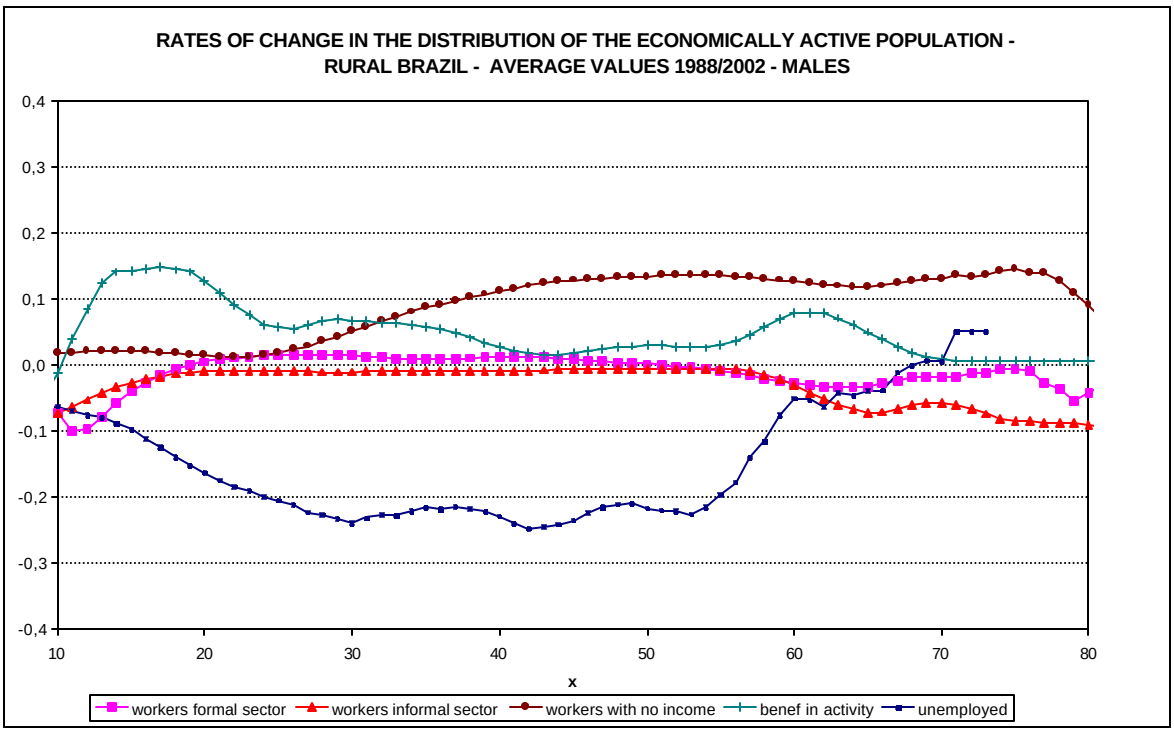


Source: IBGE, PNAD 1988-2002

Graph 15 and Graph 16 show the rates of increase in the relative participation of the same above-mentioned groups for males and females, respectively, in the period considered. For males, we can see that workers with no income (in the 30-to-80 year age bracket) and working beneficiaries (in the 15-to-30 year age bracket) present the highest rates, implying that these two groups increase their relative participation in the workforce. Unemployment presents the lowest rates, reflecting the decrease that occurred. The change in concept of working population could explain part of the shift from unemployed to workers with no pay[26]. Females present positive rates in the same two population groups: workers with no pay (all ages) and working beneficiaries (below 30 years of age and above 55 years of age). Increase in activity rates for males and females is due in large part to the increase of work with no income and the work of those already receiving benefits. As already mentioned, these phenomena could be explained by the change in the concept of working population in the survey.

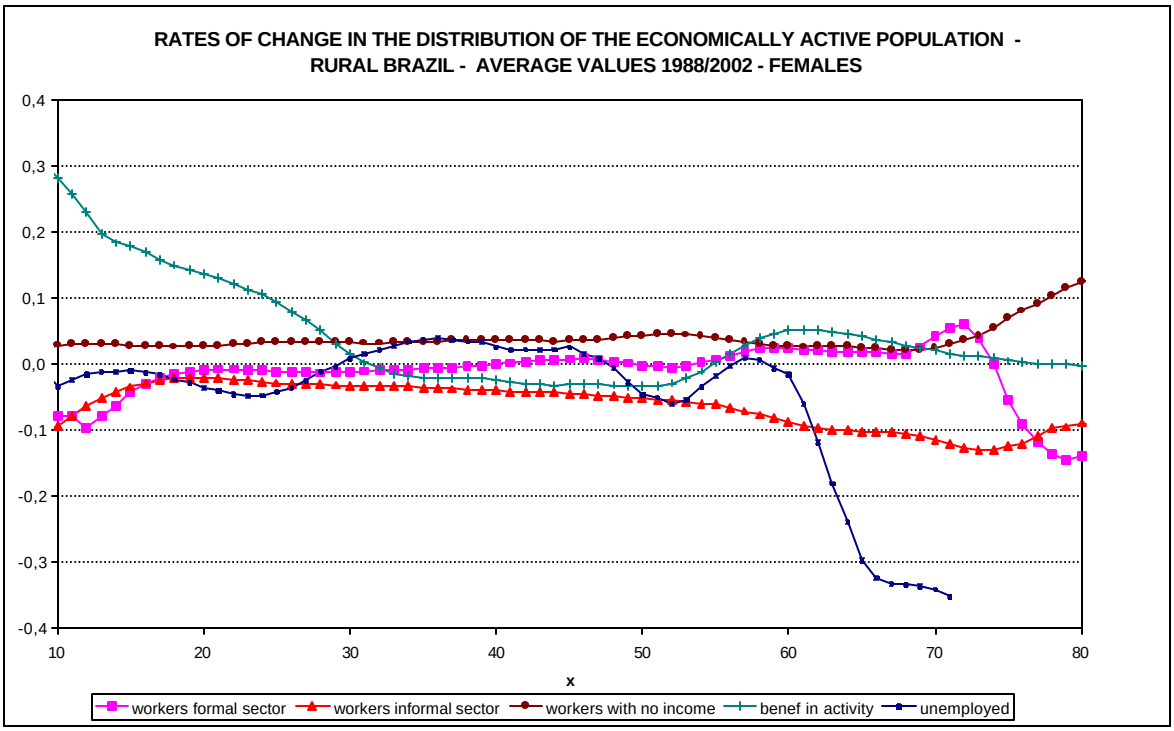
[26] From 1992 on, the definition of workforce is more encompassing including individuals working with no pay: planting for self-consumption and building their own dwellings.

Graph 15



Source: IBGE, PNAD 1988-2002

Graph 16



Source: IBGE, PNAD 1988/2001

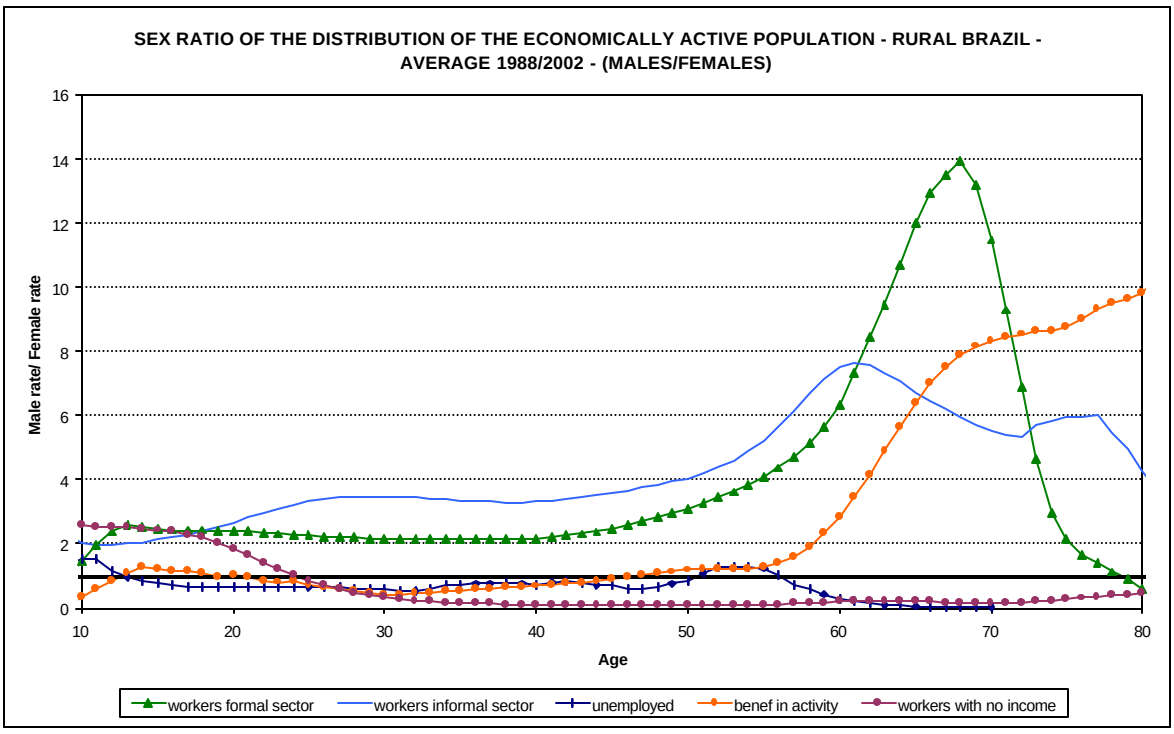
In order to help assess the gender gap during this period, Graph 17 presents sex ratios of relative participation in the EAP. The sex ratio is consistently above 1 for almost

all ages, except for those workers with no income, which confirms the largely dominant male labor market in rural areas. And if we analyze rates of increase in this sex ratio we see significantly positive rates only for activities with no income and at older ages for workers in the formal market. Once again we confirm the fact that increased female participation in the rural labor market occurred mainly in activities with no direct income.

In other words, the sex ratio in the workforce and in the collection of benefits remained practically unaltered during the period under study, as has already been seen in Graph 12, which shows rates of change of the sex ratio in the activity and collection of benefit participation in the period considered. Whatever the case may be, the conclusion remains the same: despite the slight (declared) participation in the workforce, women have high probability of collecting rural Social Security benefits.

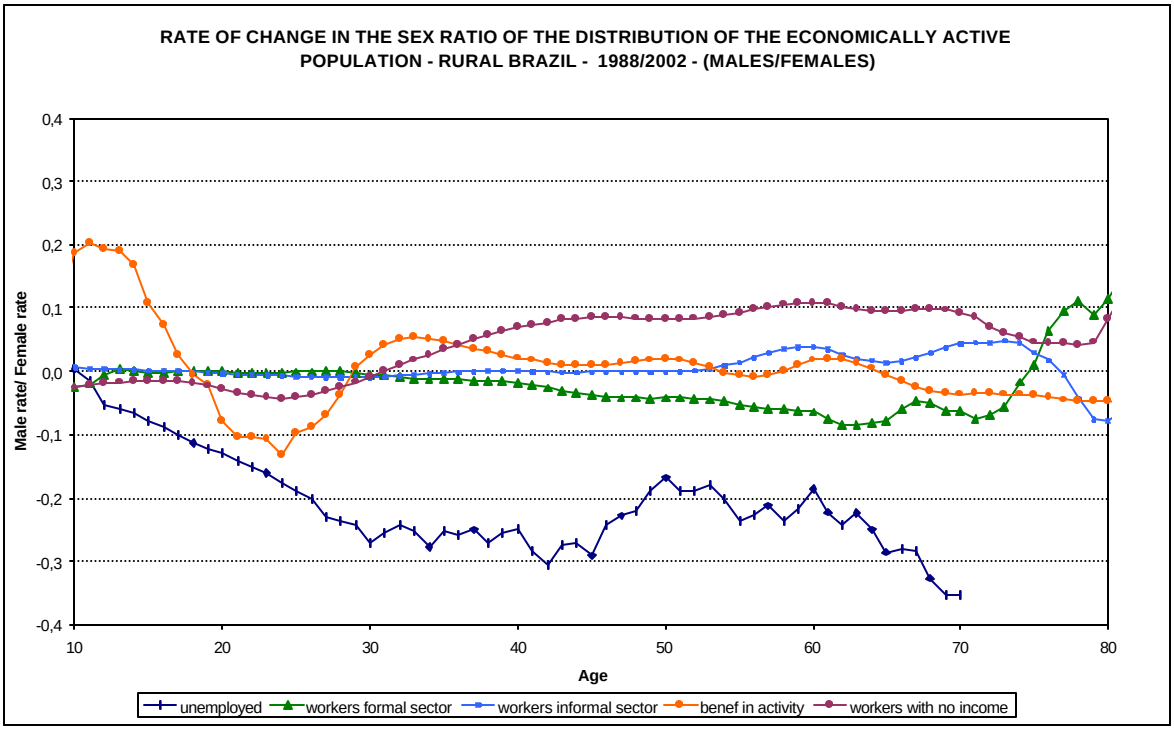
These observations can lead to certain interesting conclusions about the interrelationship between work and the rural Social Security system in Brazil. Note that at first one might suppose that the distribution of benefits between males and females would reflect that of the EAP. As was shown, this is not the case: there is utter male dominance in the labor market, whereas, on the side of benefits, there is a much larger participation of women. This means that rural women though not declared as workers, somehow or other manage to claim and obtain Social Security benefits.

Graph 17



Source: IBGE, PNAD 1988-2002

Graph 18



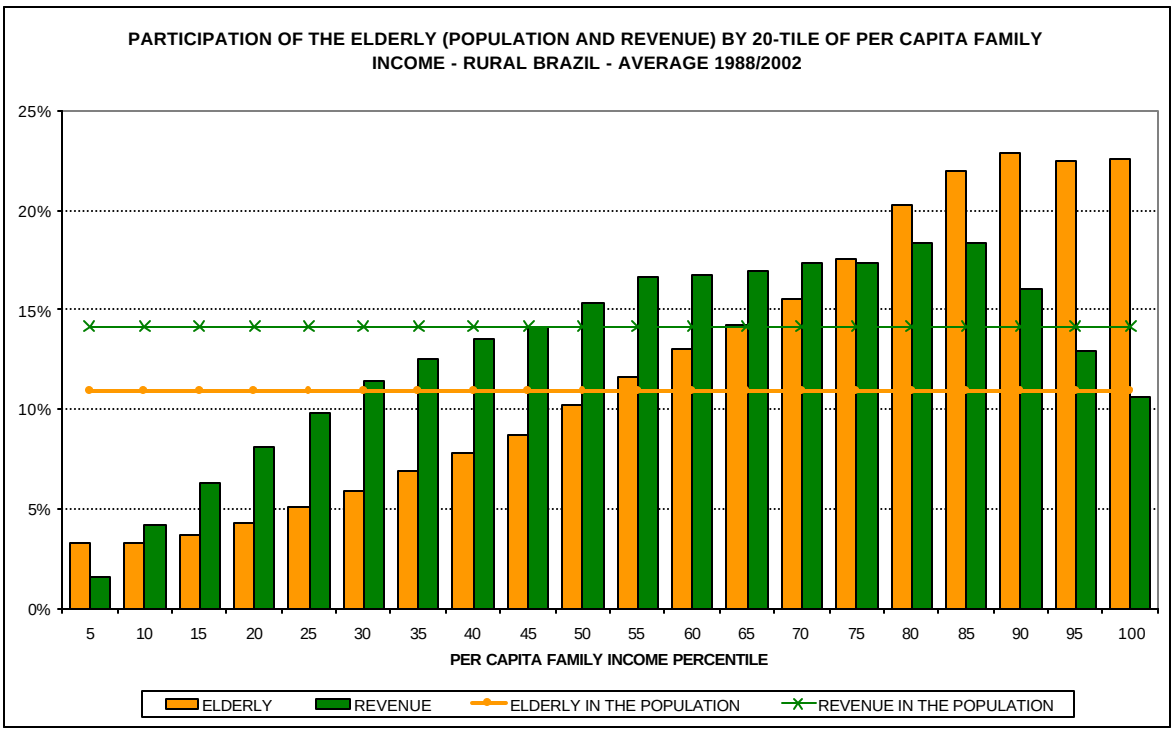
Source: IBGE, PNAD 1988-2002

4 –ELDERLY[27] PARTICIPATION AND INCOME[28] IN FAMILIES CLASSIFIED *BY PER CAPITA*[29] FAMILY INCOME

Graph 19 presents average elderly participation and income in families involved in agricultural activities classified by percentiles of *per capita* family income (represented as bars) for the period 1988 to 2002, as well as the average for the entire rural population (represented as lines). There are always fewer elderly individuals within the 50% poorer families than in the population as a whole. This goes to show that elderly people are to be found preferentially in the midst of more affluent families. This may indicate one of two things: either elderly people have the means, or wealthier families take in elderly members more often. The greatest elderly participation appeared in the wealthiest percentile.

[27] The "elderly" are defined as those over 55 years of age, since the eligibility for the rural benefit is 55 years for females. Although not all beneficiaries of Social Security are necessarily elderly people, Graphs 5 and 6 show that they stand in absolute majority. Hence the elderly individual will be used as a proxy for the concept of what a beneficiary is.
[28] When dealing with elderly income we are referring exclusively to pensions.
[29] 20-tiles of per capita income for the period between 1988 and 2001 can be found in Table 3 in the Annex.

Graph 19



Source: IBGE, PNAD 1988-2002

Table 1 in the Annex presents figures for elderly participation in the family by 20 tiles of *per capita* family income for the years considered (last column) and the average for the period as well as the average for each year considered (last row). Average elderly participation in families has increased from an average of 9.8% in 1988 to 14.2% in 2002, a result of the population aging in the period in question (lower fertility and mortality, in addition to the migration flow to urban areas in the economically active age bracket). This information broken down by *per capita* family income shows a marked pattern. In lower income families (up to the 20th percentile in *per capita* income), we note that average elderly participation has dropped from 4.0% in 1988 to 3.4% in 2002. However, for higher income families (the 80th percentile or over in *per capita* income) we note that the 15.3% participation in 1988 rose to 28.3% in 2002.

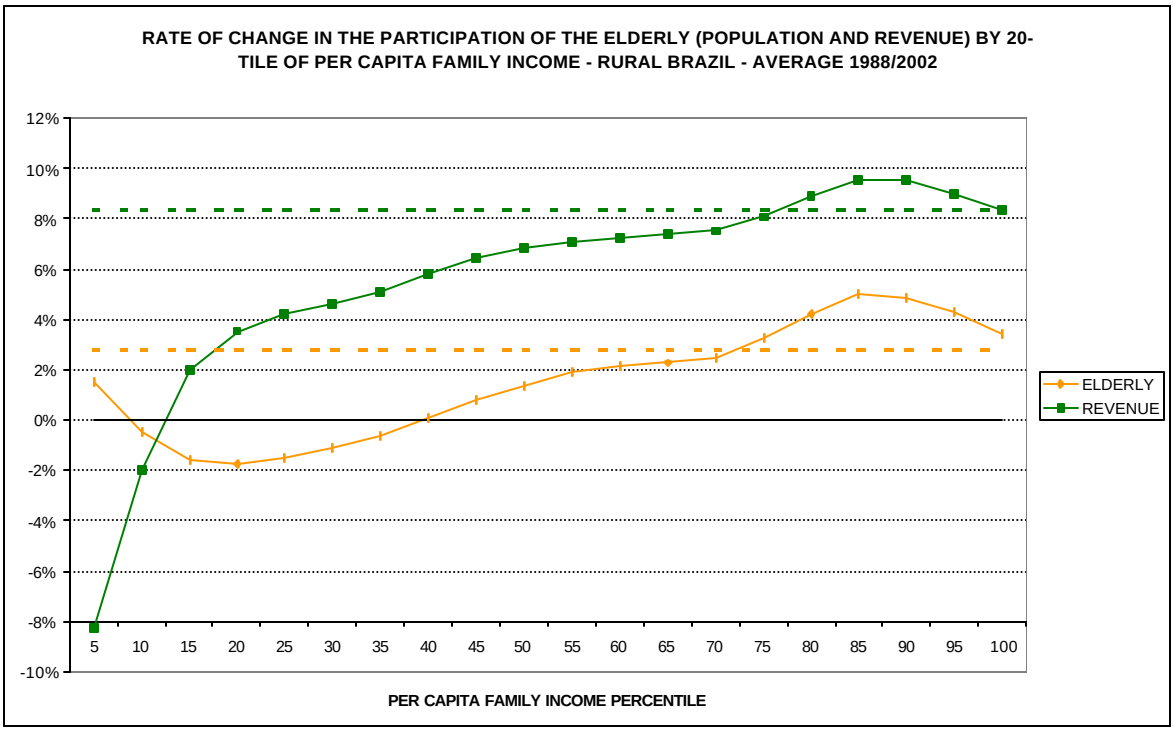
Table 2 in the Annex presents figures on elderly retirees and pension income participation by 20-tiles of *per capita* family income for the years considered. The mean for the period for each percentile of *per capita* family income appears on the right hand side and the average for elderly participation in the family income for each year considered appears at the bottom of the table.

In Graph 20 we can appreciate the rate of change in elderly participation in the *per capita* family income both in physical terms and in revenue, in the period from 1988 to 2002. An increase in elderly participation is noticeable for the 45th percentile and above, the inverse holding true for families below that percentile (the first two 20-tiles are not statistically significant and not consistent with the overall trend).

Similar to the increase in elderly participation that occurred in the period, there was also a growth in their share in family earnings: from 5.6% in 1988 to 21.4% in 2002. The increase of the elderly share in family income can be broken down into two components: a) an increase in the share of the elderly population (retirees and survivors' beneficiaries) in the nation as a whole and in rural families in particular; and b) a rise in average elderly income. The increase in the second component may have been caused by the increase in the individual value of benefits perceived, as can be seen in Graph 20, which shows positive rates of change for all *per capita* family income brackets, with the exception of the two lowest brackets, which show a decrease in elderly revenue participation in family income, though not statistically significant but consistent with the trend. In other words, even taking into account the aging-of-population component, the rise in elderly participation in rural family income in Brazil may be credited to the 1988 Constitution,

which doubled the value of the benefit in terms of minimum wages, lowered the eligibility age and widened the population coverage.

Graph 20



Source: IBGE, PNAD 1988-2002

In sum, there is an ever-growing concentration of elderly members in families (in agricultural activities) with higher income levels. It is noticeable that though average elderly participation in rural families for the period 1988-2002 has risen, this growth has been quite lopsided when considering *per capita* income brackets. This corroborates the fact that it is the elderly member who has been responsible for the economic improvement of rural families.

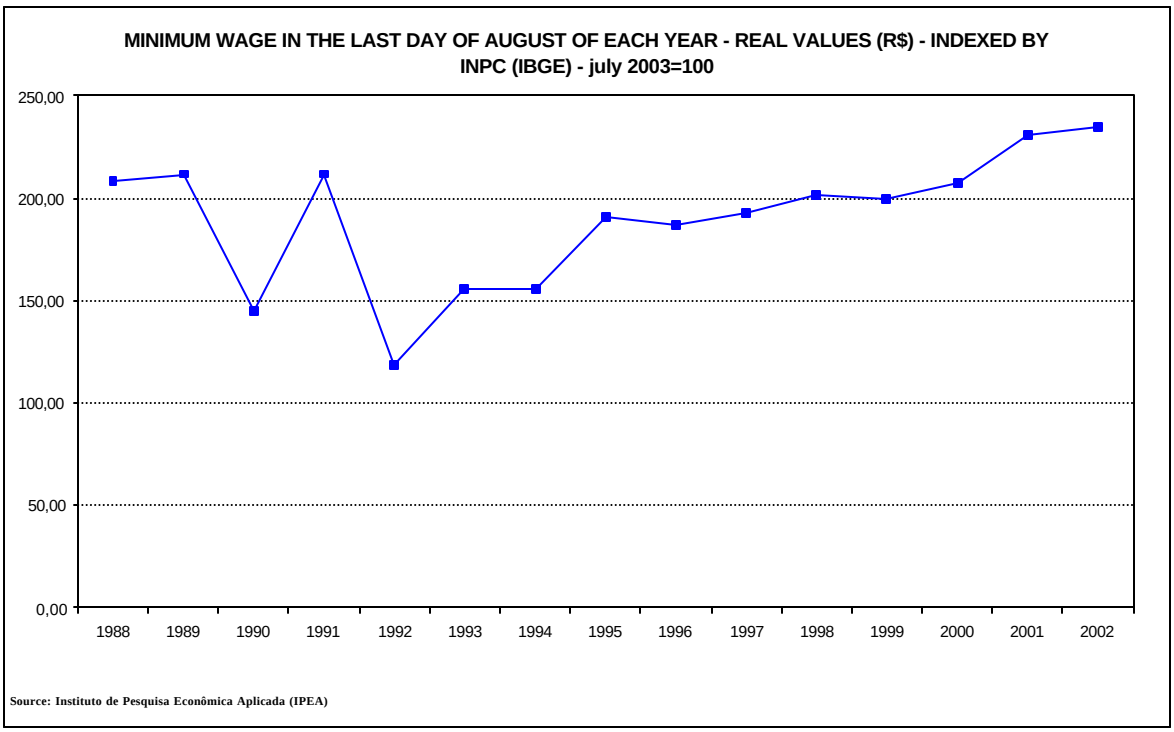
The rate of change of elderly participation in families is higher for wealthier families and is negative for the lowest *per capita* family income brackets. In terms of economic participation, as occurred with physical presence, the rate of change increases with *per capita* family income, dropping at the extreme groups: there is less relative

contribution in family income derived from elderly members' revenues in extreme percentiles (in the poorer and richer rural families).

In lower income families (up to the 20th percentile in *per capita* income) we note that average elderly contribution to family income was around 5.1% of the total income in the period considered (in 1988 this average was 5.8% and it reached 5.9% in 2002 through a concave curve in time). However, for higher income families (the 80th percentile or over in *per capita* income) we can see that the average participation for the period was around 15.3% (in 1988 this average was 4.8 and rose to 21.7% in 2002). The increase is quite sizeable and occurs in most 20-tiles as can be seen in Table 4 in the Annex. In short, the presence of elderly members in the family is associated with improved income despite the fact that the average income participation of elderly members in family income may not always be as high as the income of other family members for the more affluent groups.

Actually the *per capita* family income for people in agricultural activities was quite stable in the period under study. A decrease occurs though, for other members of the household but not for the elderly individual, which counterbalances the loss. Note, too, that this decrease in the *per capita* family income for people in agricultural activities in terms of multiples of minimum wage occurs parallel to an increase in the minimum wage in real terms from 1992 onwards (Graph 21).

Graph 21



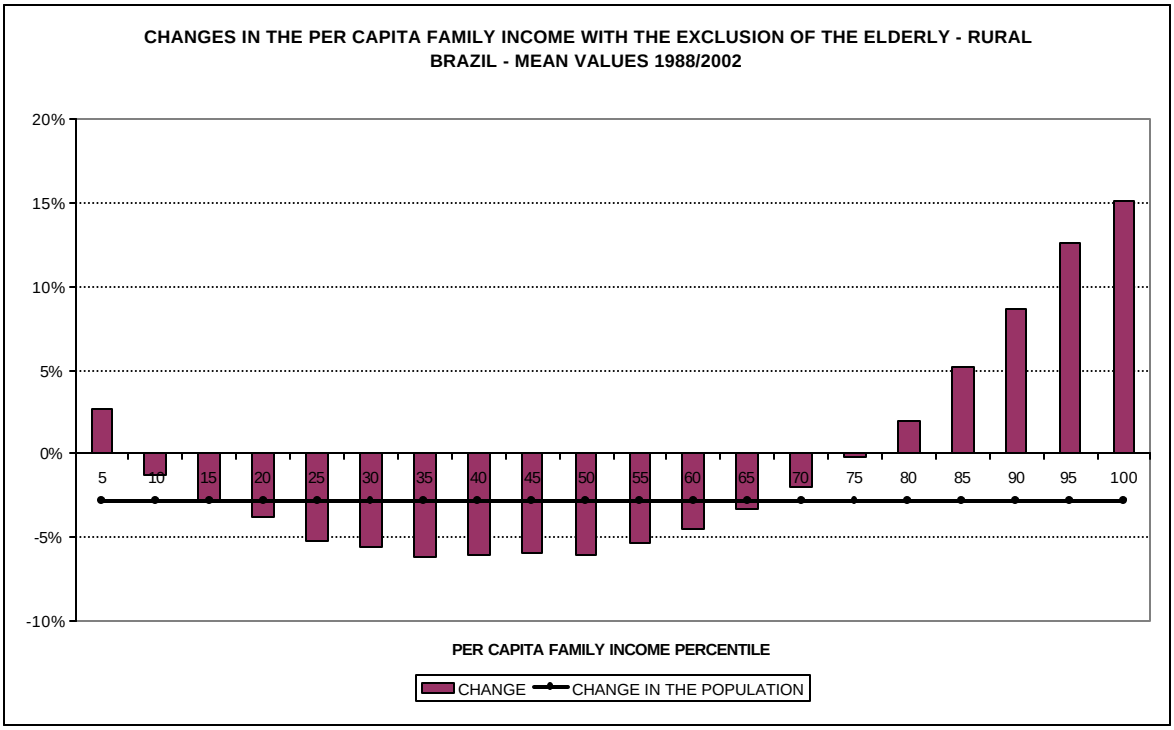
Source: IBGE, PNAD 1988-2002

5 – *PER CAPITA* FAMILY INCOME WITH AND WITHOUT ELDERLY PARTICIPATION

Graph 22 to Graph 24 merge information already analyzed in the last section. In Section 4, the focus of the assessment was to consider both people in their later years as active members in family expenses and as active providing members in the family budget. In this section an exercise is presented that consists of excluding elderly members from the family group and of figuring *per capita* income before and after the exclusion. Graph 22 presents the average change in family income with and without elderly participation and the average variation in the population for the period between 1988 and 2001. We can observe that in the period considered, the groups below the 75th percentile threshold had their *per*

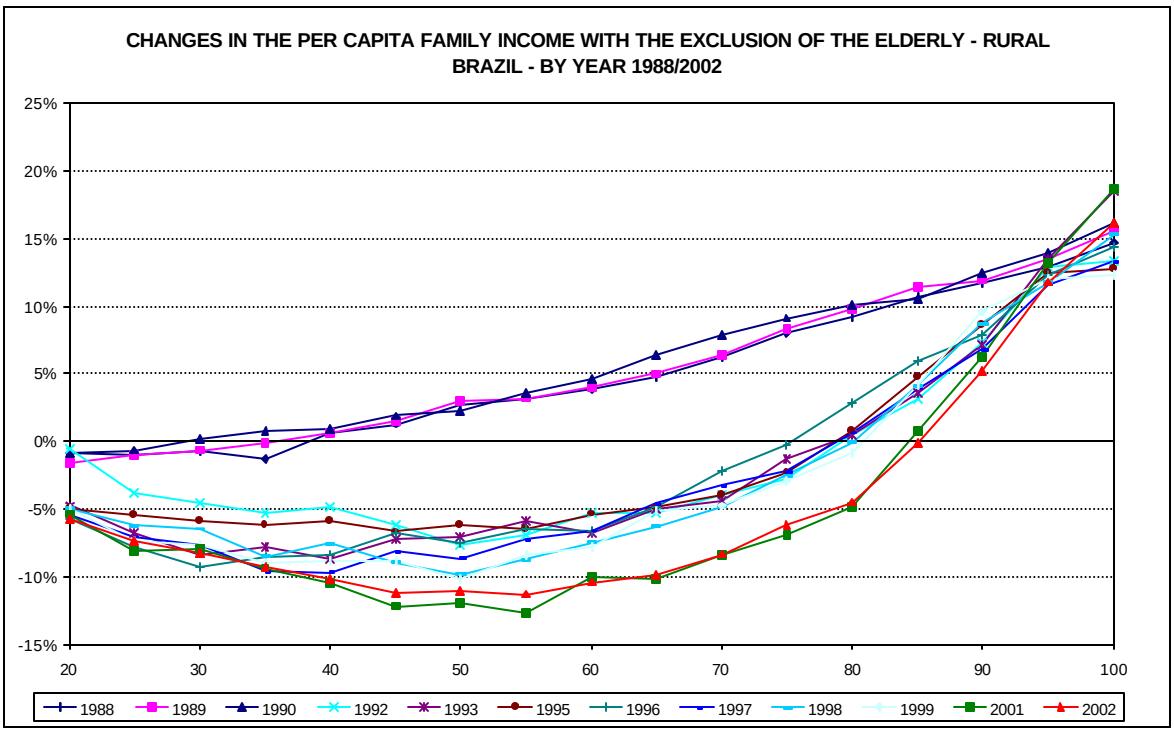
capita income diminished on average about 3% with the exclusion of the elderly individual (with the exception of the first 5th percentile). For the percentiles above this threshold the exclusion of elderly people raised the family income. Graph 23 shows that the period under consideration can actually be broken down into three sections: the years before the enactment of Law #8213 dated 1991 but implemented during 1992; the years between 1992 and 1999; the years in the new century. Though the last years of the second period already herald the changes better perceived in this century, there is a clear discontinuity in 2001, confirmed by 2002 data. The change between the first two periods can be accounted for the Law and the change between the last two periods can be attributed to the worsening of the economic situation of the economically active population and the relative bettering off of pensioners.

Graph 22



Source: IBGE, PNAD 1988-2002

Graph 23



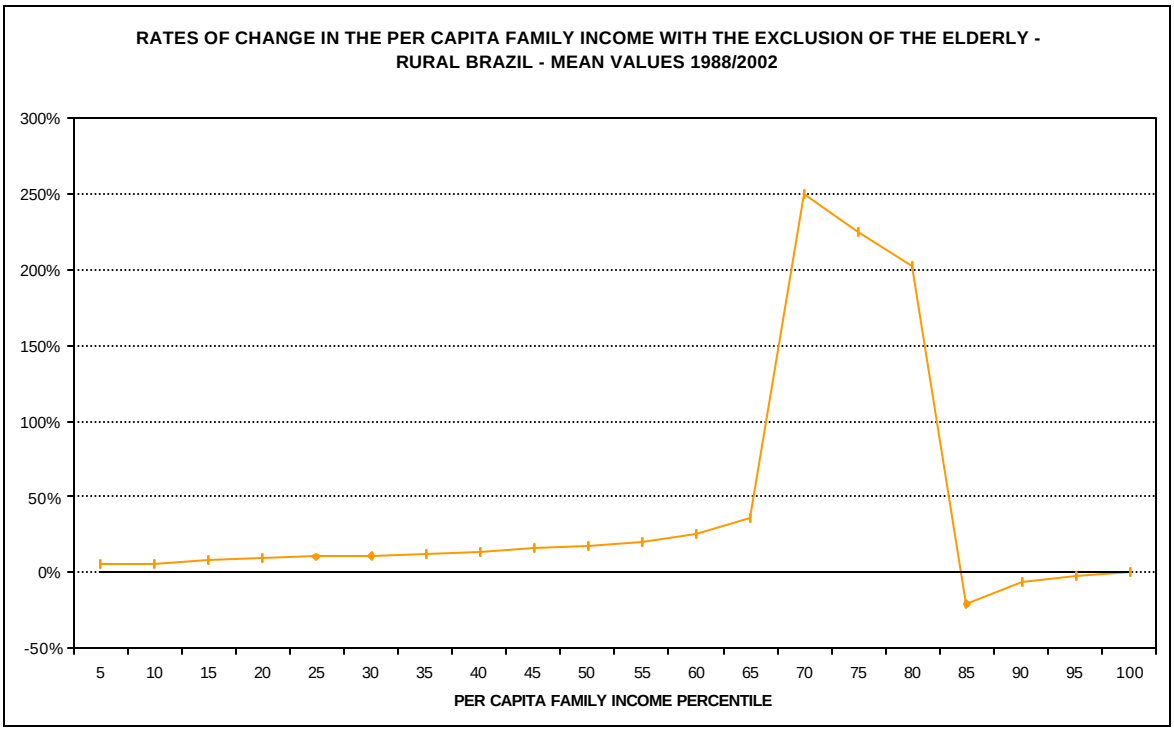
Source: IBGE, PNAD 1988-2002

From 1992 onwards, the impact and the number of families affected negatively was noticeable: all families, with the exception of those in the 5th percentile and above the 80th percentile, suffered a reduction in family income with the exclusion of elderly members; in 2001 and 2002 another shift was noticeable, changing this upper percentile to the 85th (see Graph 24 and Table 4 in Annex). In Table 4 there are figures on the change in family income with the exclusion of elderly members by 20-tiles of *per capita* family income for the years considered. The average for the period for each of the 20-tile *per capita* family income can be found in the last column. The mean value for elderly participation in the family for each year considered can be found in the last row.

This goes to prove once again the growing economic importance of people in their later years in rural areas, a result not only of demographic aging processes but also of more easily fulfilled eligibility conditions and higher benefit values.

In the period considered, the contribution of elderly members in families above the 85th percentile decreased, conversely increasing for all other income brackets. The impact, though, was much more intense for families in the income brackets between the 70th and the 85th percentiles.

Graph 24

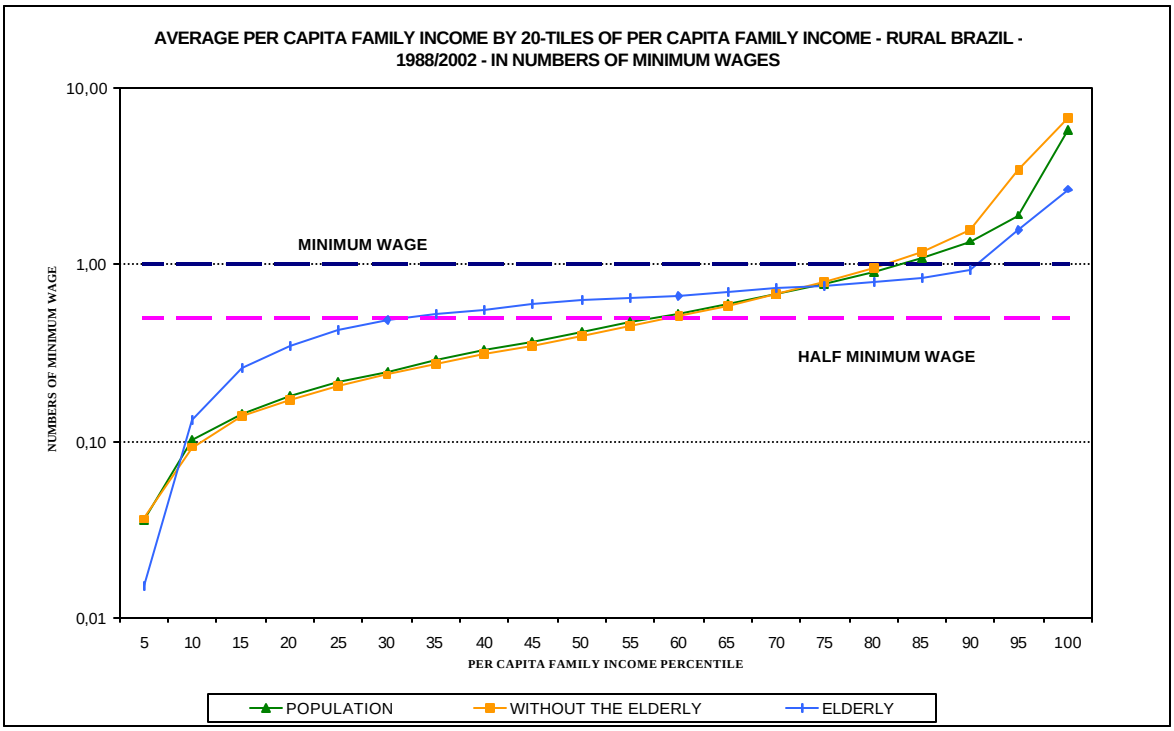


Source: IBGE, PNAD 1988-2002

Graph 25 presents the average income in each 20-tile of family income for the population as a whole: families with the exclusion of elderly members and elderly members themselves for the period considered in multiples of the minimum wage. Below the 75th percentile, elderly people would be better off income-wise by themselves, with the exception of the lowest 5th percentile. The average income curve for elderly individuals alone is much flatter showing that the cash flow goes both ways, depending on the income bracket. In lower income families, elderly members helped out in the budget whereas in higher income families they probably profited money-wise from being in the specific

household. Of course there are many other factors to be considered; family ties are far more complex. Different generations can reciprocally help each other out in several ways and the money factor is but one. Mutual helping and caring as well as caring for grandchildren and the bed-ridden are other possibilities. Nevertheless, elderly *per capita* income, regardless of the percentile of family income, is very close to the Social Security benefit for rural workers, suggesting that social security is their main source of income.

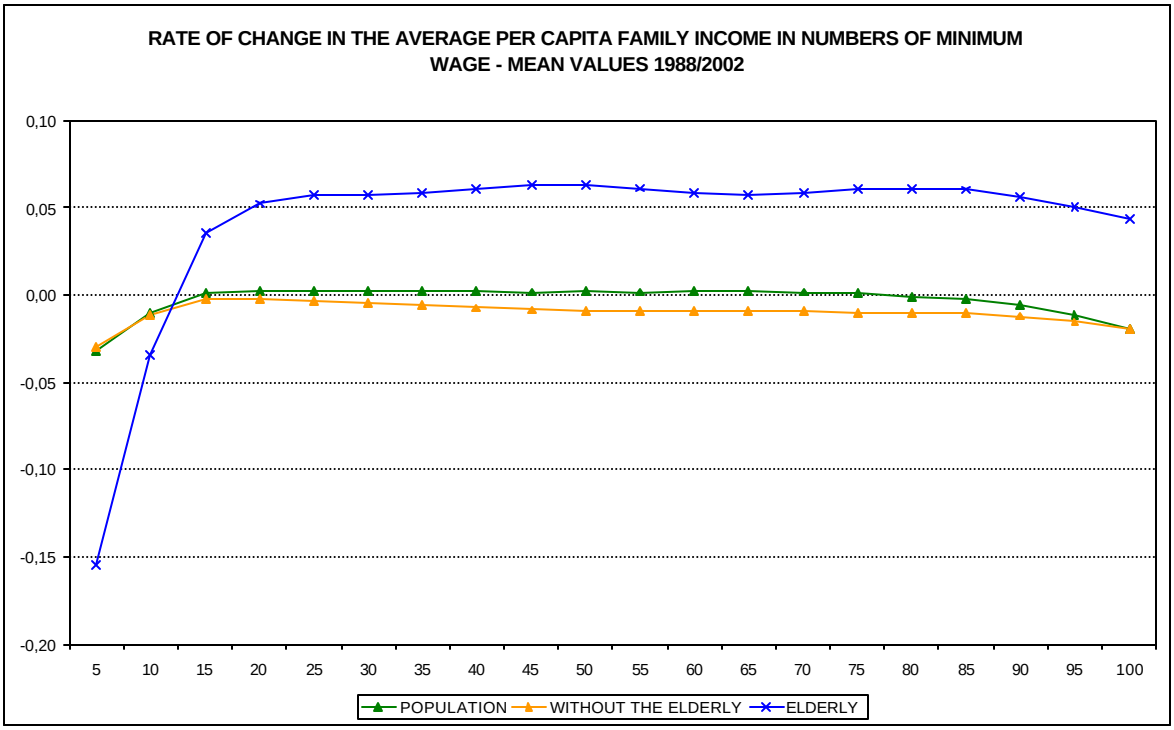
Graph 25



Source: IBGE, PNAD 1988-2002

Graph 26 shows that the situation shifted dramatically from 1998 to 2002. In all but the poorest 10% of families, the rate of change in elderly income alone *vis-à-vis* that of the entire family was much greater – with smaller differences for the wealthier income brackets. Besides, elderly income presented growth in the period, as opposed to the decrease experienced by other members of the household.

Graph 26



Source: IBGE, PNAD 1988-2002

One could, however, argue that this phenomenon might be the result of changes in the Brazilian rural family profile with regard to the proportion of elderly members. This argument does not hold true, though. In the first place, as can be seen in Graph 27 that shows the cumulative distribution of families by size, families got smaller in the period. The average size came down from 6.23 members to 5.22 members, a 16% decrease. The decrease in the median value was more or less the same: from 6 to 5 members. In addition, one can see in Graph 28 - that shows the average number of elderly members by family size - an increase in the number of elderly individuals living by themselves (family of one). Parallel to this increase there is an increase in the amount of elderly members in larger families. These data corroborate the impression that with the increase in elderly income more offspring would remain at home to take advantage of this ready revenue. The rural

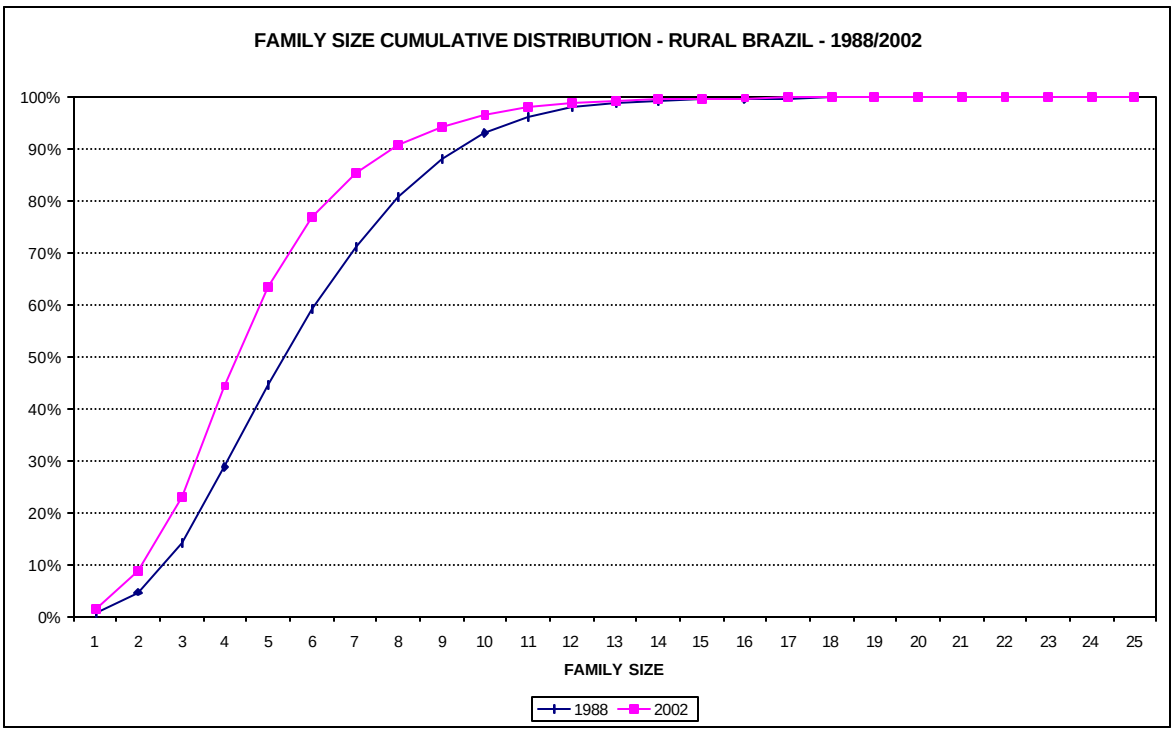
economy in Brazil is not strictly based on currency and, very often, active workers do not even earn as much as one minimum wage in payment for work rendered. Part of the payment is made in goods and most small farmers are actually sharecroppers. Elderly individuals, with their one minimum wage pensions, hold most of the cash in the backlands.

There is evidence that in certain towns and hamlets in the Northeast (one of the poorest Brazilian regions) and even in the South and Southeast (the two most prosperous areas) the income gotten from retirement benefits far surpasses the Municipal Participation Fund *(*FPM[30]), and this fact seems to have had a major effect on family structure.

In other words, we can reject the hypothesis that the main economic importance of elderly members in rural families has been caused by demographic changes and not by new constitutional directives.

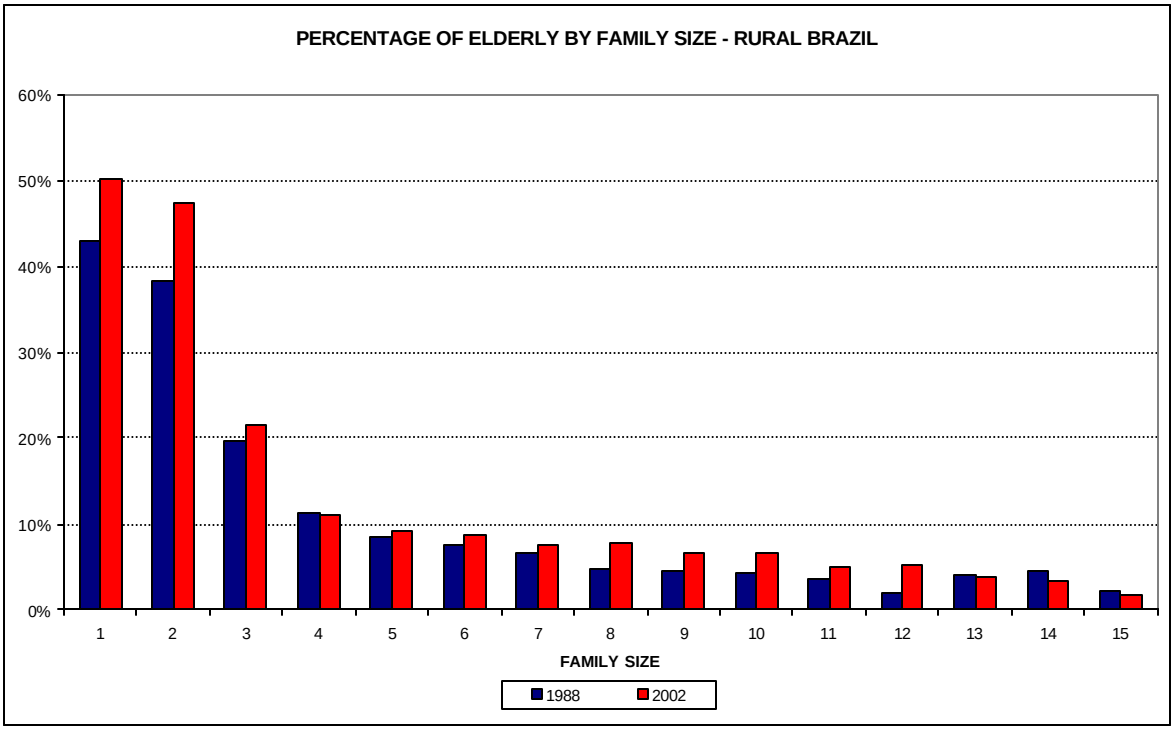
[30] *Fundo de Participação de Municípios* - Federal funds transferred to Municipal Governments mandated by the Constitution.

Graph 27



Source: IBGE, PNAD 1988/2001

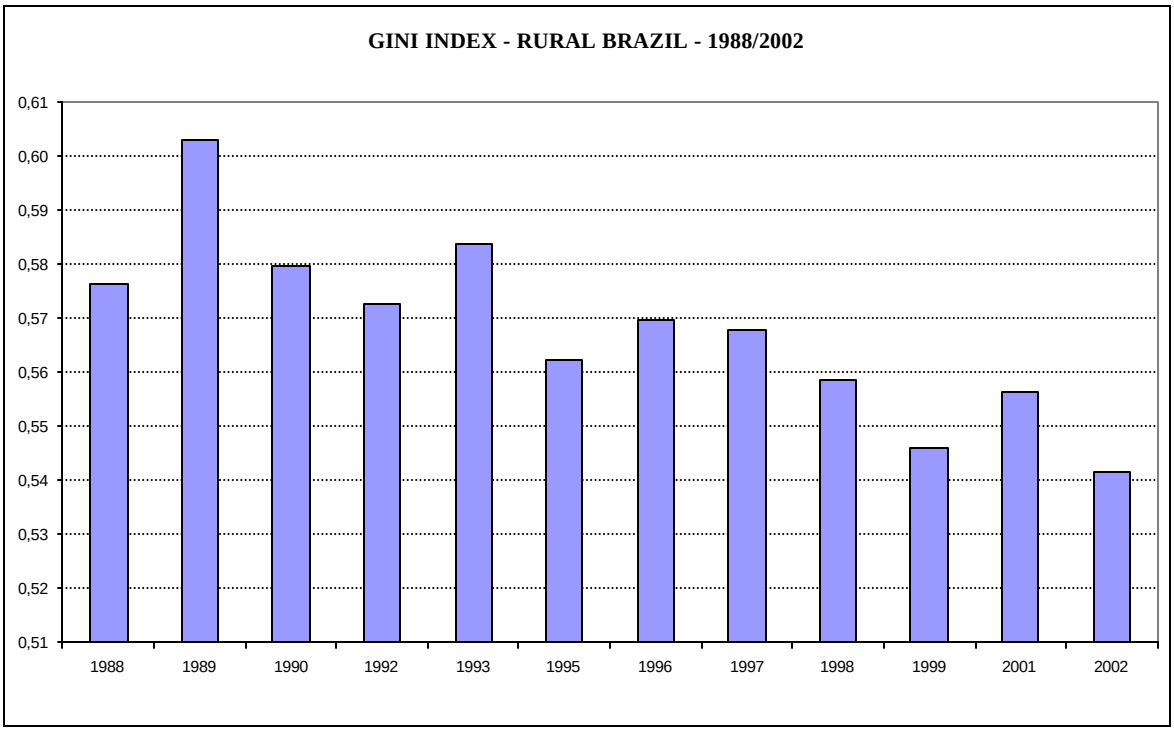
Graph 28



Source: IBGE, PNAD 1988/2001

Graph 29 presents the Gini index for the Brazilian rural population during the period under study. One can note that figures show a downward trend, although with oscillations in the period, implying that the income distribution is becoming more egalitarian.

Graph 29



Source: IBGE, PNAD 1988/2001

6 – COMMENTS AND CONCLUSIONS

When one considers average income and the rate of change in the period under study one can see that only those in the 20-tiles between the 15th and the 75th had their *per capita* average family income maintained from 1988 to 2002. It is worthwhile noting as well that the higher the family income the greater the increases between 1988 and 2002. It is precisely in these families that elderly individuals are concentrated. Moreover, it is there,

too, that elderly contribution to family income has grown the most. It is quite clear as well that constitutional changes were determining factors in this phenomenon. In addition, the increase in Social Security coverage of the rural population is quite evident, especially among females. It was shown that the period under consideration could actually be broken down into three: the years before the enactment of the Law, 1992; the years between 1992 and 1999; the years in the new century. Though the last years of the second period already herald the changes better perceived in this century, there is a clear discontinuity in 2001, confirmed by the 2002 data. The change between the first two periods can be accounted for the Law and the change between the last two periods can be attributed to the worsening of the economic situation of the economically active population and the relative bettering off of pensioners. The Gini index for the Brazilian rural population during the period under study shows a downward trend, although with oscillations, implying that the income distribution is becoming more egalitarian.

Even if Social Security benefits have the specific function of serving as "insurance against loss of working capacity," the social role that rural social security has played in elevating average income in Brazilian hinterlands is undeniable and, in this way, has collaborated towards mitigating poverty. The 1988 Constitution and the complementary laws that followed were fundamental in determining this new reality.

7 – BIBLIOGRAPHY

BARROS. R. P. de. MENDONÇA. R., *Determinantes da desigualdade no Brasil*. Rio de Janeiro: IPEA. Julho 1995 (Texto para Discussão 377). *(Determinants of Inequality in Brazil)*

BELTRÃO, K. SUGAHARA, S. OLIVEIRA, F. E. B., *Population and Social Security in Brazil: an analysis with emphasis on Constitutional Changes.* Rio de Janeiro: IPEA. Março 2002 (Texto para Discussão 862).

BRAZIL, *Constitution of the Federative Republic of Brazil*. Brasilia. 1988.

_____. *Decree Law #7526 dated May 7 1945* (Organic Law of Social Services).

_____. *Decree Law #276 dated February 28 1967* (Reforming of the Rural Workers' Statute).

_____. *Decree Law #564 dated May 1969* (Basic Social Security Plan).

_____. *Law #2613 dated September 23 1955* (created the Rural Social Services).

_____. *Law #4214 dated March 2 1963* (Rural Workers' Statute).

_____. *Law #6179 dated December 11 1974* (creates a social assistance benefit).

_____. *Law #6195 dated December 19 1974* (creates Rural Workers' Accident Insurance).

_____. *Law #6260 dated November 6 1975* (includes the Rural employer as a potential beneficiary).

_____. *Law #8213 dated July 24. 1991.*

_____. *Complementary Law #11 dated May 25 1971* [Rural Workers' Assistance Program (Pró-Rural)].

IBGE, *National Household Sampling Survey* (PNAD), 1988 to 2002

OLIVEIRA. F. E. B. de. BELTRÃO. K. I., MEDICI. A. C. *The social security reform in Brazil: past, present and future,* Rio de Janeiro, 1993 (Report for ILO).

OLIVEIRA. F. E. B. de. BEVILAQUA. A. S., *Um diagnóstico da Seguridade Social Rural.* Rio de Janeiro: IPEA. 1984, Texto para Discussão Interna 222 *(A diagnosis of rural Brazilian social security and assistance)*

ANNEX

Table 1 - Elderly participation in the family by 20-tiles of *per capita* family income (in %)

20-tiles	1988	1989	1990	1992	1993	1995	1996	1997	1998	1999	2001	2002	AVERAGE
5	2,9	2,6	2,9	4,5	2,9	2,7	4,1	3,0	3,9	3,1	3,5	3,3	3,3
10	3,6	3,2	3,7	4,1	2,8	2,9	3,5	3,3	3,5	3,2	3,2	3,1	3,3
15	4,5	3,9	4,5	4,0	3,2	3,1	3,6	3,8	3,5	3,4	3,4	3,2	3,7
20	5,0	4,6	5,3	4,5	3,9	3,8	4,4	4,6	4,2	4,0	3,8	3,7	4,3
25	5,8	5,3	6,1	4,9	4,8	4,4	5,4	5,5	5,4	4,8	4,5	4,8	5,1
30	6,5	6,0	7,2	5,5	5,3	5,5	6,7	6,0	5,8	5,5	4,9	5,8	5,9
35	7,5	6,8	7,9	6,3	6,2	6,4	7,2	7,7	7,2	7,0	6,1	7,1	7,0
40	7,7	8,1	8,2	7,0	7,5	7,7	8,0	8,5	7,6	8,1	7,7	7,7	7,8
45	8,4	9,2	8,6	7,8	8,0	8,6	8,3	9,6	9,7	9,2	8,8	8,6	8,7
50	9,0	10,0	9,5	9,3	9,1	10,8	10,9	11,5	11,9	11,9	9,5	9,6	10,2
55	10,5	10,2	10,6	10,5	9,7	12,2	11,7	13,0	12,7	12,6	12,1	13,0	11,6
60	11,2	10,3	11,4	12,2	12,5	13,3	13,9	14,6	13,4	15,0	13,5	15,0	13,0
65	12,4	11,2	12,2	14,0	13,7	14,5	14,0	14,3	14,9	14,4	17,0	18,1	14,2
70	12,8	12,2	13,5	15,3	16,3	15,8	15,7	15,0	17,0	17,0	17,3	18,8	15,6
75	13,5	13,8	14,0	17,0	16,8	19,5	19,0	20,3	18,1	17,3	20,1	20,4	17,5
80	13,8	14,1	14,5	17,6	21,0	21,2	20,6	22,1	22,9	24,0	25,5	25,6	20,2
85	14,6	14,3	14,2	21,1	21,5	23,4	22,4	24,5	25,0	26,5	28,4	28,0	22,0
90	14,7	14,3	15,3	22,7	22,9	23,1	21,4	22,1	27,6	28,9	30,8	30,7	22,9
95	15,5	15,2	16,6	23,8	21,9	23,7	22,3	22,6	25,2	25,8	29,0	28,3	22,5
100	16,7	16,4	18,2	23,7	22,1	23,6	22,9	22,8	24,8	23,7	28,8	27,4	22,6
Total	9,8	9,6	10,2	11,7	11,7	12,3	12,3	12,7	13,3	13,4	13,9	14,2	12,1

Source: IBGE, PNAD 1988-2002

Table 2 - Elderly retiree and pension income participation in family income by 20-tiles of *per capita* family income (in %)

20-tiles	1988	1989	1990	1992	1993	1995	1996	1997	1998	1999	2001	2002	AVERAGE
5	3,7	2,3	4,1	0,2	-0,3	0,4	1,9	0,9	1,9	2,4	1,2	0,3	1,6
10	5,6	4,4	5,2	1,6	1,9	3,7	6,2	4,6	5,4	5,5	3,5	3,3	4,2
15	6,2	5,0	5,8	3,3	4,6	6,6	8,6	8,0	7,5	7,7	6,2	6,5	6,3
20	6,0	5,9	6,4	5,2	8,1	8,7	10,3	10,5	9,1	9,0	9,1	9,2	8,1
25	6,5	6,7	6,6	7,9	11,4	9,6	12,2	11,5	10,9	11,1	12,0	11,7	9,8
30	7,5	6,4	7,0	10,5	13,2	10,8	15,5	13,4	12,4	13,5	13,2	13,9	11,4
35	8,4	6,7	7,4	11,0	13,8	12,5	16,0	16,4	14,2	14,7	13,9	15,4	12,5
40	7,9	7,6	7,2	11,5	15,0	13,1	14,8	18,0	15,8	16,5	17,5	17,2	13,5
45	6,6	7,9	7,0	13,2	15,6	14,2	15,2	16,9	16,6	17,6	20,3	18,8	14,2
50	6,7	7,4	7,2	16,2	14,8	16,8	16,7	18,2	20,6	19,7	20,3	19,7	15,4
55	7,5	7,1	7,6	17,5	15,3	17,8	18,2	20,6	21,7	21,6	22,4	22,1	16,6
60	7,9	7,0	7,3	16,4	17,9	18,0	18,9	19,7	18,7	20,5	23,9	24,8	16,7
65	8,2	6,5	6,7	18,1	19,0	18,6	18,9	18,5	20,0	19,6	23,6	25,6	16,9
70	7,6	6,6	6,6	19,9	18,9	19,3	17,3	17,8	22,0	20,1	25,6	26,0	17,3
75	6,4	6,8	6,4	18,6	19,0	20,9	18,3	20,7	19,8	20,6	25,4	25,4	17,4
80	5,8	5,7	5,8	17,6	19,5	21,5	19,8	23,5	21,7	23,2	27,7	27,7	18,3

85	5,6	4,5	5,3	18,1	19,9	19,3	17,3	20,8	24,0	25,2	30,1	30,0	18,3
90	4,8	4,0	4,8	17,8	17,3	16,8	15,2	17,3	20,5	21,8	25,7	26,5	16,0
95	4,6	3,8	4,9	14,2	11,9	14,2	13,1	13,9	16,8	17,0	20,2	20,5	12,9
100	4,6	3,7	5,1	11,3	7,9	12,4	11,2	11,3	14,2	13,9	16,1	16,0	10,6
Total	5,6	4,8	5,7	14,9	14,0	15,5	14,7	15,9	17,9	18,3	21,3	21,4	14,2

Source: IBGE, PNAD 1988-2002

Table 3 - *Per capita* family income in number of minimum wage income by 20-tiles of *per capita* family income

20-tiles	1988	1989	1990	1992	1993	1995	1996	1997	1998	1999	2001	2002	AVERAGE
5	0,05	0,06	0,06	0,01	0,02	0,04	0,02	0,03	0,03	0,04	0,03	0,04	0,04
10	0,10	0,12	0,14	0,05	0,07	0,11	0,10	0,11	0,11	0,11	0,09	0,11	0,10
15	0,14	0,16	0,18	0,09	0,11	0,16	0,15	0,15	0,15	0,16	0,13	0,15	0,14
20	0,17	0,20	0,22	0,12	0,14	0,20	0,19	0,19	0,19	0,19	0,17	0,19	0,18
25	0,20	0,24	0,26	0,14	0,17	0,24	0,23	0,22	0,22	0,23	0,20	0,22	0,21
30	0,23	0,27	0,30	0,17	0,20	0,28	0,27	0,26	0,25	0,26	0,24	0,25	0,25
35	0,27	0,32	0,33	0,20	0,24	0,32	0,31	0,30	0,29	0,31	0,27	0,29	0,29
40	0,30	0,36	0,38	0,24	0,27	0,36	0,36	0,34	0,33	0,35	0,30	0,32	0,33
45	0,33	0,40	0,42	0,27	0,32	0,41	0,40	0,39	0,38	0,39	0,34	0,36	0,37
50	0,38	0,45	0,47	0,31	0,36	0,46	0,46	0,44	0,42	0,44	0,39	0,41	0,42
55	0,42	0,51	0,53	0,35	0,41	0,51	0,52	0,50	0,48	0,49	0,44	0,46	0,47
60	0,47	0,58	0,60	0,40	0,47	0,58	0,59	0,55	0,54	0,55	0,50	0,51	0,53
65	0,53	0,66	0,67	0,47	0,52	0,66	0,67	0,64	0,62	0,63	0,56	0,58	0,60
70	0,60	0,74	0,76	0,53	0,61	0,76	0,76	0,72	0,70	0,71	0,64	0,66	0,68
75	0,69	0,86	0,88	0,61	0,70	0,86	0,88	0,82	0,79	0,81	0,73	0,75	0,78
80	0,81	1,02	1,03	0,71	0,82	0,99	1,01	0,96	0,92	0,93	0,86	0,88	0,91
85	0,98	1,24	1,24	0,85	0,99	1,17	1,20	1,13	1,06	1,07	1,01	1,03	1,08
90	1,25	1,58	1,57	1,04	1,23	1,47	1,49	1,43	1,36	1,35	1,24	1,26	1,35
95	1,80	2,32	2,26	1,41	1,74	2,04	2,07	2,03	1,88	1,88	1,69	1,73	1,90
100	5,68	8,02	7,40	4,05	5,13	6,20	6,20	6,00	5,58	5,31	4,96	4,93	5,79
Total	0,77	1,01	0,99	0,60	0,73	0,89	0,89	0,86	0,82	0,81	0,74	0,76	0,82

Source: IBGE, PNAD 1988-2002

Table 4 – Change in the *per capita* family income with the exclusion of elderly members by 20-tiles of *per capita* family income (in %)

20-tiles	1988	1989	1990	1992	1993	1995	1996	1997	1998	1999	2001	2002	AVERAGE
5	0,6	1,7	-0,7	4,7	3,5	3,0	4,8	2,6	4,1	1,9	2,3	3,1	2,6
10	-1,9	-1,1	-1,4	2,4	0,3	-1,3	-3,1	-2,0	-2,3	-2,7	-0,6	-0,9	-1,2
15	-1,8	-1,1	-1,6	0,4	-1,5	-3,6	-5,4	-4,7	-4,3	-4,4	-3,2	-3,3	-2,9
20	-0,9	-1,6	-0,9	-0,5	-4,8	-5,0	-5,8	-5,4	-5,0	-5,0	-5,4	-5,7	-3,8
25	-1,1	-1,1	-0,7	-3,8	-6,7	-5,5	-7,8	-7,1	-6,2	-7,4	-8,1	-7,4	-5,2
30	-0,7	-0,6	0,2	-4,6	-8,4	-5,9	-9,3	-7,7	-6,5	-7,7	-7,9	-8,3	-5,6
35	-1,3	-0,1	0,8	-5,3	-7,9	-6,2	-8,5	-9,7	-8,5	-8,9	-9,4	-9,3	-6,2
40	0,6	0,7	1,0	-4,8	-8,7	-5,9	-8,4	-9,7	-7,6	-8,9	-10,5	-10,1	-6,0
45	1,3	1,5	1,9	-6,1	-7,2	-6,7	-6,8	-8,2	-9,0	-8,9	-12,2	-11,2	-6,0
50	2,7	3,0	2,3	-7,7	-7,1	-6,2	-7,5	-8,7	-9,8	-10,1	-12,0	-11,0	-6,0
55	3,2	3,2	3,6	-7,0	-5,9	-6,5	-6,4	-7,3	-8,8	-8,5	-12,8	-11,3	-5,4
60	3,8	4,0	4,6	-5,4	-6,9	-5,4	-6,6	-6,6	-7,5	-7,8	-10,1	-10,4	-4,5

65	4,8	5,0	6,4	-5,3	-5,0	-4,9	-4,9	-4,6	-6,3	-5,2	-10,2	-9,9	-3,4
70	6,3	6,4	7,8	-4,0	-4,4	-4,0	-2,1	-3,3	-4,9	-4,8	-8,4	-8,3	-2,0
75	8,0	8,4	9,1	-2,7	-1,4	-2,3	-0,2	-2,2	-2,5	-2,9	-6,9	-6,2	-0,2
80	9,2	9,8	10,0	0,4	0,5	0,8	2,8	0,6	-0,1	-0,9	-4,9	-4,5	2,0
85	10,7	11,3	10,5	3,2	3,6	4,7	5,9	3,9	4,1	4,1	0,8	-0,2	5,2
90	11,7	11,9	12,4	7,3	7,2	8,6	7,9	6,8	8,7	9,5	6,2	5,2	8,6
95	12,8	13,4	13,9	12,8	13,4	12,4	12,3	11,6	11,7	12,1	13,1	11,8	12,6
100	14,7	15,5	16,2	13,3	18,5	12,7	14,3	13,3	15,3	12,3	18,6	16,1	15,1
Total	4,6	5,3	5,1	-3,5	-2,7	-3,7	-2,7	-3,6	-5,3	-5,7	-8,5	-8,3	-2,4

Source: IBGE, PNAD 1988-2002