Oil-led Economic Growth and the Distribution of Real Household Incomes and Consumption in Azerbaijan

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Contents

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Abstract

This paper analyzes the distribution of real household incomes and consumption growth in Azerbaijan between 2004 and 2009. Decile-specific price deflators were used to calculate real incomes and consumption dynamics. The analysis, which was based on growth incidence curves, showed that economic growth between 2004 and 2009 was definitely pro-poor, both for real incomes and real consumption. Our results also indicate that household incomes were much more strongly correlated with oil GDP than with non-oil growth. Employment was the most important source of income growth for all deciles. Poorer households changed their coping strategies from subsistence agriculture to paid- and self-employment. Although this led to a dynamic increase in their incomes, it hardly changed their consumption basket, with food still constituting more than 65% of spending. This means that their actual standard of living level did not change very much. Our results also indicate the low effectiveness and efficiency of social transfers; they were found to be almost evenly distributed among income deciles and played a negligible role in the income growth of the poorest households.

1. Introduction

Over the last five years, Azerbaijan experienced extremely fast economic growth, which was spurred by the 'second oil boom'. The average annual real growth rate of per capita GDP between 2005 and 2009 amounted to 19.3%. This rapid economic growth was associated with an impressive decrease in poverty, which fell from 40.2% in 2004 to 11.1% in 2009 (poverty headcount ratio at the national poverty line[1]). The World Bank measure of absolute poverty (living on less than 2 dollars per day (PPP)) treats Azerbaijan as being free of poverty. The latest available data (2005) shows that the poverty headcount ratio was less than 2% of the population, while in 2001 it was equal to 27.1%. This rapid decline in the poverty rate suggests that the economic growth of the last years was strongly pro-poor. However, evidence from a few studies which analyze the distribution of economic growth effects among different strata of population in Azerbaijan is rather mixed. A 2009 World Bank study indicated that economic growth in the country in the period between 2002 and 2005 was pro-poor. On the other hand, according to Afandi and Pellenyi (2007), who directly analyzed the relationship between economic growth and poverty reduction in Azerbaijan using macro-data covering the period until 2005, the economic growth in Azerbaijan cannot be called pro-poor.

The purpose of our analysis was to add an argument to both sides. We tested the hypothesis of pro-poor growth in Azerbaijan using the income and consumption data for household deciles covering the period from 2003 to 2009. Our approach was based on the idea of growth incidence curves (Ravallion and Chen, 2003), which were designed as a simple and suggestive indication of the pro-poor or pro-rich character of economic growth. We also tried to analyze the main factors behind the growth of incomes and the main consumption patterns of various strata of the population.

The paper is organized as follows. The next section discusses methodological and data problems. It also includes the results of the calculation of decile-specific price deflators for further estimation of real incomes and consumption growth. In the third section, we present growth incidence curves for incomes and describe the results of the analysis of the sources of its growth across household deciles. The growth incidence curves for consumption and a comparison of the decomposition of its growth among the poor and the rich can be found in section four. The final section concludes.

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[1] The national poverty line (subsistence minimum) measures absolute poverty and is estimated based on the nutrition approach. The poverty headcount ratio is the share of the population with consumer expenditures below the poverty line. At the moment, it is equal to about 80 Euro per person per month.

2. Data issues

2.1. Data quality and availability

The State Statistical Committee of Azerbaijan publishes the data from Household Budget Surveys and has produced the results breakdown for household *deciles* since 2003. Thus, we have 7 annual observations for 10 deciles of households. This data allows us to analyze the information on per capita income and its sources and on per capita consumption expenditures and its breakdown.

According to this data, Azerbaijan seems to be an extremely egalitarian country – 20% of the richest *households* receive only 2.4 times more than the poorest 20% (the share of population by household quintiles is presented in
Table 1). This indicates that this relationship is lower than in highly egalitarian EU countries such as Hungary, Slovenia, Slovakia or Sweden where it is close to 3.5. It is very likely that this low ratio reflects a significant bias in the sample. It seems that the share of rich households that traditionally tend to refuse to participate in Household Budget Surveys in Azerbaijan is higher than in other countries. This means that our sample covers relatively poorer parts of the population than similar surveys in Europe[2]. One has to take this bias into account while interpreting any results presented below.

Table 1. The share of population in household quintiles

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
1 (poorest)	23.1	23.2	23.3	22.7	23.0	23.2	23.5
2	22.2	22.7	22.8	22.3	22.2	22.0	21.8
3	20.9	21.0	21.1	20.7	21.0	20.7	21.0
4	19.1	19.3	19.0	19.4	18.9	19.1	18.9
5 (richest)	14.7	13.7	13.8	14.9	14.8	14.9	14.8

Source: HBS data from Azstat

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[2] The underestimation of the share of rich households is one of the reasons for the absence of data on the Gini index for Azerbaijan for the recent years. The only available figure is 36.5 for 2001; current estimates based on income deciles give a much lower Gini index of about 20.

Table 2. Income inequality: total income of the richest 20% to the total income of the poorest 20% of the population

	2003	2004	2005	2006	2007	2008	2009
Azerbaijan*	2.9	2.5	2.3	2.7	2.4	2.4	2.4
EU15	4.6	4.8	4.8	4.7	4.9	4.9	--
EU12	--	--	--	--	5.5	5.2	--
Slovenia (EU minimum)	3.1	--	3.4	3.4	3.3	3.4	--
Latvia (EU maximum)	--	--	6.7	7.9	6.3	7.3	7.3
Russia	8.4	8.6	8.6	8.9	9.4	9.4	9.4
Turkey	--	--	7.7	6.3	9.5	8.1	8.1

* In Azerbaijan, the ratio is calculated based on the data of per capita incomes for quintiles of *households*.
Source: Authors' calculations based on HBS data from the State Statistical Committee of Azerbaijan (hereafter - Azstat); Federal State Statistics Service of Russian Federation (Russia), Turkish Statistical Institute (Turkey) and EUROSTAT (other countries)

2.2. Price indexes and decile specific deflators

In order to obtain real income and consumption dynamics for deciles of households, one must calculate decile specific consumer price indexes. These indexes have been calculated based on the consumption structure for each decile (see Table 3). A separate series of price indexes was calculated for individual groups of goods and services.

Table 3. Structure of the household consumption expenditures in 2009, % of total consumption expenditures

	1st decile (poorest)	Median	10th decile (richest)
Food	66.6	56.7	36.8
Hotels, restaurants and so on	4.6	6.9	9.4
Clothes and footwear	4.8	6.4	7.2
Housing and utilities	5.5	6.0	8.2
Transport	3.7	5.1	8.8
Furnishing, household equipment, house maintenance	3.7	4.9	9.5
Health care	2.3	2.8	5.3
Communications	2.0	2.4	3.0
Recreation and culture	1.3	2.2	4.4
Tobacco	1.6	1.4	1.0
Education	0.5	1.3	1.9
Alcohol	0.5	0.6	0.6
Miscellaneous	3.0	3.3	3.9

Source: HBS data from Azstat

On average, the prices in the period analyzed were increasing most dynamically for housing and utilities (21.3% of average annual growth) and food (12.3% of average annual growth) (see Figure 1a). Prices for other goods and services recorded much lower average price dynamics ranging from 1.8% of annual average growth for the 'miscellaneous' group to 8.9% for alcoholic beverages.

Differences in price dynamics between goods and differences in the structure of consumption between deciles resulted in slightly varying decile-specific CPIs. Due to a higher share of food in the consumption baskets of the poorer deciles,[3] the calculated inflation rates tended to decrease as average income increased (Figure 1b). Thus, between 2004 and 2009, the average annual inflation rate for the 1st decile amounted to 10.8%, while for the 10th decile, it amounted to 9.7%. (Average annual inflation (CPI) amounted to 10.4%).

Figure 1. Price indexes for groups of goods and services (a) and decile specific deflators (b), annual averages for 2004–2009

(a)

(b)
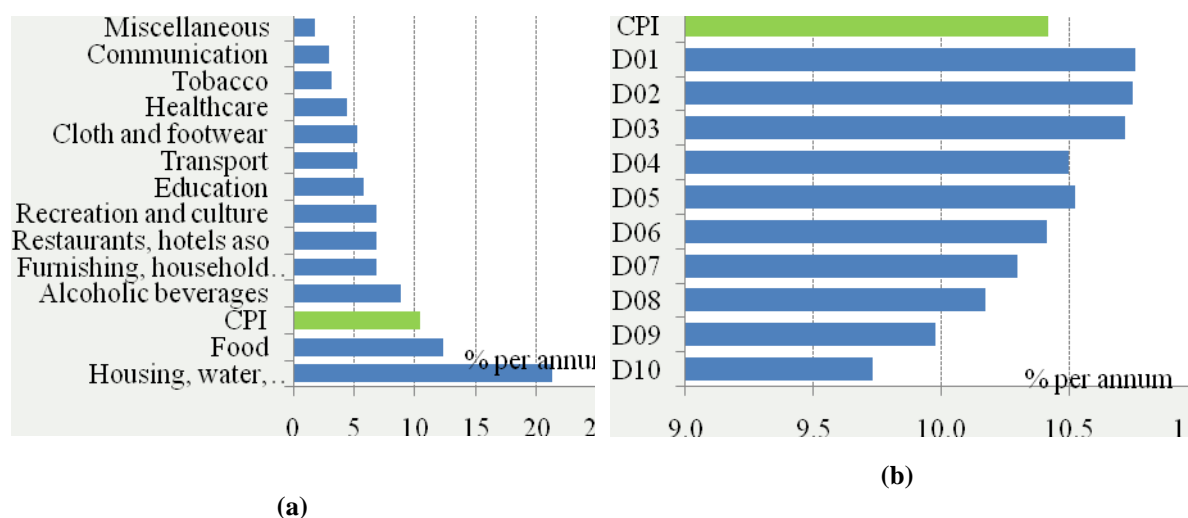
Source: Authors' calculations based on HBS and price data from Azstat

3. Household incomes

3.1. GDP and income growth rates for household deciles

The dynamics of per capita income across all deciles of Azerbaijani households are strongly correlated with overall GDP dynamics. The correlation coefficient between real incomes and GDP growth rates for median households for years 2004–2009 is 0.59 and it is not substantially different for other deciles.

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[3] Shares of housing utilities were relatively small for all deciles: see Table 3.

Figure 2. Real growth rates of oil and non-oil GDP vs. real growth rates of household incomes
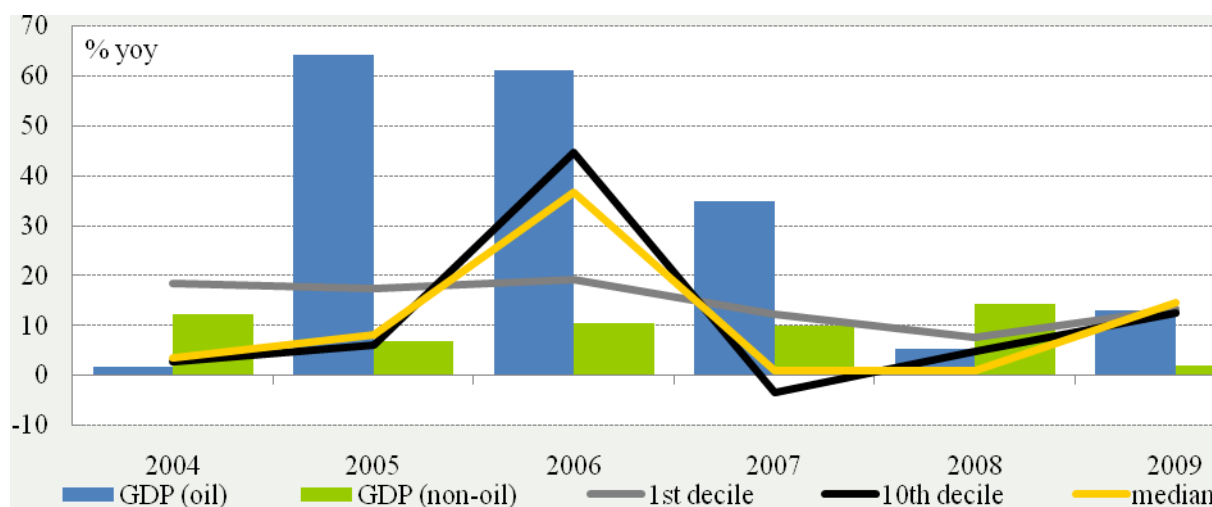
Source: Authors' calculations based on HBS and other data from Azstat

It seems interesting, however, that as soon as one analyzes oil and non-oil GDP growth dynamics (presented in Figure 2) separately, household incomes appear to be correlated only with oil GDP, with the correlation coefficient varying from 0.49 for the 10th decile to 0.74 for the 2nd decile. The correlation coefficients between non-oil GDP and incomes are all close to zero and negative. This may mean that the spread of oil incomes to various population strata was a much more important source of income generation than the development of other registered economic activity in the country. On the other hand, the correlation coefficient between a pair of variables does not give one a reason to draw a strong conclusion on the insignificancy of non-oil GDP for income distribution. An extremely limited sample (7 annual observations in levels) does not allow for robust econometric analysis; however, this simple exercise shows us that if one takes into account other possible determinants of household income, non-oil GDP becomes one of the most important sources of its increase[4].

3.2. Growth incidence curves

We drew growth incidence curves to illustrate the distribution of consumption and income growth depending on initial income levels. It appears that the distribution of real income growth in Azerbaijan was very pro-poor: the average real incomes of the poorest household decile in 2004–2009 recorded an average annual growth of 14.9%. The real income of the

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[4] Equation $\Delta y_{it} = b_1 \cdot \Delta rgdpo_t + b_2 \cdot \Delta rgdpno_t + b_3 \cdot \Delta cpi_t + \varepsilon_{it}$ (where *i* denotes number of decile, *t* is time operator, Δ is first difference operator, small letters stand for natural logarithms, *y* is real household income (deflated by decile-specific CPIs), *rgdpo* stands for real oil GDP, *rgdpno* – for real non-oil GDP, ε is residual term) shows the positive relationship between the growth of real oil and non-oil GDP and real household income growth and the negative influence of inflation on real income growth. Moreover, b_2 is equal to 1.6 and higher than b_1 (0.4).

second poorest decile was increasing on average by 11.5% per year. For all other income deciles the average annual growth rates ranged from 10.4% to 10.6%, which is practically equal (see Figure 3b) and much lower than those of the poorest households[5].

Figure 3. Growth incidence curves for real household incomes: use of common deflator – CPI (a) vs. use of decile specific deflators (b)

| (a) | (b) |
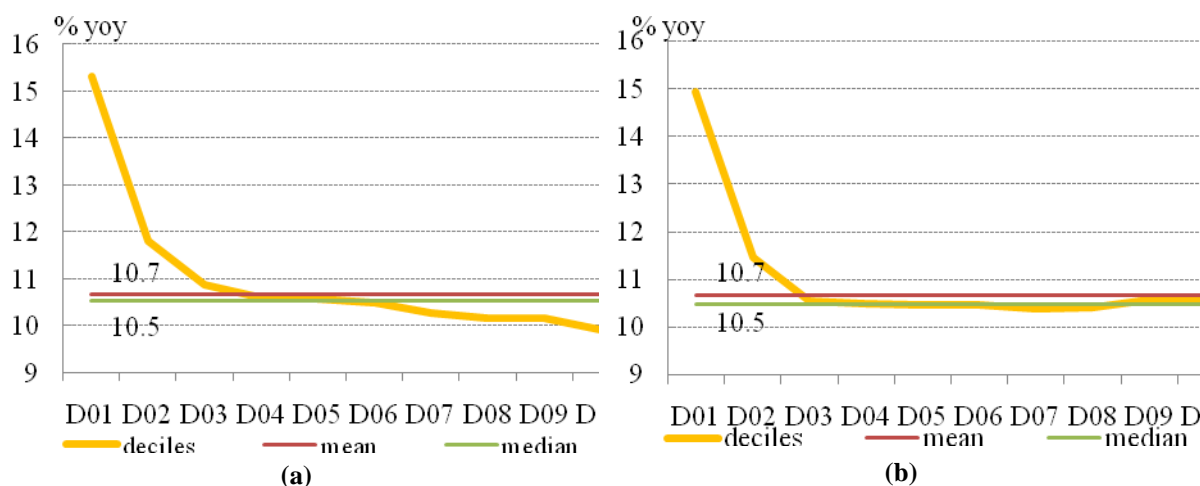
Source: own estimates based on the SSK data.

However, the distribution of benefits from economic growth between deciles was not so pro-poor (or was not pro-poor at all) in all of the years of the analyzed period (see Annex 1 for real income growth incidence curves for separate annual periods). For instance, in 2006, the year which recorded the fastest economic growth, the growth was extremely pro-rich (19.3% growth of real income in the poorest decile vs. 44.7% growth of real income in the richest). The global economic crises also influenced the distribution of incomes; in 2009, incomes of the poorest and the richest grew at almost the same rate, while the second decile grew the slowest and the fifth decile grew the fastest.

3.3. Determinants of pro-poor growth

3.3.1. GDP growth and various sources of income

The pro-poor characteristics of Azerbaijani income growth during the period analyzed resulted mainly from the very dynamic growth of wage and self-employment incomes among the poorest population deciles (see Table 4). The average annual growth rate of self-employment incomes for households in the 1st decile reached 25.5%, whereas for households with median incomes, it was only 13.3%. Similar differences of income growth dynamics between the 1st and other deciles were also recorded for wage incomes.

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[5] The use of a common deflator for all household deciles (see Figure 3a) leads to an overestimation of the growth rate of the income of the poor and an underestimation of that of the rich.

The average annual growth of agricultural incomes for poorer groups, reaching 3.2% for the 1st decile and 8.7% for the median incomes, was much lower than for those with the highest incomes where it reached 15.8%. This led to a serious reduction in the share of agriculture in the total incomes of the poorer households. This share fell from 34.4% in 2003 to only 18.1% in 2009 for the 1st decile, and from 18.7% to 15.3% for the 5th one. On the other hand, the share of agriculture in total incomes increased for the richest households, from 9% in 2003 to 11.8% in 2009.

Table 4. Average annual growth rates for selected sources of incomes of Azerbaijani households for years 2004–2009, %

	Wages	Self-employment	Agricultural incomes	Pensions	Incomes from other households	Other incomes	Total real incomes
1st decile	21.0	25.5	3.2	19.3	13.6	7.6	**14.9**
Median income	11.5	13.3	8.7	17.1	-1.0	7.9	**10.5**
10th decile	12.7	10.4	15.8	18.1	-5.7	10.0	**10.6**

Source: Authors' calculations based in HBS and price data from Statistical Committee of Azerbaijan

Changes in the relative importance of agricultural, self-employment and wage incomes illustrate two important processes that have been happening in the Azerbaijani economy within recent years. Members of the poorest households changed their coping strategies of subsistence agriculture and limited sales of agricultural products to paid- and self-employment in the booming sectors of the oil-led economy such as construction and basic consumer services. Meanwhile, it seems that some members of the richer strata of the population, probably mainly those who had already dealt with agricultural production before the oil boom, took advantage of rising food prices and increased their incomes from this source.

3.3.2. Wage incomes

According to the latest World Bank memorandum on Azerbaijan, increased average and minimum wages were among the most important factors behind the poverty reduction (World Bank, 2009). Our analysis of the main sources of growth of the population's incomes does not support this statement. According to our results, the dynamics of declared real incomes from wages are not correlated with either the dynamics of real minimum wage or real average wage. The actual correlation coefficients between real minimum wage dynamics and declared wage incomes for the analyzed period are insignificant and mostly negative even for the poorest 1/3 of households, reaching from -0.03 for the 1st decile to -0.61 for the 3rd one. As far as average wages are concerned, the correlation coefficients are also mostly negative and range from 0.23 for the 3rd decile to -0.53 for the 7th decile.

The lack of a significant positive correlation between the minimum and average wages and declared wage incomes of households can result from two factors. At first, it may obviously indicate only the lack of a simple contemporaneous correlation, but this would mean that registered wages are, due to some unknown factors, transmitted into actual declared wage incomes with some time lag. On the other hand, however, it may also mean that registered wages are only a small part of total wage incomes of Azerbaijani workers and it would be consistent with the widely perceived high level of shadow economy in the country.[6] It would also be consistent with our earlier observation of the lack of relationship between non-oil GDP and household incomes. The positive effects of the oil boom are not transmitted to households by registered activities, but rather by paid and self-employment in the shadow economy where the actual wage dynamics are different from official wage dynamics.

3.3.3. Contributions to income growth

The differences in the growth dynamics of incomes from various sources across deciles of population directly translate into the differences in contributions of related sources into the total income growth over the period analyzed.

Paid employment (wages) and self-employment were altogether the most important sources of income growth for all deciles. The role of paid employment was slightly more prominent in the case of the richer population strata. Self-employment was more prominent for those with lower and average incomes. As previously mentioned, agriculture contributed to the growth of the incomes of the richer strata to a much higher extent.

Pensions had a similar impact on income growths for all deciles, although they were slightly more important for those whose incomes are below the median, which is fully understandable. It is interesting to note that incomes from both monetary and in-kind social transfers played only a minor role in the income growth of the poorest households. In general, their contribution to total income growth was rather limited for all deciles varying from 0.8% for the 10th decile to 6.6% for the 6th. Their contribution to income growth was also relatively important for the 2nd (5.5%) the 3rd deciles (4.9%), but not for the 1st one – only 2.3%.

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[6] The share of employees in the total employed population in Azerbaijan is only 33.8% (2009). Official average wage is calculated only for this part of employment; also, the minimum wage is related only for their relations with employers.

Table 5. Contribution of income sources to real per capita income growth by household deciles (annual averages for 2004–2009)

	Ave-rage	Deciles:									
		1	2	3	4	5	6	7	8	9	10
Household income real growth rate, %	**10.7**	**14.9**	**11.5**	**10.6**	**10.5**	**10.5**	**10.5**	**10.4**	**10.4**	**10.6**	**10.6**
Contribution of the income sources to total income increase, %											
Paid employment	**37.7**	32.6	25.7	32.5	23.5	32.2	34.5	43.7	46.8	42.8	44.6
Self-employment	**26.0**	28.6	29.6	30.8	33.5	31.2	28.0	18.5	21.4	22.0	24.4
Pensions	**17.2**	19.6	18.2	18.4	20.8	20.8	17.2	15.7	16.8	15.7	13.8
Agriculture	**15.1**	5.5	9.5	9.5	16.8	11.2	15.1	20.2	18.9	20.2	15.3
Benefits and social contributions, social transfers in kind	**3.3**	2.3	5.5	4.9	3.8	6.6	3.5	3.4	3.9	2.3	0.8
Incomes from abroad	**1.2**	0.9	1.3	0.2	-0.3	0.4	0.7	0.9	-1.2	0.0	5.5
Rent and property	**0.3**	-0.4	-0.2	-0.5	-0.7	0.0	0.6	0.3	0.0	1.0	1.3
Incomes from other households	**-0.8**	10.7	10.5	4.4	2.7	-2.2	0.2	-2.7	-6.4	-3.9	-5.8

Source: Authors' calculations based on HBS and price data from Azstat

The ineffectiveness of social transfers from the point of view of rising incomes of the poorest can be partially explained by inefficient targeting. We have calculated the shares of total funds received by various household deciles (see Table 6). It appears that the highest shares for most of the period did not go to the poorest households but to those with average incomes. Actually, 2006 was the only period where the highest amount went to the poorest quintile and the second highest to the second poorest quintile. In general, the differences in shares received by quintiles are relatively small ranging from 16.0% to 24.1% for all periods.

Table 6. The share of total monetary and in kind social transfers obtained by household quintiles* (2004–2009, %)

	2003	2004	2005	2006	2007	2008	2009
1st Quintile	16.3	21.4	20.8	24.1	19.7	20.7	16.8
2nd Quintile	19.0	17.4	19.8	21.8	22.2	17.6	19.6
3rd Quintile	20.9	19.3	17.9	18.2	17.5	23.4	24.1
4th Quintile	23.9	22.2	17.9	16.5	20.9	20.0	23.5
5th Quintile	19.8	19.8	23.6	19.4	19.7	18.3	16.0
Total social transfers	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Based on the data on per capita incomes from social transfers by households' quintiles
Source: Authors' calculations based on HBS data from Azstat

At first glance, our results contradict the World Bank's finding about the importance of 'significant social transfers' for poverty reduction in the analyzed period (World Bank, 2009). However, one can see that their role in the overall increase of the incomes of the 2nd, 3rd and 5th deciles was above average. If one takes into account the fact that absolute poverty in Azerbaijan (according to the national poverty line) fell from almost 45% in 2003 to 11% in 2009 (i.e. from 5 deciles to 1 decile), the importance of social transfers in combating poverty among these deciles becomes clearer. However, even for the deciles that are no longer poor, the contribution of social transfers to total income growth is very moderate (around

6%). This means that better targeting of social transfers could seriously improve the absolute and relative income levels of the poorest households in Azerbaijan.

While the efficiency of social transfers is questionable, social and family networks in Azerbaijan are still playing a serious role in limiting the poverty level in the country. Their role in the total income growth of the poorest households was much more important than social transfers, reaching more than 10% for the two lowest deciles of households. Moreover it seems that household transfers are very well targeted as their contribution to total income growth systematically decreases, with average income levels already falling below zero for the 5th decile.

4. Household consumption

## *4.1. GDP and real consumption growth for household deciles*

The dynamics of per capita consumption across all deciles of Azerbaijani households is, as in the case of incomes, strongly correlated with overall GDP dynamics. The correlation coefficient between real consumption growth and GDP growth for the median household for years 2004–2009 equals 0.57 and it does not differ significantly across deciles. Also, as in case of incomes, the real consumption dynamics tend to be correlated only with oil GDP and the correlation coefficients vary in this case from 0.49 for the 1st decile to 0.66 for the 9th decile. The correlation coefficients for non-oil GDP are all close to zero and negative.

4.2. Growth incidence curves

It should not come as a surprise that the distribution of real consumption growth in Azerbaijan also resembles the pattern observed for incomes, although in this case the differences between the average growth rates for the poorest deciles and the rest of the households are slightly smaller. During the period from 2004 to 2009, the average real consumption of the poorest household decile recorded an average annual growth of 12.8% and the real consumption of the second poorest decile was increasing on average by 10.9% per year. The consumption expenditures of the 3rd – 6th deciles grew by around 10.2%. For the 7th, 8th and 9th deciles, the growth rate fell to 9.9%, while the consumption of the richest

went up by 10.2% (see Figure 4b). (Annex 2 presents annual growth incidence curves for consumption.)

Figure 4. Growth incidence curves for real household consumption expenditures: use of common deflator – CPI (a) vs. use of decile specific deflators (b)

| (a) | (b) |
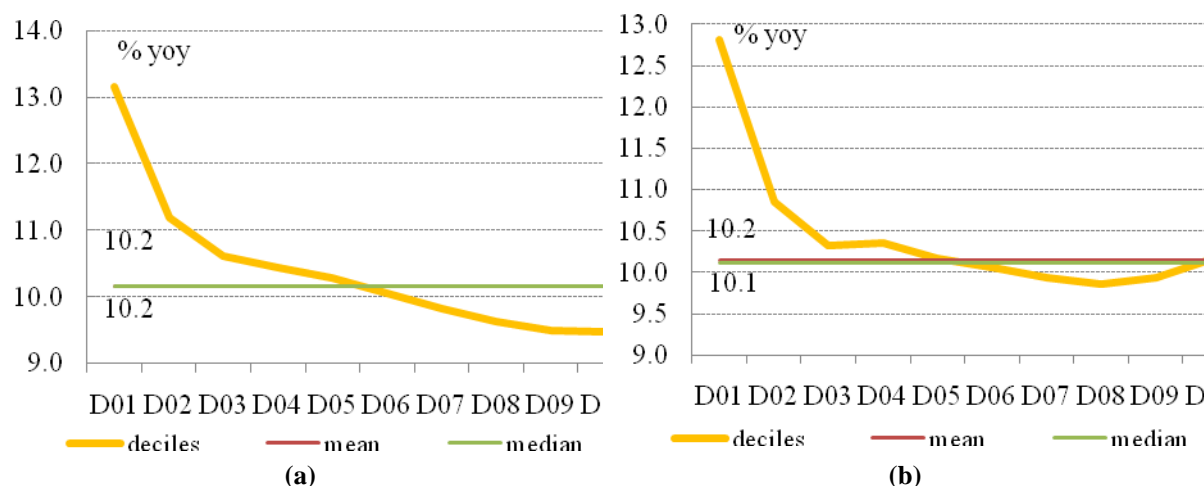
Source: own estimates based on the SSK data.

4.3. Evolution of the main types of household consumption expenditures

4.3.1. Real growth rates of consumption of different goods and services

Real consumption increased most dynamically for the 1st decile for almost all the most important groups of goods and services, with the exception of education (see Table 7). All deciles most dynamically increased their real consumption of hotel and restaurant services, and then of transport and communication services. This was probably related to the very rapid development (increase of supply) of both of these types of services in the recent period. On the other hand, the real consumption of housing and water supply services did not increase considerably in the recent period for either of the deciles, and it seems this was related to the exceptionally high growth of regulated prices for these services (see Figure 1).

Table 7. Real consumption growth for selected most important groups of goods and services (annual averages for 2004–2009, %)

	1st decile (poorest)	median	10th decile (richest)
Food	10.7	7.9	5.2
Clothes and footwear	17.1	14.7	13.9
Housing and utilities	4.4	3.0	1.9
Furnishing, household equipment, house maintenance	18.3	7.5	13.0
Healthcare	18.7	14.6	15.7
Transport and communication	24.4	20.6	20.0
Recreation and Culture	15.6	7.6	12.5
Education	7.7	23.9	17.1
Hotels and Restaurants	25.2	23.3	21.3

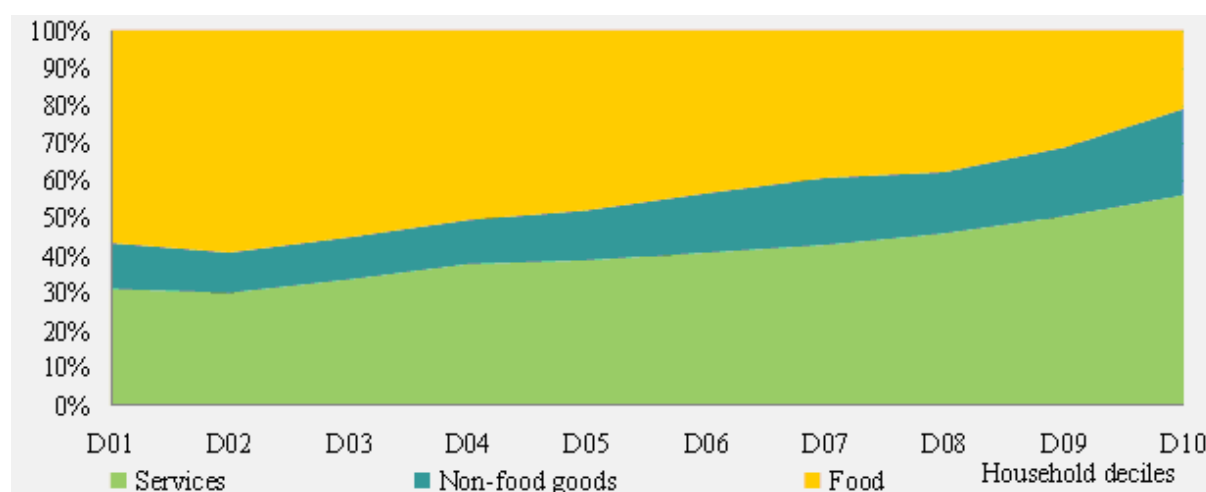*Source*: Authors' calculations based on HBS and price data from Azstat

The unequal growth of consumption of educational services in the recent period, with much smaller growth rates for the poorest households, may be a cause for concern. It means that children coming from these families continue to be less educated and this may limit their chances to improve their relative income situations in the future.

4.3.2. Contributions to consumption growth

Unlike in the case of incomes, the dynamics of consumption of various goods and services does not directly translate into their contributions to total real consumption growth. It is partially a result of serious initial differences in the consumption structure across deciles.

Figure 5. Contributions of main types of expenditures to real consumption growth by household deciles

Source: Authors' calculations based on HBS and price data from Azstat

Hence although the real consumption of food did not increase particularly dynamically for any of the deciles, its contribution to real consumption growth for poorer households was on average very high ranging from 56.8% for the 1st decile to 48.1% for the 5th one. Contribution of food to total real consumption growth for richest households (10th decile) was only 20.9% (see Figure 5).

On the other hand, services constituted the most important part of total real consumption growth for the richer households. For example, real spending for transport and communication services contributed to as much as 21.6% of the total for the 10th decile, whereas it was only 9.8% for the 1st one and 13.5% for the 5th. In total, services contribution to real consumption growth was 56% for the 10th decile, 38.7% for the 5th, and only 31.2% for the 1st one. Also non-food goods constituted a much greater part of total real consumption

growth for richer parts of the population, ranging from 12% for the 1st decile to as much as 23.1% for the 10th one.

The very high share of food in total real consumption growth for the poorest households in Azerbaijan indicates the extremely deep poverty of these population strata before the oil-boom. One should also observe that the actual consumption structures for the poorest households did not change significantly as the result of the oil boom. The share of food in total consumption of the poorest households decreased from 68.3% in 2003 to 66.8% in 2009, so it was not a qualitative change. This most probably means that the other needs of these households are still unsatisfied and that they continue to be poor in absolute terms despite the pro-poor characteristics of last years' growth in Azerbaijan.

5. Conclusions and policy implications

Real income and consumption dynamics for deciles of households were calculated using the Household Budget Surveys and price data from the Statistical Committee for 2004–2009. Real figures were calculated using decile-specific Consumption Price Indexes based on the consumption structure for each decile. A separate series of price indexes was calculated for individual groups of goods and services.

The dynamics of the per capita real incomes and per capita real consumption across all deciles of Azerbaijani households are strongly correlated with overall GDP dynamics. Simple correlation analysis suggests that they are much more strongly correlated with oil-GDP growth than with non-oil GDP growth. This means that during the analyzed period, the direct spread of oil incomes to various population strata was a much more important source of income generation than the development of other registered economic activity in the country.

It appears that the distribution of both real income growth and real consumption growth in Azerbaijan was very pro-poor during the period analyzed. The pro-poor characteristics of Azerbaijani income growth resulted mainly from the very dynamic growth of wage and self-employment incomes among the poorest population deciles. It is interesting that the average annual growth of agricultural incomes for poorer groups was much lower than for those with highest incomes.

Changes in the relative importance of agricultural, self-employment and wage incomes illustrates two important processes going on in the Azerbaijani economy in recent years. The members of poorest households were able to change their earlier coping strategy of subsistence agriculture and limited sales of agricultural products to wage and self-employment. At the same time, it seems that part of the richer strata of the population took advantage of rising food prices and increased their incomes from this source.

The dynamics of declared real incomes from wages are not correlated with either the dynamics of the real minimum wage (for poorer deciles) or the real average wage (for those with average incomes). At first glance this may indicate the lack of simple contemporaneous correlation between registered and declared wages, meaning that registered wages are, due to some unknown factors, transmitted into actual declared wage incomes with some time lag.

However it may also mean that registered wages are only a small part of total wage incomes of Azerbaijani workers and this would be consistent with the widely perceived high level of shadow economy in the country.

Incomes from both monetary and in-kind social transfers played only a minor role in the income growth of the poorest households. This results from the generally small size of social programs as well as their poor targeting, with the richest deciles receiving similar shares of total amounts of transfers as the poorest ones. Better targeting of social transfers could seriously improve the absolute and relative income levels of the poorest households in Azerbaijan.

On the other hand, social and family networks in Azerbaijan are still playing an important role in terms of limiting the poverty level in the country. Their role in the total income growth of the poorest households was much more important than the role of social transfers. Moreover, it seems that household transfers are very well targeted as their contribution to total income growth systematically decreases with increasing average income.

Although total real consumption growth for poor households was very impressive, it appears that food consumption constituted most of that. This indicates the extremely deep poverty of these population strata before the oil-boom. One should also observe that the actual consumption structure for the poorest households did not change significantly as a result of the oil boom with only a minor fall in the share of food products. This most likely means that other needs of these households are still unsatisfied and that they continue to be poor in absolute terms, despite the pro-poor characteristics of last year's growth in Azerbaijan.

The unequal growth of consumption of educational services in the recent period, with much smaller growth rates for the poorest households, may be a cause for concern. It means that children coming from these families continue to be less educated and this may limit their chances to improve their relative income situations in the future.

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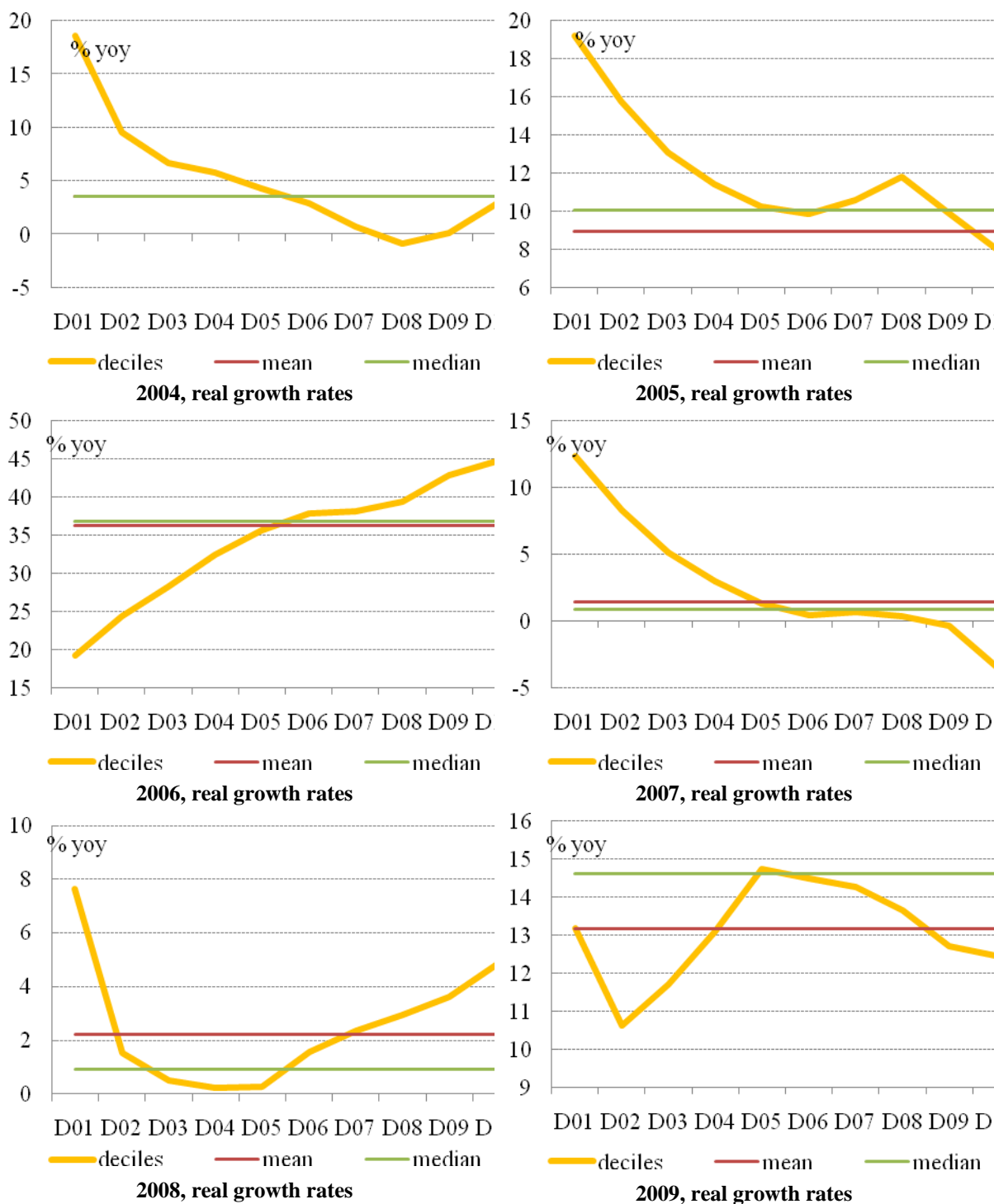
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Annex 1. Growth incidence curves for household income, decile-specific deflators

2004, real growth rates

2005, real growth rates

2006, real growth rates

2007, real growth rates

2008, real growth rates

2009, real growth rates

Source: authors' calculations based on HBS and price data from Azstat.

Annex 2. Growth incidence curves for household consumption, decile specific deflators

Source: authors' calculations based on HBS and price data from Azstat.