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Poverty, Growth and Redistribution

A Case Study of Iran

Ahmad Assadzadeh[1] and Satya Paul[2]

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Abstract

This study examines the changes in the extent of poverty in Iran during the post-Islamic period. More specifically, it investigates the contributions of growth and redistribution factors to changes in poverty over a period of ten years (1983 to 1993). The analysis is based on household level data relating to three consecutive household income and expenditures surveys of 1983, 1988 and 1993. The study reveals that over a period of ten years, the extent of poverty in the rural area has declined slightly, whereas in the urban sector it has increased by more than 40 percent. The alarming rate of increase in urban poverty necessitates calls for a greater attention from the government to initiate effective poverty alleviation programs. The decomposition of over-time changes in poverty into growth and redistribution components indicates that in each sector the redistribution component was positive during 1983-93, implying that the deterioration of the income inequality contributed to the worsening of poverty. Growth component, however, affected the two sectors differently. Between 1983 and 1993, the growth component for the rural sector was negative, contributing to the decline in poverty. For the urban sector, it was positive, assisting to raise the level of poverty. In addition, there are large variations in the levels of poverty across regions and occupations in Iran.

Keywords: poverty, growth, redistribution, Iran

JEL classification: I31, I32

[1]University of Tabriz; [2]University of Western Sydney

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Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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1. Introduction

During the second half of the last century Iran experimented with alternative development strategies for alleviating poverty. Between 1960 and 1978, the period preceding the Islamic revolution of 1979, a growth oriented development strategy was followed. It was implicitly assumed that the effects of growth would automatically trickle down to the poor. The income distribution studies conducted by Oshima (1973), Pesaran (1975), Mehran (1977), Sohrabi (1979) and Azimi (1985) reveal that this period saw increasing disparity in the distribution of income/consumption. The Islamic revolution brought about new agenda in which more equitable and just society was promised. The government introduced a taste of 'economic and social welfare' ingredients in the development strategy. Between 1984 and 1988, the Iranian government was largely occupied in dealing with economic issues related to the Iran-Iraq war such as inflation, sharp decline in the oil revenues and continued stagnation in production. This gave rise to the lack of unified position on development policy. After the war (which ended in 1988), the income distribution policy was virtually abandoned. The government adopted the policy of reducing the role of government and promoting free market economy. It started a dialogue with the IMF and the World Bank to introduce a formal program to liberalise trade and foreign exchange market and privatise the economy.

There is however no serious study that examines the changes in the extent of poverty in the post-Islamic period. The present study fills up this gap by investigating temporal changes in poverty in the rural and urban sectors over a period of ten years (from 1983 to 1993). In particular, we analyse the relative contributions of growth and redistribution factors to the changes in poverty during this period. The study is based on household level data relating to three consecutive Household Income and Expenditures Surveys (1983, 1988 and 1993) conducted by the Statistical Centre of Iran. Each survey year falls into a particular policy regime. The 1983 survey belongs to a welfare-oriented revolutionary period, the 1988 survey relates to a period during which the Iranian economy was totally exhausted by the war and the 1993 survey relates to the period of economic reforms and rapid growth. While our analysis of poverty based on these survey data may not prove any causality between the government development policies and changes in poverty, it will at least hint on how growth and re-distribution factors contribute to the observed changes in poverty during different policy regimes.

The study is organised as follows. Section 2 presents a brief discussion on the issues involved in measuring poverty. Section 3 investigates the temporal changes in levels of poverty in the rural and urban sectors in Iran. This is followed by a sensitivity analysis in Section 4 and a dominance test Sections 5 which enable us to see the robustness of our poverty comparisons to the choice of alternative poverty lines. Section 6 decomposes the temporal changes in poverty into components associated with growth and redistribution factors. Section 7 explores regional and occupational differences in levels of poverty. Section 8 summarises and brings together the main findings.

2. Issues in measuring absolute poverty

Two issues are involved in measuring poverty. The first relates to the identification of the poor and the second to the aggregation of poverty using available information on the poor.

The former requires the construction of a monetary poverty line and the later requires an aggregate measure capturing all available information on poor. These are briefly discussed below.

2.1 The construction of a poverty line

To the best of our knowledge, there does not exist any monetary poverty line for Iran. In the past, two indirect criteria were used by Azimi (1992) to identify poverty. According to his first criterion, living in one room is an indication of severe poverty, and living in two rooms is an indication of relative poverty. Based on the 1986 Housing Census data, he finds that about 4.6 million households (21 million persons) lived in severe poverty. Out of this 2.4 million households (10.3 million persons) lived in the urban area and the rest lived in the rural area. The identification of poverty on the basis of the size of accommodation has one serious problem. It assumes that if a person does not suffer from housing deprivation, he would also not suffer from nutritional and other deprivations. This may not be true. A family may live in an inherited big house but may not be able to earn income sufficient enough to afford other basic needs such as food and clothing. On the other hand, a family living in a small accommodation may well earn sufficient enough to purchase all the basic and necessary items of consumption.

The second criterion proposed by Azimi is based on his belief that the number of individuals/households covered by governmental and non-governmental charity organizations are poor. Using this criterion, Azimi reports that 1.56 million households (3.16 million persons) lived in poverty in 1986. Identification of poverty based on this criterion has its own problems. It is true that these organizations raise charity funds and donations and distribute them among poor. Unfortunately, there is not enough information on the size and coverage of non-governmental organization aids to poor. Even if we collect such information accurately, the estimates of poverty profile thus obtained are likely to be underestimated, as many families, though poor, do not take aids from charity organizations for social and cultural reasons.

Table 1
Estimates of poverty lines for Iran

Sector	Per capita cost of balanced diet at 1989 prices (rials)[+]	Ratio of non-food expenditure to food expenditure (average level) in 1989[++]	Non-food component of poverty line at 1989 prices	Poverty line at 1989 prices	Poverty line at 1983 prices*
	(1)	(2)	(3)	(4)	(5)
Rural	98905	0.587	58057	156962	66202
Urban	123296	1.00	123296	246592	87426

Sources and notes: +estimated by Rahimi and Kalantary (1992); ++obtained from the Household Income and Expenditure Survey, Statistical Centre of Iran (1989);*obtained by using consumer price indices for 1989 and 1983 separately for the rural and urban sectors.

We follow a balanced diet (basic needs) approach to construct monetary poverty lines for the rural and urban sectors separately. The cost of a balanced diet (recommended by the Iranian Institute of Nutrition Science and Food Industry) satisfying normal nutritional requirements at 1989 prices are: 98905 rials for the rural sector and 123296 rials for the urban sector, see Rahimi and Kalantary (1992). We add the non-food poverty component

to this using the ratio of non-food expenditure to food expenditure (at the average level). This gives us the poverty lines at 1989 prices. These are then converted in 1983 prices using the consumer price indices separately for the rural and urban sectors. As expected, the poverty line for the urban sector is higher than the rural sector (see Table 1). We may note that the balanced diet approach is one of the many objective and subjective methods of specifying poverty lines. A review of these approaches is provided in Ravallion (1994) and Paul (1989, 1999). The approach adopted here is quite simple and free from subjective elements.

2.2 The choice of poverty measures

The literature on the aggregate measures of poverty is quite large (for reviews see Sen (1997), Atkinson (1987), Kakwani (1984, 2000), Ravallion (1994) and Paul (1999). For our empirical exercise, we choose three widely used measures, namely head-count ratio (H), poverty gap ratio (P_{gap}) and Foster-Greer-Thorbacke (FGT) poverty index. H= q/n where q is the number of persons whose incomes lie below poverty line and n is the total population. The poverty gap ratio (P_{gap}) is defined as:

$$P_{gap} = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{z - x_i}{z}\right) = HI = \frac{q}{n}\left(\frac{z - \mu^*}{z}\right) \qquad (1)$$

where μ^* is the mean income of the poor and I measures the average proportionate shortfall of income below the poverty line. The P_{gap} has a useful interpretation in that it indicates the fraction of the poverty line income that would have to be generated in the economy in order to eradicate poverty under the assumption of perfect targeting. Foster, Greer and Thorbecke (1984) class of poverty measures is given by

$$FGT(\alpha) = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{z - x_i}{z}\right)^{\alpha} \qquad \alpha > 1 \qquad (2)$$

where α is a parameter. The larger is the value of α, the greater the weight given to the severity of poverty. We may note that for $\alpha = 0$, the FGT index reduces to H and for $\alpha = 1$ to P_{gap}. H and P_{gap} are not sensitive to income transfers among the poor, whereas FGT index is. Sensitivity to income transfers among the poor is a very desirable property of a poverty measure. It may further be noted that all the three measures are additively decomposable. This enables us to examine the relative contributions of different population subgroup to overall poverty. We shall return to this issue in Section 7.

3. Extent of poverty in Iran, 1983-93

As mentioned above, the study utilises unit record data relating to the Household Income and Expenditure (HIE) Surveys conducted by Statistical Centre of Iran during 1983, 1988 and 1993. Each survey covers the entire rural and urban sectors. The details of survey are provided in Assadzadeh (1997). All the income data relating to the 1988 and 1993 surveys were expressed at 1983 prices using consumer price indices separately for the rural and urban sectors. Table 2 presents the sample size and some summary statistics such as mean per capita income (at 1983 prices) and the Gini coefficient of the per capita household income distribution among persons. As expected, the per capita income in the urban sector is higher than the rural sector. Over the period of 10 years, the real per capita income in the

rural sector has increased as against a decline in the urban sector. Consequently, the rural-urban disparity in mean per capita income has narrowed down. There is, however, an increase in income inequality (measured in terms of Gini coefficient) in each sector over the period.

Table 2
Basic statistics of sample HIE survey data

	1983 Survey	1988 Survey	1993 Survey
Rural sector			
Sample size	12321	4298	5954
Mean per capita income (Rials)	86785	77855	92910
Gini coefficient	0.3871	0.3906	0.4102
Urban sector			
Sample size	14683	3956	6733
Mean per capita income (Rials)	176861	109639	157149
Gini coefficient	0.3826	0.3851	0.4198

Source: Authors' calculations.

Table 3 presents the estimates of head count ratio, poverty gap ratio and FGT poverty index at $\alpha = 2$ separately for the rural and urban sectors. As can be seen from this table, the level of poverty in the rural sector was more severe than the urban sector in 1983. About 47 percent of the rural population lived in poverty. The corresponding figure for the urban sector is 24 percent. The estimates of poverty gap ratio and FGT indices for the urban sector are even less than half of their rural counterparts. Both the sectors experienced an increase in the extent of poverty between 1983 and 1988. This was mainly due to war, economic recession and drop in oil revenue, which adversely affected the incomes (see Table 2). Had the government not provided a safetynet to the poor strata by providing subsidized basic needs through widespread rationing, the effect of economic hardship on the poor would have been worse.

Table 3
The estimates of poverty in Iran, 1983-93

	Rural sector			Urban sector		
Year	H	P_{gap}	FGT(2)	H	P_{gap}	FGT(2)
1983	0.473	0.188	0.103	0.241	0.083	0.044
1988	0.552	0.218	0.117	0.512	0.194	0.100
1993	0.464	0.184	0.099	0.338	0.117	0.056
	Percentage change in poverty measures					
1983-8	16.7	16.0	13.6	112.4	133.7	127.3
1988-93	-15.9	-15.6	-15.4	-34.0	-39.7	-44.0
1983-93	-1.9	-2.1	-3.9	40.2	41.0	27.3

Source: Authors' calculations.

During this period, the increase in urban poverty was greater than the rural poverty. This could be because the widespread inflationary recession during this period deteriorated the purchasing power of the urban households and pushed the people at the middle and low-income strata below the poverty line. The rural households could, however, shield themselves against inflation as they were to some extend self-sufficient in producing most of their food items which otherwise would have been purchased at high prices.

The war with Iraq ended in 1988. This was followed by the economic recovery measures and reforms, which enhanced the per capita income of both poor and non-poor households. Consequently, both the sectors experienced a decline in poverty between 1988 and 1993. Also the rural-urban gap in poverty declined during this period. The estimates of P_{gap} provide some useful guidance for designing policy interventions aimed at alleviating poverty. The minimum cost of eliminating poverty using targeted transfers is the sum of all poverty gaps. The cost would be

$$\sum_{i=1}^{q}(z - x_i) = n.z.P_{gap} \qquad (3)$$

We provide here an empirical illustration for 1993. For the rural sector, P_{gap} = 0.184. This when multiplied with the rural population (n=25 million) and the poverty line (z=66202 rials) provides an amount of 304.5 billion rials required for alleviating poverty by targeting transfers to the poor. This amount represents 2 percent of Iran's GDP in 1993. Similarly, given a 34 million population of the urban sector (57 percent of total population) and a poverty line at 87426 rials, the poverty gap ratio of 0.117 would imply 348 million rials as the cost to eliminate poverty under perfect targeting transfers in the urban sector. This amount is 2.3 percent of Iran's GDP in 1993. The elimination of poverty with these resources assumes that policymakers have lot of information. However, if the policymakers do not know who is poor and who is not, then they would have to give z to everyone to ensure that no poor is left, the cost is n.z. This will be the maximum cost of eliminating poverty with no targeting. The P_{gap} is simply the ratio of minimum cost of eliminating poverty with perfect targeting to the maximum cost with no targeting.

4. Sensitivity analysis

In the previous section, we used a single poverty line to assess over time changes in poverty in each sector separately. However, it would be interesting to undertake sensitivity analysis to see whether observed cross-sector and over-time patterns are robust to changes in the poverty line. Thus, we recalculated H, P_{gap} and FGT(α=2) measures for alternative poverty lines set at 10 percent below and above the original line.

The estimates presented in Table 4 show the same cross-sector and over-time patterns as with the original lines. This confirms that the analysis and findings presented so far are not sensitive to the exact position of the poverty line.

Table 4
The estimates of poverty based on alternative poverty lines

	Rural sector			Urban sector		
	When poverty line increased by 10%					
Year	H	P_{gap}	FGT(2)	H	P_{gap}	FGT(2)
1983	0.531	0.407	0.120	0.286	0.349	0.052
1988	0.608	0.413	0.137	0.574	0.394	0.120
1993	0.517	0.409	0.116	0.393	0.355	0.069
	When poverty line decreased by 10%					
	H	P_{gap}	FGT(2)	H	P_{gap}	FGT(2)
1983	0.411	0.387	0.086	0.200	0.342	0.036
1988	0.486	0.381	0.097	0.450	0.361	0.082
1993	0.407	0.383	0.083	0.289	0.328	0.045

Source: Authors' calculations.

5. Dominance tests

While the sensitivity analysis is useful in analysing the robustness of the poverty to small changes in the location of poverty line, the dominance tests allow us to expand the inquiry to cover a wider range of poverty lines. To carry out these tests one has to first plot the entire distribution curves for the sectors or regions or occupation groups, or years to be compared. Plotting per capita household income on the horizontal axis and cumulative percent of population at successive level of per capita household income on the vertical axis one traces a 'poverty incidence curve' (PIC). If this curve for, say, year 1 lies entirely to the right and below that for year 2, then one can infer that poverty has unambiguously increased between year 1 and 2, regardless of where one draws the poverty line and regardless of the poverty measure used (at least so long as the measure has certain basic desirable properties). This is called the First Order Dominance (FOD) test.

If the two poverty incidence curves intersect, then some poverty lines and poverty measures are likely to rank them differently. In this situation one has to impose some restrictions on the structure of the poverty measure. If we restrict to the decomposable poverty measures, P_{gap} and FGT(2), which reflect respectively the poverty depth and severity, then the Second and Third Order Dominance conditions can be applied to rank the poverty levels. The Second Order Dominance condition would say that if the area under the poverty deficit curve (given by the area under the cumulative distribution) for year 1 is lower than that for year 2, then there is an unambiguous increase in poverty from year 1 to year 2. If this test fails (i.e. the two curves insect), then we can apply Third Order Dominance test which requires that for unambiguous comparison of poverty for all poverty lines, the poverty severity curve is everywhere higher in one of the two situations being compared. For further discussion on dominance tests, see Ravallion (1994). We begin with the comparison of the poverty incidence curves for the rural and urban sector for 1983, 1988 and 1993 respectively in Figures 1 to 3. For each period, the poverty

Figure 1
Poverty incidence curves for the rural and urban sectors in 1983

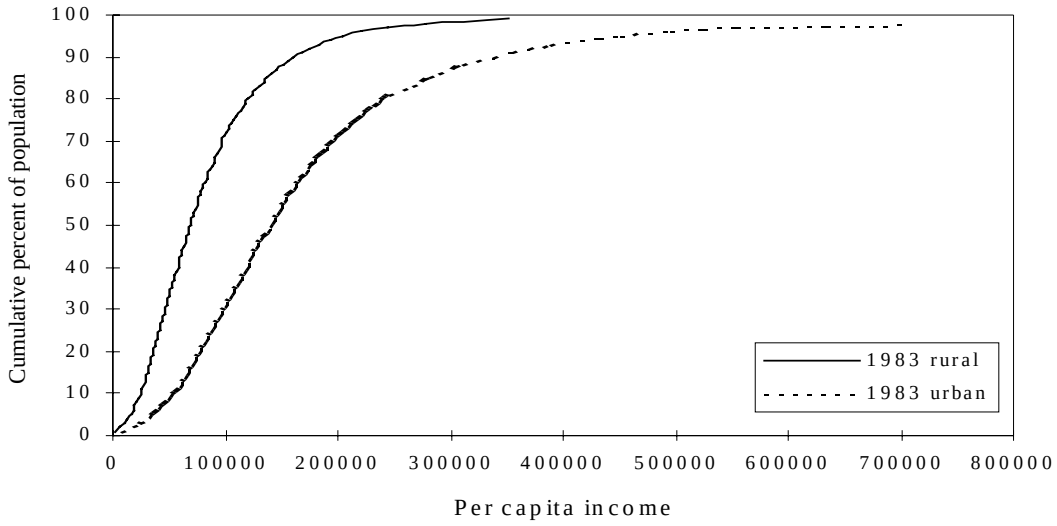
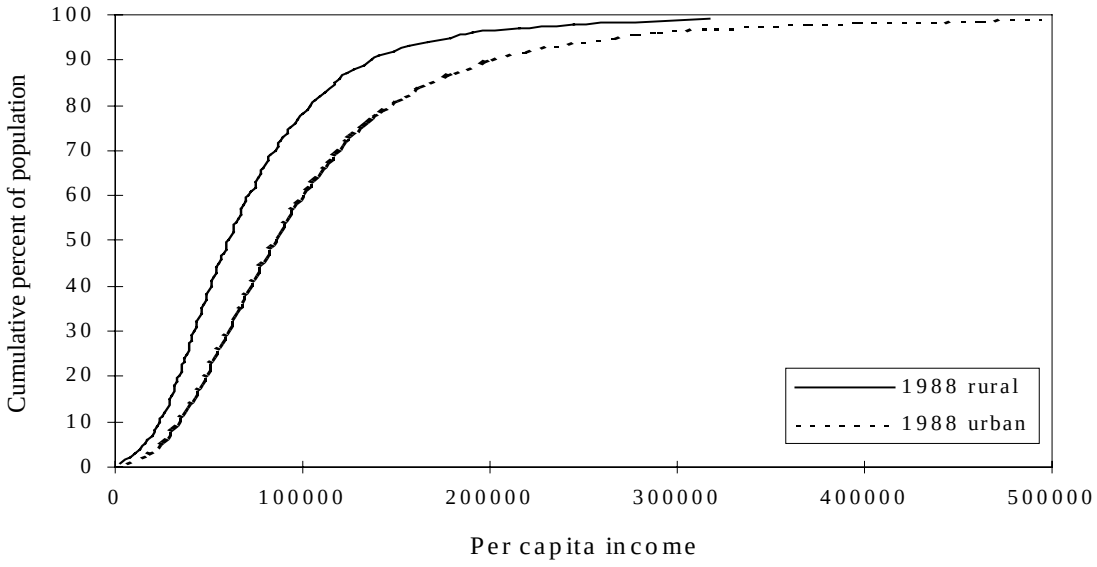


Figure 2
Poverty incidence curves for the rural and urban sectors in 1988



incidence curves for the rural sector are entirely to the left and above the urban one, indicating that the incidence of poverty in the rural sector is greater than that in the urban sector for a wide range of poverty lines and for all admissible poverty measures. To test the robustness of our results on temporal changes in poverty the poverty incidence curves of different periods are compared for each sector separately. Figure 4 shows that in the rural sector, the incidence of poverty between 1983 and 1988 has unambiguously increased as the 1988 distribution is entirely to the left and above the 1983 one. In contrast, Figure 5

reveals that between 1988 and 1993 the poverty has unambiguously decreased as the 1993 distribution fall entirely to the left and below the 1988 one. This is also the case for the entire period 1983-93 as illustrated in Figure 6, though the dominance is less pronounced at the lower side of distribution.

Figure 3
Poverty incidence curves for the rural and urban sectors in 1993

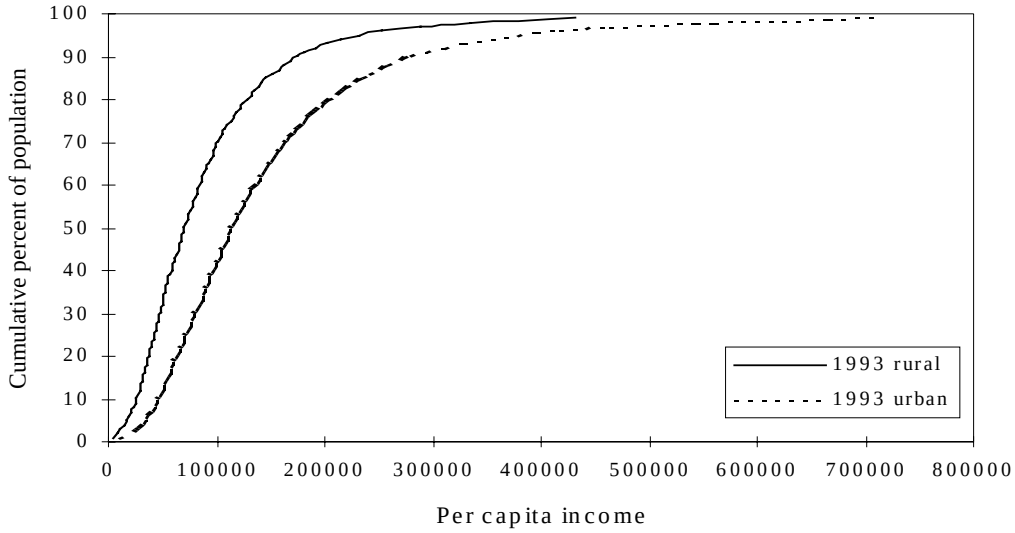
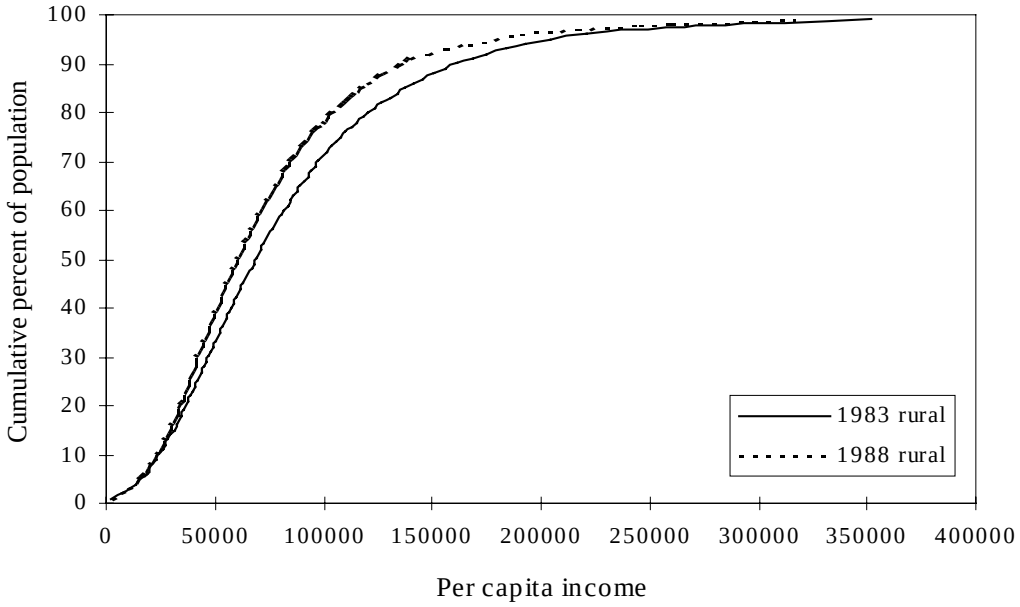


Figure 4
Poverty incidence curves for rural sector, 1983-8



Similarly Figure 7 shows that the extent of urban poverty has increased between 1983 and 1988 for the entire range of poverty lines. Also the evidence of a decline in poverty

between 1988 and 1993 is robust as revealed in Figure 8. The dominance test for the overall increase in the level of poverty in the urban sector during 1983-93 is very clear, except at the very bottom as the two poverty incidence curves intersect (at about one percent of population) (Figure 9). This is not of a nature to doubt/affect the conclusion that poverty has increased in the urban sector over the period. Hence, there is no need to apply the Second and Third Order Dominance tests.

Figure 5
Poverty incidence curves for rural sector, 1988-93

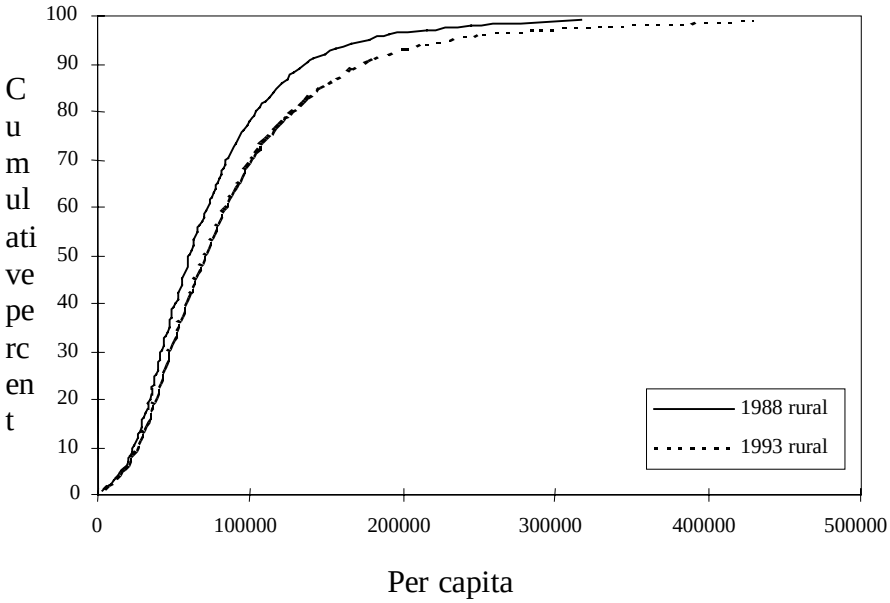


Figure 6
Poverty incidence curves for rural sector, 1983-93

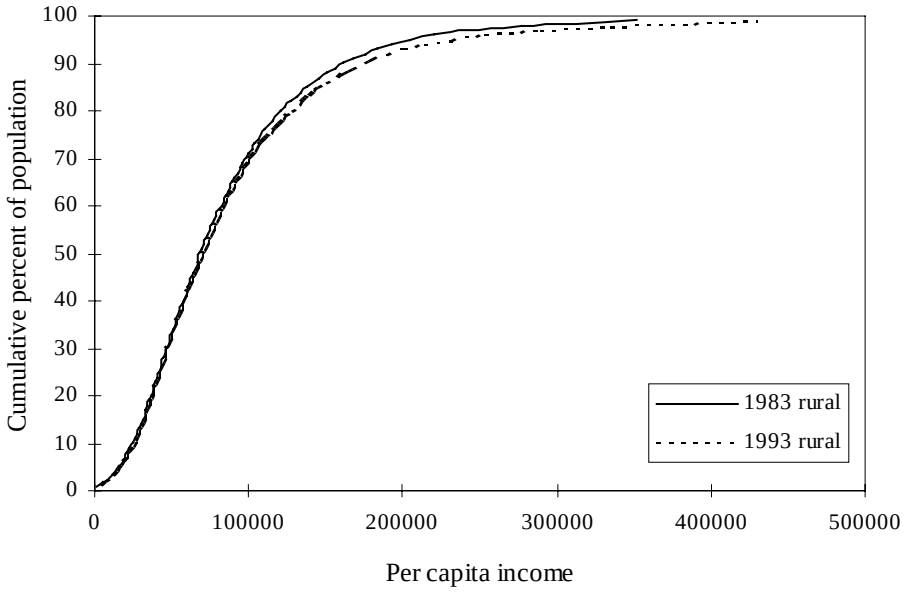


Figure 7
Poverty incidence curves for urban sector, 1983-8

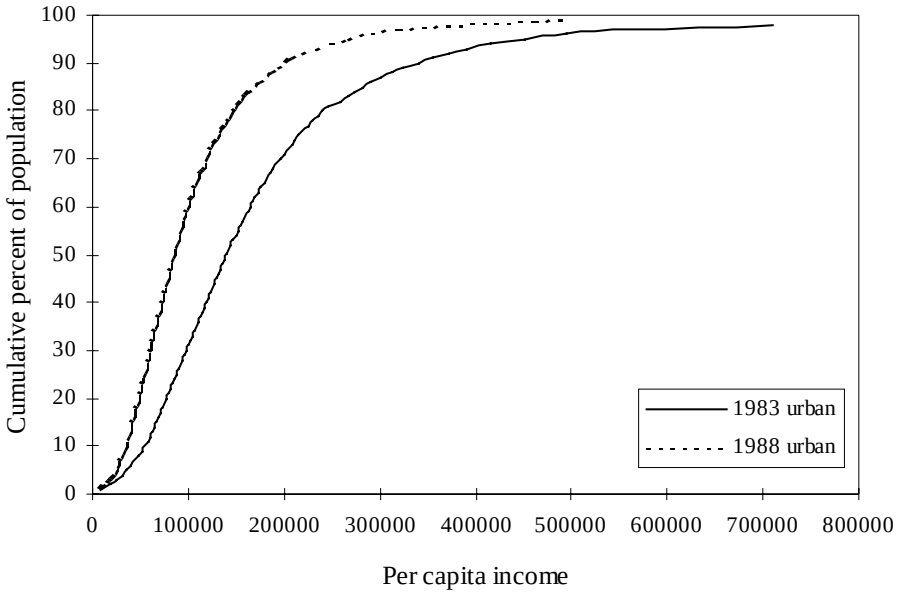


Figure 8
Poverty incidence curves for urban sector, 1988-93

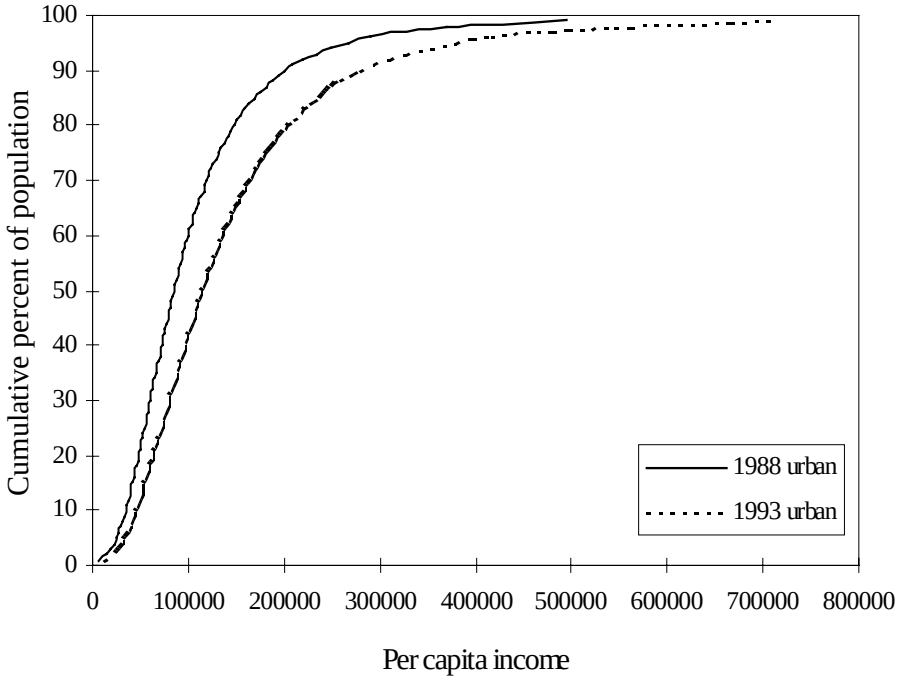
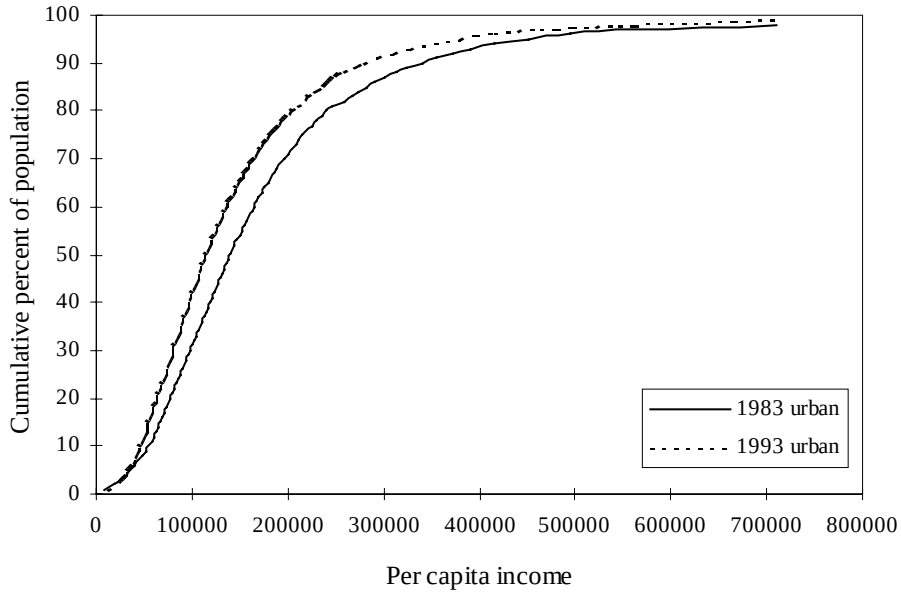


Figure 9
Poverty incidence curves for urban sector, 1983-93



6. Growth and redistribution components of poverty

In order to see how growth and redistribution policies have affected poverty during the period of study we decompose the changes in poverty into components associated with growth, redistribution and a residual (Datt and Ravallion, 1991):

$$P^{t+s} - P^{t} = \underbrace{(P^{t+s^{*}} - P^{t})}_{\text{Growth effect: change in poverty given change in mean income holding period t Lorenz curve constant}} + \underbrace{(P^{t+s^{**}} - P^{t})}_{\text{Redistribution effect: change in poverty given shift in the Lorenz curve holding period t mean income constant}} + \underbrace{\text{residual}}_{\text{Interaction between effects of growth and changes in distribution}} \quad (4)$$

where $P^{t+s^{*}}$ denotes the value of the poverty index in t+s period if only mean income changed since period t without any change in relative income levels, i.e., $P^{t+s^{*}}$ is obtained by applying the (t+s) mean to the (t) Lorenz curve. Similarly, $P^{t+s^{**}}$ denotes the poverty level in t+s if only the Lorenz curve had shifted since (t), leaving the mean income unchanged . In general, the residual would not vanish. It can vanish only if the mean income or the Lorenz curve remains unchanged over the decomposition period. This is very unlikely for most of the empirical works.

Since we are interested in the redistribution effect on poverty, it would be more appropriate to rely on the transfer-sensitive measure, FGT(2). However, for the sake of comparison, we present in Table 5 the contributions of growth and redistribution to changes in poverty using all the three measures. The table shows that for the period between 1983-8 the growth component is positive and redistribution component is negative in both the sectors. This indicates that a decline in the per capita household income, mainly due to war and

economic recession, has contributed to the increase in poverty in both the sectors. The poverty would have deteriorated further had redistribution factors not improved the conditions of the poor.

Between 1988 and 1993 the growth component became negative but the redistribution factor became positive in both the sectors. This suggests that the growth of income during this period of economic reforms would have reduced poverty much more than what is observed had the redistribution not been unfavourable to the poor. For the entire period, the growth component is negative and the redistribution component is positive in the rural sector. This implies that rural poverty would have been lower in 1993 had the government taken adequate measures to not let the distribution deteriorate. In the urban sector, both the growth and redistribution components are positive for the entire period. This suggests that had government maintained the same level of inequality over the years, the overall increase in urban poverty would have been lower than what is observed.

Table 5
Decomposition of poverty into growth and redistribution components

	Rural sector				Urban sector			
Period	Growth Component	Redistribution Component	Residual	Total	Growth Component	Redistribution Component	Residual	Total
				H				
1983-8	0.065	0.011	0.003	0.078	0.259	0.004	0.008	0.271
1988-93	-0.105	0.010	0.008	-0.087	-0.209	0.038	-0.003	-0.175
1983-93	-0.041	0.027	0.004	-0.009	0.053	0.032	0.011	0.096
				P_{gap}				
1983-8	0.020	-0.006	0.001	0.014	0.060	-0.006	0.003	0.057
1988-93	-0.032	0.016	-0.001	-0.017	-0.052	0.014	-0.006	-0.044
1983-93	-0.011	0.009	-0.001	-0.003	0.011	-0.001	0.004	0.013
				FGT(2)				
1983-8	0.033	-0.004	0.002	0.031	0.110	-0.005	0.006	0.111
1988-93	-0.054	0.019	0.001	-0.035	-0.094	0.023	-0.007	-0.078
1983-93	-0.019	0.016	-0.001	-0.004	0.021	0.006	0.006	0.033

Source: Authors' calculations.

Finally, it is worth noting that the signs of growth components are invariant to the choice of poverty measures. The signs of redistribution component based on H and P_{gap} are different from those based on the FGT (2) measure in some cases. This should not surprise us because H and P_{gap} measures are insensitive to income transfers among the poor.

7. A profile of poverty

We now make use of the decomposition property of the poverty measures to investigate the relative contributions of different occupations and regions to the aggregate poverty. If we

Table 6
Regional breakdown of the extent of poverty in rural sector, 1983-93

Year	Poverty index	North western	Western	Northern	South western	Southern	Central	North eastern	South eastern	All regions
1983	H	0.411	0.576	0.374	0.520	0.459	0.461	0.552	0.542	0.473
	P_{gap}	0.129	0.225	0.140	0.226	0.177	0.196	0.231	0.233	0.188
	FGT(2)	0.061	0.121	0.074	0.130	0.098	0.111	0.130	0.132	0.103
1988	H	0.510	0.717	0.403	0.671	0.459	0.473	0.565	0.704	0.552
	P_{gap}	0.172	0.305	0.139	0.279	0.179	0.188	0.216	0.322	0.218
	FGT(2)	0.075	0.169	0.070	0.152	0.100	0.101	0.114	0.185	0.117
1993	H	0.514	0.542	0.398	0.562	0.459	0.334	0.586	0.668	0.464
	P_{gap}	0.178	0.198	0.143	0.268	0.183	0.127	0.279	0.283	0.184
	FGT(2)	0.087	0.095	0.071	0.168	0.101	0.066	0.171	0.169	0.099
				% contribution to poverty						
1983	H	8.3	18.1	18.7	9.6	11.8	12.4	10.0	11.0	100
	P_{gap}	6.5	17.9	17.7	10.6	11.5	13.3	10.6	12.0	100
	FGT(2)	5.7	17.5	17.1	11.1	11.5	13.8	10.9	12.4	100
1988	H	12.5	17.4	16.7	9.4	7.6	6.8	11.5	18.0	100
	P_{gap}	10.7	18.7	14.6	9.9	7.5	6.8	11.1	20.8	100
	FGT(2)	8.8	19.4	13.8	10.1	7.9	6.8	11.0	22.3	100
1993	H	6.3	19.2	21.5	8.5	15.1	12.7	12.7	4.1	100
	P_{gap}	5.5	17.7	19.5	10.3	15.2	12.2	15.3	4.4	100
	FGT(2)	5.0	15.8	17.9	11.9	15.5	11.8	17.4	4.8	100

Source: Authors' calculations.

classify the households/population into mutually exclusive subgroups, then an aggregate measure of poverty can be written as the weighted sum of subgroup poverty measures. That is, if an aggregate poverty measure is denoted by P, the subgroup specific measures by P_j (j=1,..m), and the share of j-th group in total population by w_j, then $P= \Sigma w_j P_j$, where $w_j P_j$ denotes the contribution of j-th group to aggregate poverty.

For the regional profile, the sample households in each sector are classified into eight geographical regions, namely, northwestern, western, northern, southwestern, southern, central, northeastern and southeastern. For the occupational profile, the sample households are classified (based on the occupation of the household head) into seven mutually exclusive occupational categories, namely, professionals, clerks, merchants, service workers, farmers, production workers, and miscellaneous occupations. For further details on occupational and regional classification, see Assadzadeh (1997: Ch. 3).

7.1 A regional profile of poverty

The top panel in Table 6 presents the regional profile of poverty in the rural sector and the lower panel displays the percentage contribution of each region to total poverty. As can be seen from this table, the incidence of poverty in the rural sector varies a great deal across different regions. During all the three periods, the southeastern region was the poorest region in terms of all the three poverty indices. In this region, poor constituted 54, 70 and

67 percent of the population during 1983, 1988 and 1993 respectively. Also, the western, southwestern and the northeastern regions were relatively poor. A high incidence of poverty in the southeastern region is not a surprise. This region is economically underdeveloped region of Iran. Due to its dry climate the agribusiness does not grow well in this region. Also, it has hardly attracted any development funds from the government. All these transformed this region into the poorest region of the country. It is worth noting that in 1988 (the year of economic recession and end of the war) all regions in the rural sector showed higher level of poverty. Some regions were hit the most. The western and the southwestern regions (the border regions with Iraq) recorded the largest increase in poverty between 1983 and 1988. This is to say that the devastating effect of the war in these regions has greatly reduced the income of households and drove them below the poverty line. On the other hand, the central, northeastern and southern regions being geographically away from the Iraqi border have only recorded a minimal increase in the incidence of the poverty.

The lower panel of Table 6 shows that in 1983 the western and northern regions contributed most to the overall poverty (18 percent and 17 percent for FGT(2) index). In 1988, the western and the southeastern regions became the largest contributor to the overall poverty. In 1993, northern region was the main contributor to overall inequality in the rural sector (18 percent for FGT(2) index). A sharp decline in the contribution of the southeastern region to poverty in 1993 is due to the change in population size as the poverty level in this region remained relatively high compared to other regions.

In the urban sector, southeastern region was one of the poorest during all three years (34, 65 and 51 percent of population were poor in 1983, 1988 and 1993 respectively). In 1983, the western, southwestern, northeastern and northwestern regions were relatively poor regions. In 1988, the poverty incidence has sharply increased (more than doubled) in all regions. The western region recorded the highest incidence of poverty (69 percent). This is mainly because of the fact that during the war the economy of the latter went to a standstill and all economic projects were stopped. This is however not to say that the economic burden of war was not shared by other regions. Between 1983 and 1993, the incidence of poverty in the urban sector declined in all the regions. This may be attributed to economic reform programs and the liberalization of economy initiated in 1989. While during 1983-93 poverty has increased in all the regions, relatively high extent of poverty in the southeastern region suggests the need for a greater attention to the redress of poverty in this region. The lower panel of Table 7 displays the contribution of each region to the aggregate urban poverty. The western and northern regions consistently contributed most to the overall poverty. In 1993, the northwestern and southeastern regions have contributed least to the overall poverty in the urban sector.

7.2 An occupational profile of poverty

In the rural sector, the incidence of poverty was the highest among farmers and miscellaneous occupation groups and the lowest among professionals during 1983 (Table 8). Most of the occupations experienced an increase in their poverty levels in 1988. The largest poverty incidence in 1988 was recorded for miscellaneous occupations group (H = 0.71). In 1993, all occupation groups experienced a decline in poverty. It may also be noted that the farmers contributed the most to overall poverty in all three periods (73 percent, 66 percent, and 65 percent based on *FGT*(2) in 1983, 1988, and 1993 respectively). The

Table 7
Regional breakdown of the extent of poverty in urban sector, 1983-93.

Year	Poverty index	North western	Western	Northern	South western	Southern	Central	North eastern	South eastern	All regions
1983	H	0.255	0.340	0.162	0.270	0.238	0.216	0.264	0.336	0.241
	P_{gap}	0.078	0.118	0.056	0.100	0.080	0.080	0.088	0.115	0.083
	FGT(2)	0.037	0.060	0.030	0.055	0.039	0.044	0.048	0.059	0.044
1988	H	0.541	0.686	0.360	0.642	0.586	0.461	0.588	0.647	0.512
	P_{gap}	0.193	0.321	0.109	0.243	0.221	0.159	0.234	0.288	0.194
	FGT(2)	0.093	0.187	0.048	0.119	0.115	0.080	0.120	0.164	0.100
1993	H	0.323	0.437	0.250	0.476	0.344	0.275	0.444	0.513	0.338
	P_{gap}	0.095	0.163	0.079	0.179	0.126	0.082	0.160	0.205	0.117
	FGT(2)	0.038	0.079	0.038	0.091	0.062	0.037	0.079	0.107	0.056
					% contribution to poverty					
1983	H	11.5	18.9	18.6	12.4	9.5	11.6	8.1	9.4	100
	P_{gap}	10.2	19.0	18.6	13.3	9.3	12.5	7.8	9.3	100
	FGT(2)	9.3	18.4	19.2	14.0	8.6	13.2	8.1	9.2	100
1988	H	9.8	11.4	24.8	8.0	8.9	8.2	9.8	19.0	100
	P_{gap}	9.2	14.1	19.8	8.0	8.9	7.5	10.3	22.3	100
	FGT(2)	8.6	15.8	17.0	7.6	8.9	7.3	10.2	24.6	100
1993	H	4.0	18.9	23.7	8.7	14.9	13.1	14.0	2.8	100
	P_{gap}	3.4	20.5	21.7	9.4	15.8	11.3	14.7	3.2	100
	FGT(2)	2.8	20.6	21.4	10.0	16.2	10.6	15.0	3.5	100

Source: Authors' calculations.

production workers group and miscellaneous occupations group have also contributed second highest to overall poverty. As expected, the contributions of professionals, clerks and service workers to poverty are the lowest. The occupational profile of poverty in the urban sector is quite similar to that in the rural sector. There is however one major difference. Unlike the rural sector, production workers contribute most to poverty in the urban sector (Table 9).

8. Summary and conclusions

This paper has analysed the changes in the extent of poverty in rural and urban sectors between 1983 and 1993. The analysis has been carried out using household level data relating to three household income and expenditure surveys conducted during 1983, 1988 and 1993.The first survey relates to a welfare-oriented (pro-poor) policy regime, the second relates to period during which Iran was exhausted by war and the third survey

relates to a period dominated by growth-oriented strategy. The major conclusions that emerge from our analysis may be stated as follows.

During 1983-8, both the sectors experienced a rise in poverty. To make a specific note, the poverty in the urban sector has more than doubled in terms of all admissible poverty indices. This was mainly due to the war, economic recession and drop in oil revenue, which occurred during that period. Had the government not provided a safetynet to the poor strata by providing subsidized basic needs through widespread rationing, the effect of economic hardship to the poor would have been even worse. In both the sectors, the extent of poverty declined during 1988-93. This may be attributed to the positive impact of economic reform policies initiated by the government during that period.

Table 8
Occupational breakdown of the extent of poverty in rural sector, 1983-93.

Year	Poverty Index	Professionals	Clerks	Merchants	Service workers	Farmers	Production workers	Miscellaneous occupations	All occupations
1983	H	0.064	0.173	0.305	0.223	0.535	0.327	0.657	0.473
	P_{gap}	0.026	0.054	0.114	0.070	0.212	0.108	0.342	0.188
	FGT(2)	0.013	0.024	0.060	0.034	0.115	0.053	0.225	0.103
1988	H	0.145	0.250	0.375	0.327	0.588	0.511	0.713	0.552
	P_{gap}	0.047	0.053	0.111	0.094	0.233	0.182	0.378	0.218
	FGT(2)	0.021	0.025	0.045	0.038	0.123	0.090	0.248	0.117
1993	H	0.130	0.213	0.286	0.278	0.499	0.398	0.680	0.464
	P_{gap}	0.038	0.049	0.082	0.085	0.200	0.128	0.374	0.184
	FGT(2)	0.018	0.016	0.036	0.036	0.107	0.058	0.255	0.099
				% contribution to poverty					
1983	H	0.2	0.5	2.2	1.5	73.9	13.4	8.3	100
	P_{gap}	0.2	0.4	2.0	1.2	74.1	11.2	10.9	100
	FGT(2)	0.2	0.3	2.0	1.1	73.3	10.1	13.2	100
1988	H	0.6	0.4	2.9	2.1	66.9	17.6	9.5	100
	P_{gap}	0.5	0.2	2.2	1.5	67.1	15.8	12.8	100
	FGT(2)	0.4	0.2	1.6	1.1	66.4	14.6	15.7	100
1993	H	0.5	0.3	2.8	1.8	64.3	19.4	10.9	100
	P_{gap}	0.4	0.2	2.0	1.4	65.0	15.8	15.2	100
	FGT(2)	0.4	0.1	1.6	1.1	64.6	13.2	19.1	100

Source: Authors' calculations.

Table 9
Occupational breakdown of the extent of poverty in urban sector, 1983-93

Year	Poverty Index	Professionals	Clerks	Merchants	Service workers	Farmers	Product-ion workers	Miscellaneous occupations	All occupations
1983	H	0.040	0.084	0.217	0.165	0.435	0.247	0.337	0.241
	P_{gap}	0.011	0.017	0.061	0.046	0.177	0.072	0.160	0.083
	FGT(2)	0.005	0.006	0.025	0.019	0.102	0.031	0.103	0.044
1988	H	0.246	0.321	0.419	0.588	0.678	0.571	0.568	0.512
	P_{gap}	0.070	0.083	0.144	0.189	0.326	0.205	0.270	0.194
	FGT(2)	0.031	0.032	0.069	0.079	0.188	0.100	0.167	0.100
1993	H	0.107	0.163	0.286	0.417	0.502	0.391	0.382	0.338
	P_{gap}	0.027	0.042	0.086	0.138	0.200	0.131	0.158	0.117
	FGT(2)	0.009	0.017	0.037	0.061	0.104	0.060	0.091	0.056
				% contribution to poverty					
1983	H	1.3	2.4	14.6	5.0	17.4	37.9	21.4	100
	P_{gap}	1.1	1.4	11.9	4.0	20.5	31.7	29.3	100
	FGT(2)	0.9	1.0	9.3	3.2	22.7	26.8	36.1	100
1988	H	4.6	3.5	12.7	8.1	10.9	44.1	16.0	100
	P_{gap}	3.4	2.4	11.5	6.9	13.8	41.8	20.1	100
	FGT(2)	2.9	1.8	10.7	5.6	15.4	39.5	24.1	100
1993	H	3.3	2.9	14.2	6.9	10.5	43.8	18.3	100
	P_{gap}	2.4	2.2	12.3	6.7	12.1	42.5	21.9	100
	FGT(2)	1.7	1.8	11.0	6.0	13.1	40.2	26.2	100

Source: Authors' calculations.

Over a period of ten years, the extent of poverty in the rural area has declined slightly, whereas in the urban sector it has increased by more than 40 percent. The alarming rate of increase in urban poverty necessitates calls for a greater attention from the government to initiate effective poverty alleviation programs. The sensitivity analysis shows that all the major patterns and trends in poverty remain unaffected by small changes (10 percent) in the poverty lines. The dominance tests extend this conclusion to the whole range of permissible poverty lines and poverty measures. The decomposition of over-time changes in poverty into growth and redistribution components indicates that in each sector the redistribution component was positive during 1983-93, implying that the deterioration of the income inequality contributed to the worsening of poverty. Growth component,

however, affected the two sectors differently. Between 1983 and 1993, the growth component for the rural sector was negative, contributing to the decline in poverty. For the urban sector, it was positive, assisting to raise the level of poverty.

There are significant regional differences in the level of poverty in Iran. In the rural sector, the southeastern region was the poorest of all regions throughout the period. The northeastern and southwestern regions also showed a high incidence of poverty. In the urban sector, southeastern region turned out to be one of the poorest regions. The level of poverty also varies considerably across occupations. In the rural sector, poverty was the highest among farmers and miscellaneous occupations. The farmers contributed more than 65 percent to the poverty during the period of this study. In the urban sector, the production workers and miscellaneous occupation group contribute most to the poverty.

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