

EFFECTS OF EARNING AND PENSION INCOME DISPARITIES
ON ITALIAN HOUSEHOLD INCOME DISTRIBUTION

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Effects of earning and pension income disparities on Italian household income distribution

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1 Introduction

According to recent comparative studies on OECD countries, the highest income inequality is found in US, followed by UK and Italy, the latter two presenting quite similar figures using standard inequality measures (Atkinson et al., 1995; Smeeding, 2000). Anyway, while US and UK present a roughly increasing trend of income inequality since the 70's, according to Brandolini and D'Alessio (2001) and D'Alessio and Signorini (2000) Italian household income distribution presents many fluctuations but no clear trend. From their decomposition of income distribution by population subgroups Brandolini and D'Alessio (2001) find that demographic characteristics, such as household size, sex of household head, age class of household head and household composition, are able to explain only a limited amount of overall inequality but do not investigate the issue further.

In this paper we aim to contribute to the analysis of Italian household inequality and their determinants. We will study in particular the role of the changed dispersion of different income factors on household income distribution.

In Section 2 we revise shortly what has been found so far on this topic. In Section 3 we discuss data and hypothesis used in our analysis and discuss the trend of Italian household inequality in the last two decades. In Section 4 we present the methodology we adopted and discuss results. In Section 5 we conclude.

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2 Analysis of Italian household income distribution: available evidence

During the last decades Italy has experienced important demographic and social changes. Population has grown older, family structure has changed, with a increasing proportion of single person and single parent households, a marked reduction of average member in households and an increased number of female headed households. Male labor force has not experienced many changes while female has steadily increased their participation in the labor force, augmenting the number of income earner in an average household. The impact of some of these demographic changes have been studied in some detail by recent papers, all using the SHIW-HA data set, and their finding are relevant to our aims.

D'Alessio and Signorini (2000) focussed on the role of the household for reducing inequality from work and transfers income and found that, while inequality for income receivers presents a clear downward trend since 1977, household inequality presents no trend but many fluctuations. Using a decomposition of the Gini index, they explained the decrease of inequality for income receivers with the increase of the number of people receiving income from work, mostly because of an increased female labor force participation, and augmented number of people receiving pension income. Brandolini and D'Alessio (2001) used the same data set focussing on household inequality and analogously described the trend of inequality as having “many fluctuations /.../ but no particular medium term tendency” (p. 2). Using the Luxembourg Income Study data set, they also pointed out that old Italian households (i.e. those whose head is over 65) have a higher income of analogous household in other OECD countries. Anyway, their decomposition of the mean logarithmic deviation index trend by population subgroups, such as household size, sex of the household head, age class of the household head and household type, has not been very satisfactory to understand the causes of equivalent income inequality. The greatest changes is found in the classification by the sex of the household head. If the composition of the household heads had been the same in 1977 as it was in 1995, overall inequality would have been 3.3% higher, mainly due to the greater weight attributed to women, among whom, they say, dispersion was higher. Regional dualism has not been found able to provide useful insight for inequality dynamics either.

Brandolini et al. (2001) focussed mainly on primary-job earnings and found a clear downward trend of inequality up to the late 80's followed by a marked increase in the early nineties. They also found that changes of early 1990's were mainly concentrated among workers at the margin

of the labor market, that diffusion of low-paid jobs evolved in parallel with increase of earnings inequality and that probability of being in poverty was more closely correlated with the amount of employment in the household (particularly employment of members other than the head), rather than with low pay.

Our analysis of Italian inequality trends using the SHIW-HA data set aims to contribute to this discussion starting from a closer look to the data. We believe there are still interesting answer to be provided about the trend of income inequality, especially at the household level. First of all, cannot we obtain any insights from the large fluctuations of inequality indices? The Bank of Italy SHIW-HA is a very appealing data set, but is it good enough for this kind of analysis? It has been pointed out that besides Italy having experienced many important demographic changes they do not account for much of the changes in inequality measures, so what else might be relevant?

3 Data and hypothesis for inequality analysis

The Bank of Italy Surveys of Household Income and Wealth (SHIW), run about annually from 1966 to 1987 and about every two years thereafter, collect detailed information on income, wealth and consumption about a sample of the Italian resident households. Since 1998 Bank of Italy gathered all SHIW dating from 1977 and made them consistent in a Historic Archive (SHIW-HA), which represents the best source for historical analysis of income distribution. The last version of the Historic Archive at present covers the period 1977-2000.

Besides being a very appealing data set, we believe it is worth reflecting on some of its limitations. As any survey-based data set obtained through direct interview whose participation is voluntary, the SHIW presents non-responses or under-report problems, especially for sensible data such as incomes and wealth, problems of low response rates as well as of under representation of household living in very isolated places of the country, whose interview are very costly. In addition to these, the SHIW-HA presents the additional limit of being a collection of data sets, which besides recording the same variables and being developed by the same institution, present different sample designs and dimensions. Some of these shortfalls have been corrected with various sets of sampling weights but we should still analyze data with caution (for a comprehensive discussion of the data set, see Brandolini, 1999). Despite these problems, the SHIW-HA is the only data set which can allow us to measure the changes in the whole Italian income distribution through time and relate it to household' characteristics and various incomes. Moreover, the quality of its data is at least as good as those of analogous surveys conducted in other countries (Brandolini and

Cannari, 1994)

In this paper we will only focus on equivalent income, which is obtained by the sum of all work and transfer incomes of all individuals in each household divided by the square root of the number of household member, to take into account economies of scale. We will refer to it as equivalent or household income. We have chosen this equivalence scale, sometimes referred as the LIS equivalence scale, since it is one of the most frequently used and has been adopted also by Brandolini and D'Alessio (2001) and by D'Alessio and Signorini (2000). Using this equivalence scale we are also assuming that intra-household allocation is egalitarian, i.e. that all members of the household get the same share of income, regardless of their individual income, their role in the household and other characteristics. We then consider the individual equivalent income as elementary unit of analysis, weighting all estimates by the weight suggested by the Bank of Italy for longitudinal analysis (Banca d'Italia, 2002). As D'Alessio and Signorini (2000) we are only considering income by work and transfer, excluding incomes from capital since it presents relevant measurement problems. We finally attributed to the 2.5% poorest households the income of the household at the 2.5th percentile since some inequality indices cannot be computed for non positive incomes.

From a brief analysis of the sample by age groups we can notice a decrease by 21% of cohorts younger than 30 and an increase by 45% of the over 65 along the 23 year spell period (Table 1). The proportion of household consisting of a single person more than doubled, so that in 2000 one out of five household are found to have this structure. The single-parent household with kids increased by over 30% while that of couple with kids decreased by over 20% (Table 2). Labor force participation has increased by 17% for over 15 and by 13% for over 24, but this was only due to an increase of female participation, which increased by over 50% for both age groups while male participation slightly decreased. These figures, besides having a clear trend, presents several fluctuations especially up to mid eighties (Table 3).

Looking at Figure 1, which reports some inequality indices for equivalent income between 1977-2000, we could agree with Brandolini and D'Alessio (2001) and D'Alessio and Signorini (2000) in saying that there is no clear trend but large fluctuations. Actually, if we removed observations about years 1979 and 1987, we would get a completely different conclusion and we would say that there was a downward trend up to early 80's followed by nearly a decade of about stable inequality, which soared at late 70's values after 1993 remaining about stable thereafter. We then computed some quantile ratios, which as proved in Cowell and Victoria-Feser (1996) have the important

property of being robust to outliers. As shown in Figures 2 and 3 the odd behavior of inequality at year 1987 is still present and seems to be dependent on particularly high values obtained for higher quantiles.

The analysis of the main changes of the SHIW by Brandolini (1999) convinced us that besides the Historic Archive being able to cover an attractively long period of time and having proved to be useful for analysis of some kind of income measures (see, for example Brandolini et al. (2001), who only considered income from primary-job position), it is probably worth restricting the sample if dealing with household equivalent income. A first important change in sample selection for the SHIW was introduced in 1984, with units drawn from registry office records instead of electoral list removing oversampling of numerous households. In 1986 it was completely revised and the dimension of sample was more than doubled. In 1987 there has been an over-sampling of high-income unit, which is probably the reason why inequality indices figures look particularly odd for that year especially. After 1989 onward, instead, the sampling methodology did not change as well as the dimension of the sample staying about the same¹ and it is on this period that we will mainly focus hereafter.

Restricting the analysis to the period after 1989, Figure 4 reports inequality indices, such as the Gini and some indices belonging to the the Entropy class². They all show a slight decrease from 1989 to 1991, when the minimum was reached, and a dramatic increase in 1993, followed by a slight decrease only from 1998 to 2000. Comparing their numerical values in 1991 and in 2000, the Gini coefficient increased by 16.2% and the GE(0), GE(1) and GE(2), increased by 46.3%, 41.8% and 55.6% respectively. The quantile ratios depicted in Figures 5 and 6 help describe some differences of the increase in dispersion. In top quantiles there has been a clear rise of the richer quantile, the 95/50 ratio increasing comparatively more that the 90/50 ratio, which still showed more dynamics than the relatively stable 75/50 ratio. Dynamics is even more pronounced in the lower quantiles where the widening of the gap between the lower ones and the median is well evident. Even the the 25th percentile has seen a decrease with respect to the 50th percentile and only after 1998 there have been signs of improvement. What could be the reason of this soaring inequality? As we mentioned in the previous Section, Brandolini and D'Alessio (2001) found that demographic changes were not very important factors in inequality decomposition but what else

¹Actually, in 1989 and 1991 there was a dramatic drop of response rate but this could be due to the fact that interviewers started to be paid also for non-responding unit. The decline could thus be explained either by the under-reporting of non-responding units in previous surveys, or by a tendency to inflate non-responses in those years, or both (Brandolini, 1999). Anyway, quantile ratios, performed also for different kind of income, do not present many fluctuations for all years after 1989.

²We will consider here the mean logarithmic deviation, the Theil and the half the square root of the coefficient of variation, which we will briefly refer to as GE(0), GE(1) and GE(2)

could have been relevant was left as an open question.

There could be various reasons for this trend. First of all macroeconomic ones. The Italian economy during the early nineties went through one of the deepest recession after the WWII and returned to growth only after 1995. The bad conditions of Italian public finances characterized the nineties as a period of rising fiscal burden, which in some cases affected badly the poorest household (for an analysis of the 1998 Irpef reform, see Fiorio, 2001). In the considered period employment fell seriously, exacerbating the cost of recession for low skilled and low experienced workers, who suffered for the deficiency of the Italian safety net and unemployment benefit scheme (Brandolini et al., 2001). Even those who kept their occupation suffered changes in their relative wages, since the automatic indexation of wages was abolished in 1991 and the contribution relief for firms in the South was gradually stopped since 1994, increasing the volatility of wages. Using data up to 1991, Erickson and Ichino (1995) concluded that Italy at the end of the eighties presented a compressed wage structure which had not experienced the decompression experienced elsewhere during the 80's. Moreover it could be that the spread of part-time and fixed-term employment contracts and the acting of institutional changes had unleashed a decompression of the wage structure, springing into a larger dispersion of incomes already at work in other countries (for an analysis of the effect of the elimination of the wage indexation mechanism with a comparison to wage dynamics in US, see Manacorda, 2002).

Increasing dispersion of dependent incomes seems than a valid candidate to explain increasing household income inequality, besides not being clear to which extent. Anyway, it is not clear if and in which measure change of self-employed and pension income had any effect on equivalent incomes inequality. In the next Section we will try to provide an answer.

4 Results of the decompositions

In order to assess the relevance of the dispersion of income, we compared the distribution of income between 1991, when the minimum was reached, and 2000, which is the end of the period available in the data set.

We used a rank-dependent transformation, which is based on holding the distribution of certain kind of income constant and then calculating how much inequality indices have changed under this assumption. This procedure has been first used on US data by Burtless (1999) and could be easily presented in the case of wage inequality. Assuming that wage inequality changed between year 1991 and 2000, the basic idea is to assign to 2000 employees the wage level to which their rank

in the wage distribution would have entitled them in 1991. This preserves the exact 2000 earning distribution of wages but it ignores the change in the average wage between the two years. To keep the sum of the 2000 wages constant, we simply assign to 2000 employees the wage to which their rank in the wage distribution would have entitled them in 1991, multiplied by the ratio of total wages in 2000 divided to total wages in 1991. This procedure is quite straight forward if the number of employees is the same in the two years but this happens only for pure coincidence, and not in our case. We then computed the empirical distribution function using a same number of quantiles, properly weighted to take into account sampling weights, and then calculated the median within each quantile. We then subtracted from each individual in the data set the median income within the wage quantile distribution he belongs to in 2000 and added up the median income of the same quantile in the normalized 1991 quantile wage distribution. The individual wages are then summed up to the other incomes of the individual and to all incomes of other members of the household and the equivalence scale is computed again. In the empirical application we used a distribution by centiles, i.e. a quantile distribution with 100 quantiles but even increasing the quantiles to 500 the results changed only marginally. For the centile distributions as we just described, we considered only incomes bigger than 1000 lire, i.e. if an individual did not have any wage income in 2000, the replacement based on normalized 1991 wage distribution would have still left him with zero wage. On the limitation of this hypothesis we will come back later.

With this procedure we aimed to account for the importance of dispersion of income of different sources for increased inequality and to understand if there is a differential effect of earnings dispersion once we also decomposed by sex and area of residence.

In Table 4 we report the effects of keeping constant sequentially the dispersion of dependent work, self-employment and pension income. In the first part of the table we compare some inequality indices for equivalent income in 1991 and in 2000, that we discussed Figures 4, 5 and 6. From this part of the table, we see that the Gini index increased by 16.2% (from .277 to .322) and that the widening of the gap between the first and the last decile (from 3.662 to 4.374) was due to an increase of the gap between the median and the first decile by 12.2%, and between the last decile and the median by 6.4%. The percentage increase in the indices belonging to the Generalized Entropy class, was relevant, over 40%, especially for the $GE(0)$ and $GE(2)$, which are more sensitive to the lower and upper part of the distribution, respectively.

In the second part of Table 4 we can see the effects of holding dependent work income inequality at 1991 level. The Gini index would have increased by “only” 12.6%, reducing the actual increase

by nearly a quarter. About one quarter would have been also the reduction of the actual change for 90/10 ratio and the Generalized Entropy indices, while it would have been more pronounced in the upper quantiles than in the lower. In the third part of the table, we can see that also the dispersion of self-employment income had an important effect on the increase of Gini index. According to our results, 26.3% of the Gini index rise was due to the increased dispersion of self-employed income. Holding both dependent and self-employed income dispersion constant, the Gini coefficient would have been equal to 8.3, nearly 50% smaller than it actually was. Dispersion of work income account for 32.7% of the increased gap between first and last decile and, as showed by the 90/50 and 50/10 ratios and the GE indices, it would have been more effective to account for the increased dispersion in the higher part of the distribution than on the lower.

An analysis of the effect of changes in the distribution of transfer incomes, induces us to exclude a major effect on equivalent income distribution of this component of household income, since it would manage to explain only 6% and 12.2% of the increase in Gini index and the 90/10 ratio, respectively. The only thing we think is worth pointing out is the relatively larger effect in reduction of indices which are mostly or completely focussed on lower incomes, as the GE(0) and the 50/10 ratio.

In Tables 5 and 6, we performed the same kind of analysis splitting the sample by sex. We can see that the increase of inequality indices between 1991 and 2000 was due about twice more to increased dispersion of male rather than female work incomes. The equivalent income inequality induced by increased dispersion of pension income was instead nearly completely due to male pensions.

Finally, in Tables 7, 8 and 9, we present the results for this methodology dividing the sample by area of residence of the household. From this decomposition we can see that changes of dispersion of work income in the center have been nearly ineffective for increasing overall inequality. In the North of the country instead, increased dispersion of work income did have an effect, which was mainly localized in the top part of the work income distribution since both the 90/50 ratio and the GE(2) showed the highest relative reduction holding 1991 distribution constant. At the lowest level of equivalent incomes, the result for the 50/10 ratio shows that the changed dispersion of work income could even have had an equalizing effect, if any, on overall distribution. Finally, in the South the changes in the distribution of work incomes were far more effective in increasing the 50/10 ratio and the GE indices that are more sensitive to lower income levels. In other words, changes in distribution of work income for households resident in the South had about the same

effect on increase of the Gini and the GE indices as changes in distribution of work for resident in the North, but while changes in the South mainly affected the bottom part of the overall distribution, changes in the North mainly affected its the top part. The effect of changing dispersion of pension income, besides being very limited, seems negligible in the South.

What else is than left out by this methodology? Certainly with this procedure we are not considering demographic factors, as the type of household, the characteristics of household heads, like age and sex, and this is also reflected on the fact that we apply the equivalence scale after the rank-dependent transformation. We are than not considering endogenous decision of the household components, as the decision to work is likely to be, at least to some extent, depending on the decision of other members of the household. Moreover we are not considering structural changes in the economy. The increase of dispersion of income, for example, could be due to an increase of very specialized and skill intensive industries which pay high skill premia but the effect of these changes are not considered here as well as we are not considering different employment probability in the two years at different level of incomes. All these factors should account for what we have left out, which is still nearly half of the actual increase of inequality.

5 Conclusion

In this paper we tried to contribute to the debate on household income inequality in Italy and its determinants. We discussed the SHIW-HA data set and showed that, differently from what other authors reported, even Italy experienced a trend in inequality, though a peculiar one, at first decreasing and than markedly increasing at the beginning of the 1990's.

Focussing on the period 1989-2000 we investigated the effect of the dispersion of different sources of income on household inequality through a novel decomposition methodology and found that about 50% of increased equivalent income inequality can be explained by increased dispersion of both dependent and self-employed income, the latter not being less important than the former. Decomposing the sample by sex of the income receiver, we showed that the dispersion of male incomes was twice more relevant than the dispersion of female incomes. Finally, decomposing by area of residence we showed that increased dispersion of incomes in the South and in the North are each mostly responsible for the increased dispersion in the bottom and in the top of the overall distribution, respectively.

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Year	<30 yrs	31<yrs<40	41<yrs<50	51<yrs<65	over 65	Total
1977	42.84	12.55	14.13	18.11	12.36	100.00
1978	42.14	12.99	13.65	18.59	12.63	100.00
1979	42.39	12.56	14.39	17.78	12.88	100.00
1980	41.58	12.59	13.75	18.99	13.09	100.00
1981	44.11	12.77	12.95	16.93	13.24	100.00
1982	42.42	12.48	13.83	18.01	13.25	100.00
1983	41.43	12.66	14.19	18.67	13.05	100.00
1984	41.74	13.77	13.92	17.79	12.78	100.00
1986	41.52	14.21	13.44	17.81	13.03	100.00
1987	41.90	13.56	13.73	17.41	13.41	100.00
1989	40.96	12.81	14.34	17.81	14.08	100.00
1991	39.72	13.27	13.85	18.39	14.78	100.00
1993	39.87	14.38	13.40	16.60	15.75	100.00
1995	37.98	14.67	13.20	17.79	16.37	100.00
1998	35.85	15.07	13.74	17.69	17.66	100.00
2000	34.19	15.99	13.78	18.11	17.93	100.00

Source: our calculation on SHIW-HA

Table 1: Decomposition of the population by age groups, in percentage

Year	cpl. w/ kids	cpl. no kids	sng w/ kids	sng no kids	single only	Total
1977	58.85	21.65	7.16	2.46	9.88	100.00
1978	59.85	20.96	7.07	2.29	9.83	100.00
1979	57.54	20.13	6.74	2.17	13.42	100.00
1980	57.67	20.62	7.06	2.89	11.76	100.00
1981	57.32	20.23	7.64	2.00	12.80	100.00
1982	59.20	21.14	6.54	2.45	10.66	100.00
1983	57.74	20.94	6.37	2.62	12.33	100.00
1984	56.82	19.54	7.64	1.71	14.29	100.00
1986	55.65	20.32	7.38	2.14	14.52	100.00
1987	56.62	18.34	7.66	2.63	14.75	100.00
1989	53.10	19.58	7.82	2.19	17.32	100.00
1991	52.82	19.09	8.24	1.64	18.21	100.00
1993	51.42	19.05	9.55	2.46	17.53	100.00
1995	50.29	19.52	9.15	2.73	18.31	100.00
1998	47.18	20.61	8.86	2.67	20.69	100.00
2000	45.43	21.71	9.51	2.48	20.87	100.00

Source: our calculation on SHIW-HA

Table 2: Decomposition of the population by family type, in percentage

Year	LF over 15	LF over 24	Male LF +15	Male LF +24	Fem. LF +15	Fem. LF +24
1977	49.79	56.05	72.10	82.50	28.25	30.53
1978	53.94	60.37	74.82	85.61	33.18	35.53
1979	54.21	61.05	73.93	84.02	34.53	37.81
1980	52.64	59.62	70.83	81.49	34.62	38.21
1981	50.99	57.50	70.52	81.70	31.56	34.01
1982	51.10	59.15	70.27	82.13	32.15	36.41
1983	50.62	58.15	69.93	80.95	31.26	35.42
1984	51.74	59.77	71.54	83.91	32.86	36.55
1986	49.50	57.60	68.05	81.89	31.30	34.62
1987	53.40	62.08	71.31	84.37	35.86	40.41
1989	59.07	62.43	77.25	84.79	41.30	40.98
1991	56.40	61.10	67.24	81.98	40.56	41.57
1993	57.46	61.40	65.56	80.49	42.16	43.36
1995	58.10	62.50	66.31	79.82	44.09	45.85
1998	59.45	64.21	66.56	80.11	46.69	49.02
2000	58.56	63.08	66.86	79.35	44.88	47.12

Source: our calculation on SHIW-HA

Table 3: Labor force participation by age and sex, in percentage

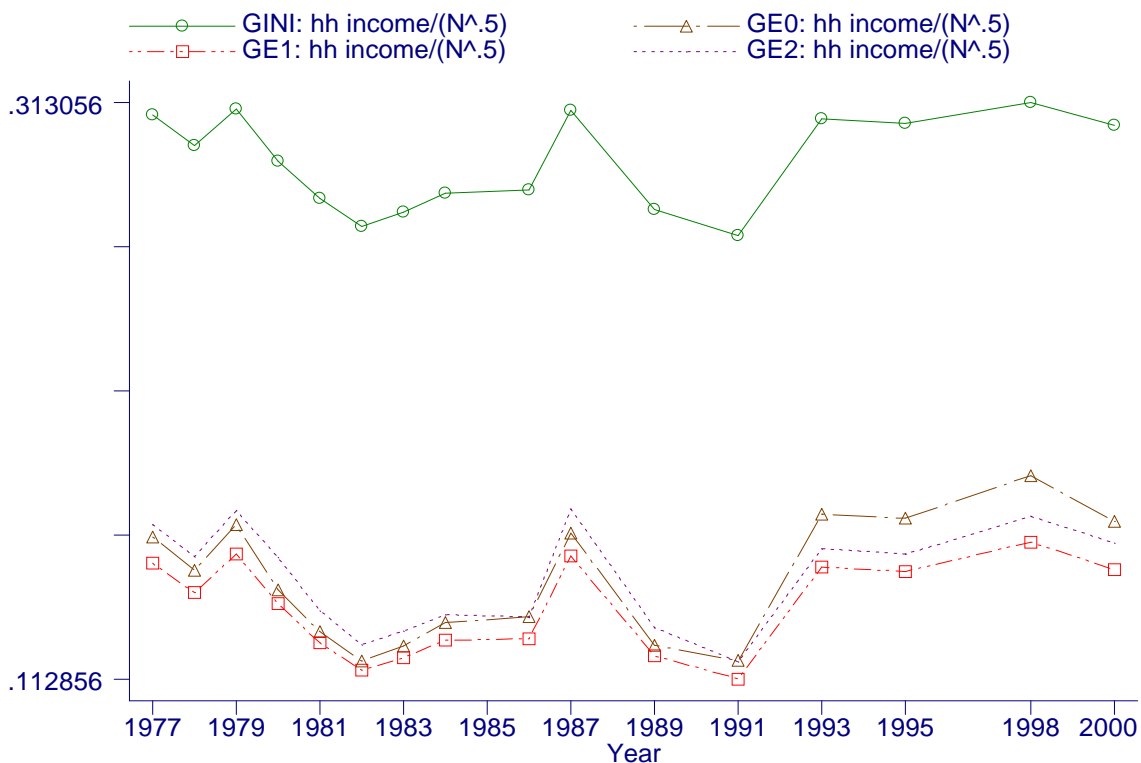


Figure 1: Inequality indices. Trimming at 2.5 percentile

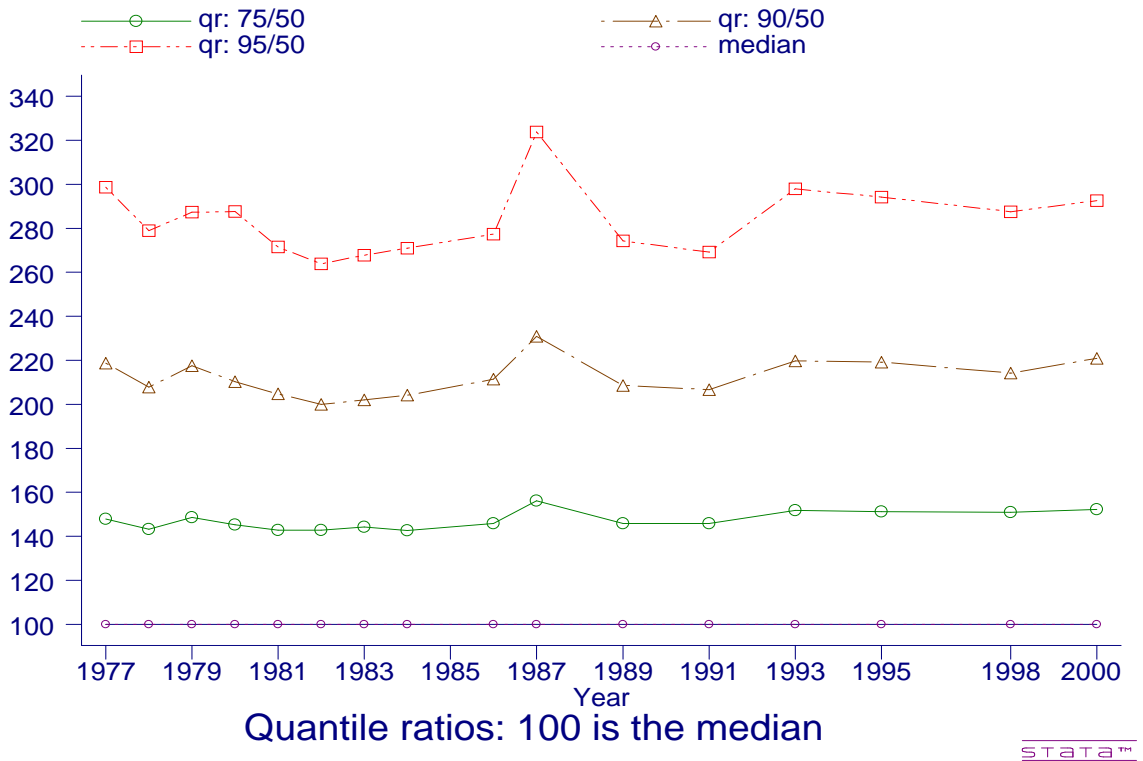


Figure 2: Quantile ratios over the median. Trimming at 2.5 percentile

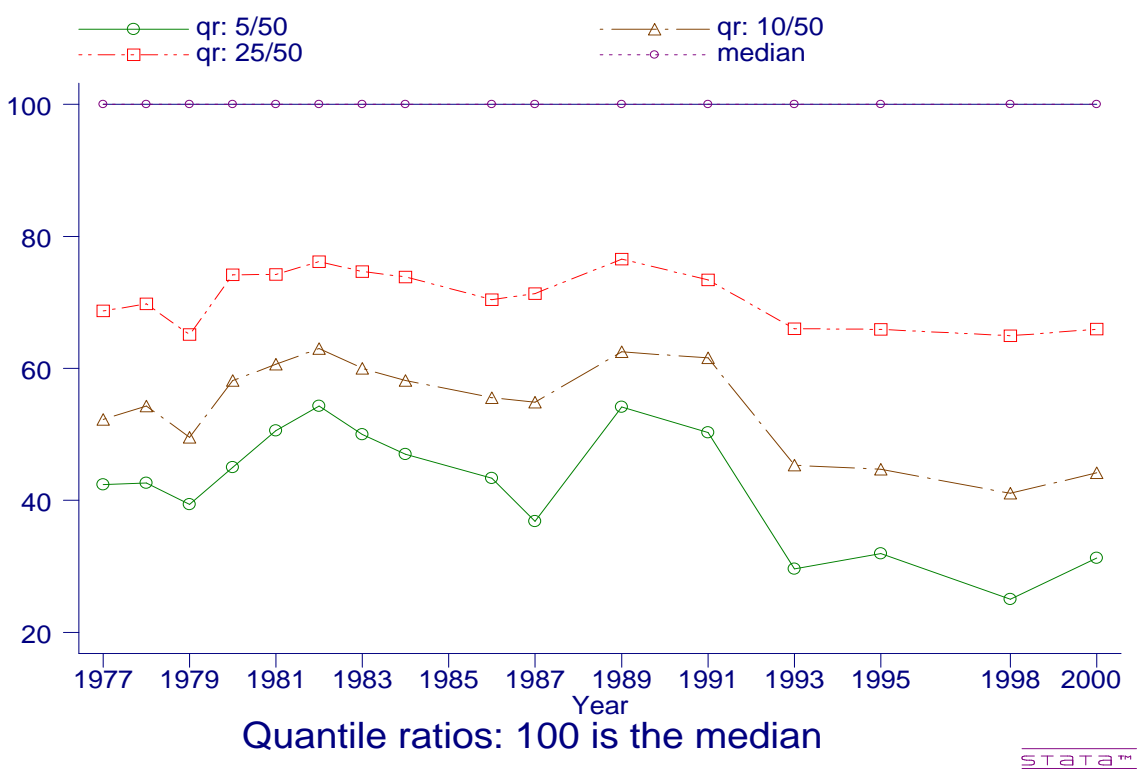


Figure 3: Quantile ratios below the median. Trimming at 2.5 percentile

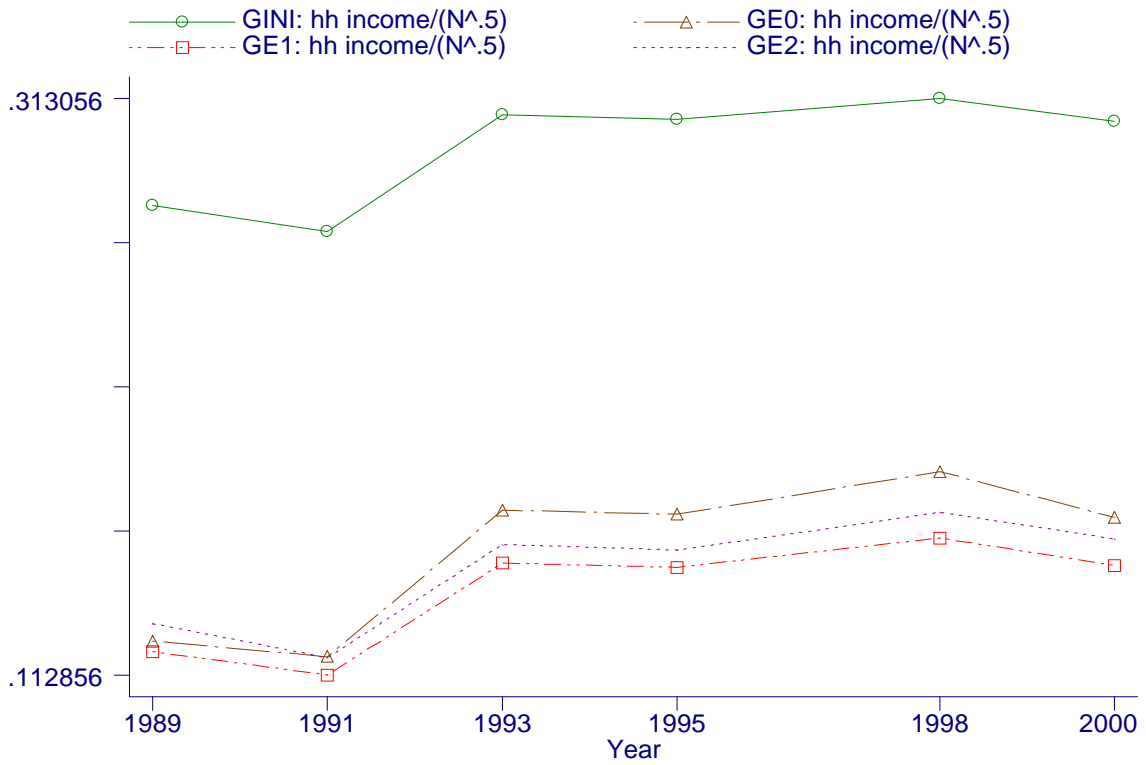


Figure 4: Inequality indices. Trimming at 2.5 and 97.5 percentiles

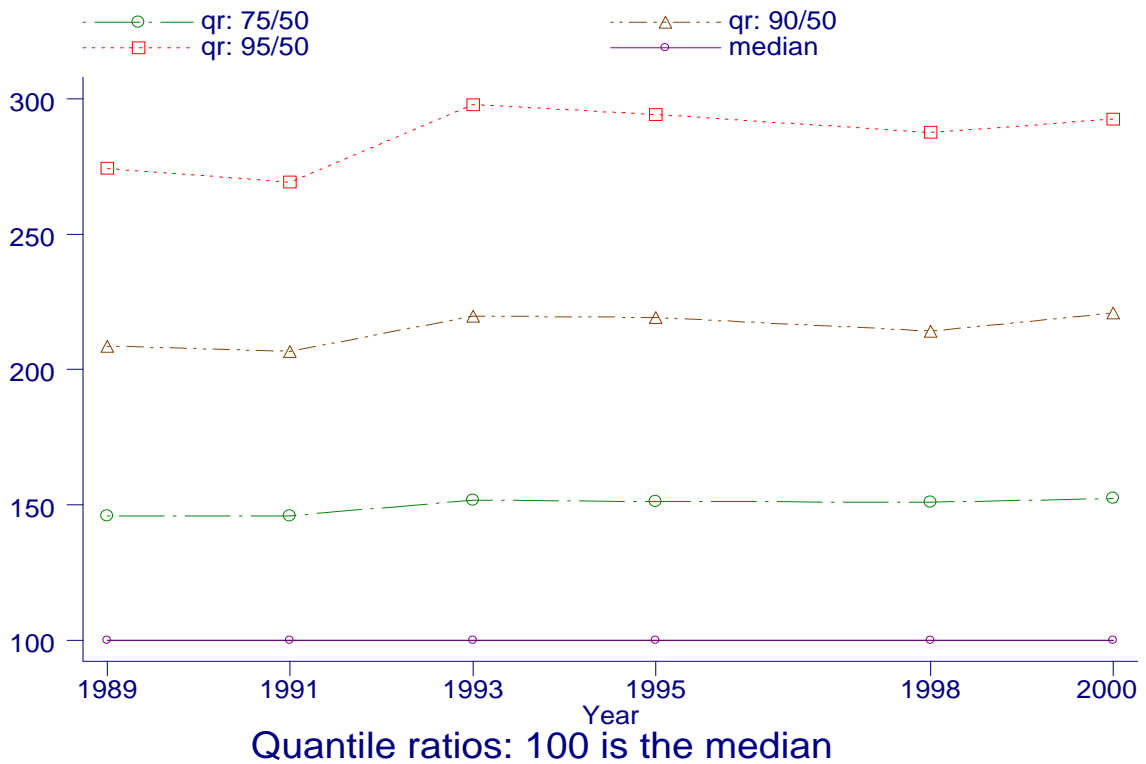


Figure 5: Inequality indices. Trimming at 2.5 and 97.5 percentiles

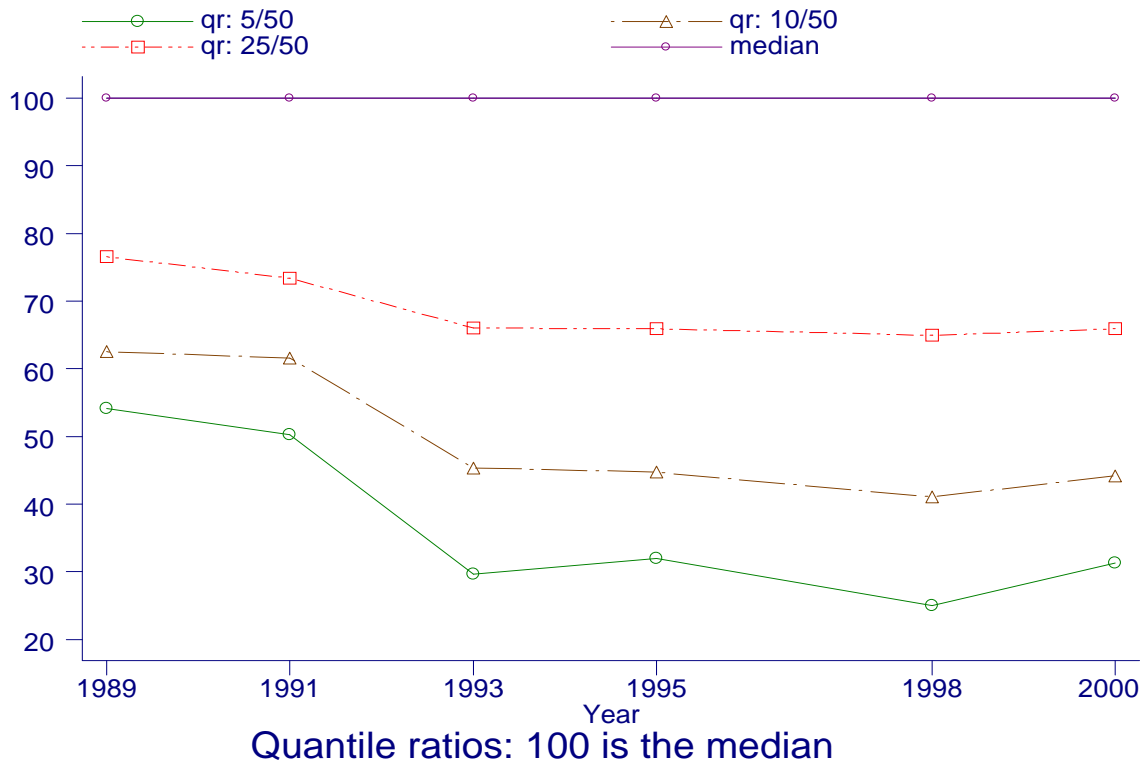


Figure 6: Inequality indices. Trimming at 2.5 and 97.5 percentiles

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
Actual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding dependent work income inequality at 1991 level							
2000 counterf.	4.196	1.888	2.222	0.311	0.172	0.169	0.222
Change w/r to 1991 (%)	14.6	4.2	10.0	12.6	35.5	32.7	45.4
Reduct. of actual change (%)	25.1	34.6	18.7	22.5	23.3	21.8	18.3
Holding self-employed income inequality at 1991 level							
2000 counterf.	4.250	1.911	2.224	0.310	0.170	0.164	0.203
Change w/r to 1991 (%)	16.1	5.4	10.1	12.0	33.5	28.4	33.1
Reduct. of actual change (%)	17.4	15.5	17.6	26.3	27.5	32.1	40.4
Holding work income inequality at 1991 level							
2000 counterf.	4.141	1.872	2.213	0.300	0.157	0.152	0.188
Change w/r to 1991 (%)	13.1	3.3	9.5	8.3	23.4	19.5	23.3
Reduct. of actual change (%)	32.7	49.1	22.3	48.7	49.4	53.2	58.0
Holding transfer income inequality at 1991 level							
2000 counterf.	4.287	1.927	2.225	0.319	0.183	0.178	0.234
Change w/r to 1991 (%)	17.1	6.3	10.1	15.3	43.6	39.6	53.3
Reduct. of actual change (%)	12.2	1.7	17.3	6.0	5.8	5.4	4.1

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 4: Decomposition of equivalent income inequality, holding at 1991 levels the distribution of different source of incomes

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
Actual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding MALE dependent work income inequality at 1991 level							
2000 counterf.	4.214	1.901	2.217	0.313	0.173	0.171	0.225
Change w/r to 1991 (%)	15.1	4.9	9.7	13.2	36.2	34.1	47.6
Reduct. of actual change (%)	22.5	23.8	20.7	18.6	21.7	18.3	14.4
Holding MALE self-employed income inequality at 1991 level							
2000 counterf.	4.244	1.921	2.209	0.314	0.174	0.171	0.222
Change w/r to 1991 (%)	15.9	6.0	9.4	13.3	37.0	33.7	45.3
Reduct. of actual change (%)	18.3	6.8	23.6	17.8	20.0	19.3	18.6
Holding MALE work income inequality at 1991 level							
2000 counterf.	4.107	1.883	2.180	0.305	0.162	0.161	0.210
Change w/r to 1991 (%)	12.1	3.9	7.9	10.4	27.5	26.3	37.4
Reduct. of actual change (%)	37.5	38.9	35.4	36.2	40.4	37.1	32.8
Holding MALE transfer income inequality at 1991 level							
2000 counterf.	4.288	1.918	2.236	0.319	0.183	0.178	0.233
Change w/r to 1991 (%)	17.1	5.8	10.7	15.2	43.9	39.4	52.7
Reduct. of actual change (%)	12.0	9.4	12.8	6.2	5.1	5.8	5.2

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 5: Decomposition of equivalent income inequality, holding at 1991 levels the male distribution of different source of incomes

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
A+K37ctual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding FEMALE dependent work income inequality at 1991 level							
2000 counterf.	4.351	1.923	2.263	0.318	0.182	0.177	0.232
Change w/r to 1991 (%)	18.8	6.1	12.0	15.0	43.5	38.9	52.0
Reduct. of actual change (%)	3.2	4.9	2.1	7.6	5.9	7.0	6.4
Holding FEMALE self-employed income inequality at 1991 level							
2000 counterf.	4.348	1.923	2.261	0.318	0.182	0.175	0.224
Change w/r to 1991 (%)	18.7	6.1	11.9	14.9	42.8	37.2	46.6
Reduct. of actual change (%)	3.6	4.9	2.7	8.4	7.5	11.0	16.1
Holding FEMALE work income inequality at 1991 level							
2000 counterf.	4.311	1.900	2.270	0.314	0.178	0.171	0.219
Change w/r to 1991 (%)	17.7	4.8	12.3	13.7	40.3	34.4	43.2
Reduct. of actual change (%)	8.8	25.1	-0.7	15.8	13.0	17.8	22.3
Holding FEMALE transfer income inequality at 1991 level							
2000 counterf.	4.351	1.929	2.256	0.321	0.185	0.180	0.237
Change w/r to 1991 (%)	18.8	6.4	11.7	16.1	45.8	41.5	55.3
Reduct. of actual change (%)	3.2	-0.1	4.8	0.9	1.0	0.8	0.5

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 6: Decomposition of equivalent income inequality, holding at 1991 levels the female distribution of different source of incomes

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
A+K37ctual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding NORTH dependent work income inequality at 1991 level							
2000 counterf.	4.334	1.915	2.263	0.317	0.182	0.175	0.227
Change w/r to 1991 (%)	18.4	5.7	12.0	14.6	43.0	37.3	48.7
Reduct. of actual change (%)	5.6	11.5	2.1	10.0	7.0	10.9	12.3
Holding NORTH self-employed income inequality at 1991 level							
2000 counterf.	4.351	1.923	2.263	0.317	0.180	0.173	0.222
Change w/r to 1991 (%)	18.8	6.1	12.0	14.5	41.9	36.0	45.3
Reduct. of actual change (%)	3.2	4.9	2.1	10.6	9.4	13.8	18.5
Holding NORTH work income inequality at 1991 level							
2000 counterf.	4.348	1.914	2.272	0.312	0.176	0.168	0.212
Change w/r to 1991 (%)	18.7	5.6	12.5	12.9	38.7	31.6	38.7
Reduct. of actual change (%)	3.6	12.8	-1.7	20.5	16.2	24.4	30.4
Holding NORTH transfer income inequality at 1991 level							
2000 counterf.	4.351	1.928	2.272	0.321	0.185	0.180	0.236
Change w/r to 1991 (%)	18.8	6.4	12.5	15.9	45.5	41.0	54.6
Reduct. of actual change (%)	3.2	0.2	-1.7	2.1	1.6	1.9	1.8

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 7: Decomposition of equivalent income inequality, holding at 1991 levels the distribution of resident in the North of different source of incomes

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
Actual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding CENTER dependent work income inequality at 1991 level							
2000 counterf.	4.382	1.932	2.268	0.322	0.186	0.181	0.238
Change w/r to 1991 (%)	19.7	6.6	12.3	16.2	46.1	41.8	55.6
Reduct. of actual change (%)	-1.1	-2.7	-0.1	0.0	0.3	0.0	0.0
Holding CENTER self-employed income inequality at 1991 level							
2000 counterf.	4.351	1.928	2.256	0.320	0.184	0.179	0.232
Change w/r to 1991 (%)	18.8	6.4	11.7	15.8	45.1	40.2	51.9
Reduct. of actual change (%)	3.2	0.2	4.6	2.7	2.6	3.7	6.6
Holding CENTER work income inequality at 1991 level							
2000 counterf.	4.359	1.932	2.256	0.320	0.184	0.179	0.232
Change w/r to 1991 (%)	19.0	6.6	11.7	15.8	44.9	40.2	51.9
Reduct. of actual change (%)	2.1	-2.7	4.6	2.7	2.9	3.8	6.6
Holding CENTER transfer income inequality at 1991 level							
2000 counterf.	4.351	1.928	2.256	0.321	0.185	0.180	0.237
Change w/r to 1991 (%)	18.8	6.4	11.7	15.9	45.5	41.1	54.9
Reduct. of actual change (%)	3.2	0.2	4.6	1.9	1.5	1.6	1.2

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 8: Decomposition of equivalent income inequality, holding at 1991 levels the distribution of resident in the Center of different source of incomes

	90/10	90/50	50/10	Gini	GE(0)	GE(1)	GE(2)
1991	3.662	1.813	2.020	0.277	0.127	0.128	0.153
2000	4.374	1.929	2.268	0.322	0.186	0.181	0.238
Actual change (%)	19.4	6.4	12.2	16.2	46.3	41.8	55.6
Holding SOUTH dependent work income inequality at 1991 level							
2000 counterf.	4.273	1.922	2.224	0.317	0.177	0.175	0.233
Change w/r to 1991 (%)	16.7	6.0	10.1	14.5	39.0	37.6	52.5
Reduct. of actual change (%)	14.1	5.8	17.9	10.4	15.8	10.0	5.6
Holding SOUTH self-employed income inequality at 1991 level							
2000 counterf.	4.312	1.928	2.236	0.316	0.179	0.174	0.225
Change w/r to 1991 (%)	17.8	6.4	10.7	14.3	40.6	36.4	47.6
Reduct. of actual change (%)	8.7	0.2	12.8	11.7	12.2	13.0	14.4
Holding SOUTH work income inequality at 1991 level							
2000 counterf.	4.172	1.909	2.185	0.311	0.168	0.168	0.220
Change w/r to 1991 (%)	13.9	5.3	8.2	12.5	32.5	31.8	44.3
Reduct. of actual change (%)	28.3	16.7	33.4	22.9	29.7	23.8	20.3
Holding SOUTH transfer income inequality at 1991 level							
2000 counterf.	4.357	1.931	2.256	0.321	0.186	0.181	0.237
Change w/r to 1991 (%)	19.0	6.5	11.7	16.2	46.1	41.7	55.4
Reduct. of actual change (%)	2.3	-2.1	4.6	0.3	0.3	0.3	0.3

Note: our calculations on SHIW-HA. Household incomes are trimmed at 2.5 percentile

Table 9: Decomposition of equivalent income inequality, holding at 1991 levels the distribution of resident in the South of different source of incomes