

# Understanding the Drivers of Poverty Reduction

*To understand the drivers of poverty reduction, we decompose the distributional changes in consumption and income over the 2007 to 2012 period, and examine the size and influence of various factors in driving these changes. The reduction in poverty observed between 2007 and 2012 was mainly driven by changes in labor income, i.e., growth in earnings rather than growth in employment. Had everything else stayed the same, the change in labor income alone would have generated a further reduction in poverty headcount rates to 18 percent in 2012 instead of the observed 19.8 percent. Demographic factors, in particular, the declining share of adults per household among the poor, as well as the consumption-income ratio worked against poverty reduction.*

*Non labor income components and public and private transfers including pensions and domestic remittances contributed to poverty reduction. Domestic and international remittances among households contributed to 13 percent of the total reduction in poverty, although most of the change in consumption that is explained by private transfers came from domestic remittances. Capital income and the flow of services from owner-occupied dwellings also contributed so as to reduce poverty over the period. Considering public transfers, on the one hand, pensions and other public transfers like social safety net compensations explained almost 27 percent of the reduction in poverty. On the other hand, the decline in implicit incomes from PDS transfers acted counter to poverty reduction. In fact, the reduction of ration transfers would have led to a 43 percent lower reduction in poverty, if everything else has been held constant.*

*The results of the decomposition exercise mask a lot of heterogeneity across different parts of Iraq. In some of the areas where poverty fell, changes in labor income and employment explain more than the half of the reduction in poverty, and in the others, they represent the second most important factor, explaining more than a quarter of the reduction in poverty. In those areas that experienced an increase in poverty, changes in labor income and employment moved in the opposite direction to the other forces and contributed negatively to poverty increase, or rather, mitigated the increase in poverty.*

*Higher employment contributed to poverty reduction only in 2 out of 5 sub-divisions where headcount rates fell, contrary to findings for the whole country. In the other 3 sub-divisions where poverty fell, lower levels of employment among the poor actually increased poverty. The same pattern was found among those divisions where headcount rates increased: changes (decreases) in employment contributed to increases in poverty.*

*Although changes in labor income are the main contributor to poverty reduction in most divisions, non-labor incomes also mattered. In those sub-divisions with significant decreases in poverty, changes in other private and public transfers compensated for the decline in implicit PDS transfer incomes.*

In order to unpack the dynamics of poverty reduction in Iraq between 2007 and 2012, this chapter decomposes the distributional changes in consumption

and income over this period, and examines the size and influence of various components in driving these distributional changes. In particular, this chapter answers the following types of questions:

- Was poverty reduction a result of demographic changes that led to a lower dependency rate?
- Was the observed poverty reduction the result of higher employment or higher labor income due to improved labor market conditions?
- Did welfare improve due to improved and more effective social protection policies, or perhaps due to an increase in private transfers or capital income?

Although these decompositions do not allow for the identification of casual effects, they help to focus the attention to the quantitative elements that are most important in describing changes in poverty. The insights provided by a deeper understanding of income and poverty dynamics can contribute to the evidence base for Iraq's policy-making going forward. It also identifies areas for in-depth analysis in the second half of the report that immediately follows.

We begin by discussing potential sources of the observed distributional changes in labor and non-labor income, employment and population components occurring over the period for the country as a whole and for the different divisions. We then provide an introduction to the model of consumption underlying the poverty decompositions and explore the main decomposition results. Finally, we examine some of the implications of these findings.

### Potential Sources of Consumption Growth and Poverty Reduction in Iraq

There are at least four factors that could have influenced consumption growth and therefore, poverty reduction over the period:

1. The demographic composition of the household; as measured by the share of adults per household (the inverse of the dependency ratio);

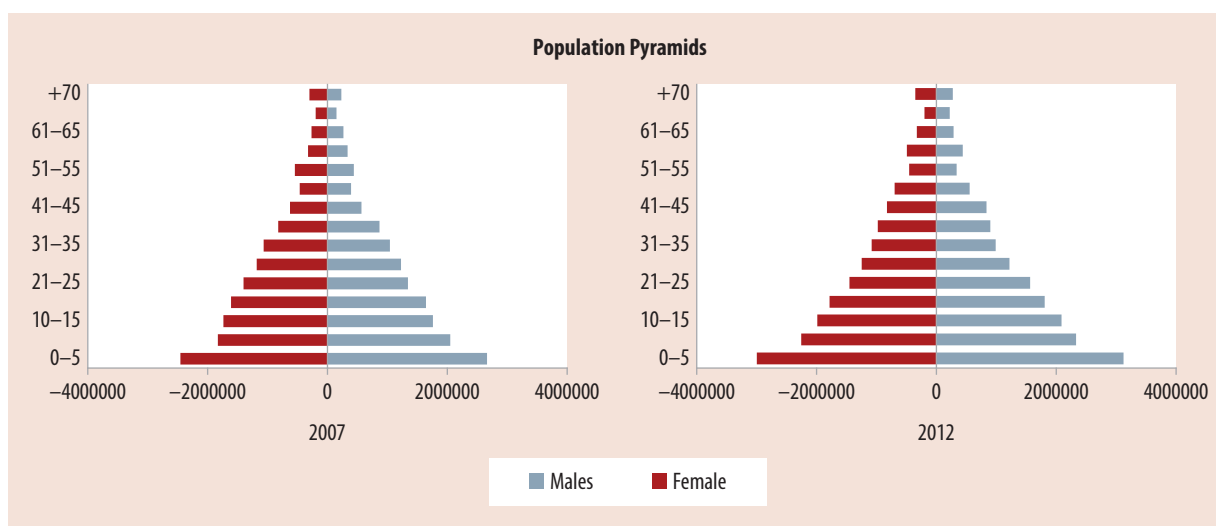
2. Growth in labor income as consequence of changes in employed members, movements in their earnings or a combination of both;
3. Growth in non-labor income, mainly in the form of public or private transfers; and
4. Changes in consumption or saving patterns.

Before undertaking the decomposition analysis, we first examine the trends for each of these underlying components of consumption over the 2007 to 2012 period.

First, changes in the demographic composition of households can play a role in determining household welfare by altering the dependency ratio or the number of earners relative to the number of consumers in a household. Indeed, the rate of population growth has increased in Iraq over the period, particularly for individuals younger than 15 years old. This cohort grew faster than the rest of the population. These demographic changes, however, translate into an almost constant average household size as a result of a decrease on average in the share of adults per household (Figure 131 Panel A and B). A lower number of adults per household generally implies a higher dependency rate and consequently, lower consumption per-capita, assuming that adult employment rates remain unchanged.

However, these overall trends for the nation as a whole do not necessarily hold in each of the divisions. Among the five divisions, the average household size as well as the number of adults over 15 years old grew in the North. Despite these increases, the age-dependency ratio has expanded as a consequence of an even higher rate of growth among younger cohorts (Figure 132 panel A). The opposite trend was experienced in Kurdistan where both the average household size and number of adults decreased, while the share of adults per household (inverse of the dependency ratio) increased (Figure 132 panel A). These trends still mask considerable heterogeneity across households within each region. Most importantly, note that in most divisions excluding Kurdistan, the share of adults per household among the poor decreased more than on average,

FIGURE 130: Demographic Changes



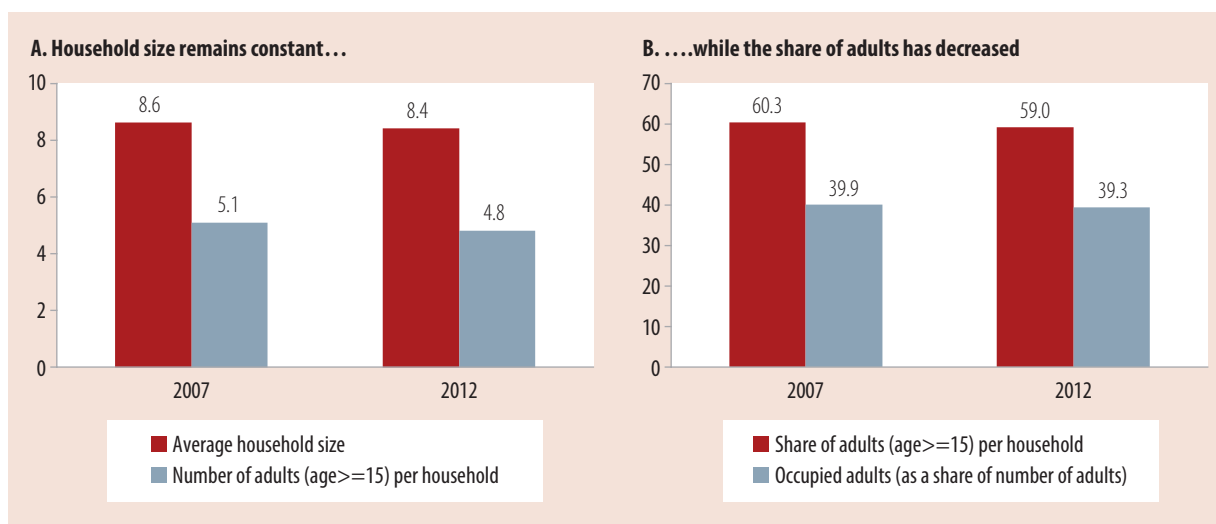
Source: Authors' calculations, IHSES 2007 and 2012.

implying that demographic changes among poor households were potentially acting against poverty reduction across much of Iraq (Figure 132 panel B).

Second, growth in labor income could be the main driver of the observed changes in poverty. This could be due to increases in the number and share of employed members or increases in labor income or a combination of both. As described in greater detail in next chapter, simple summary statistics reveal

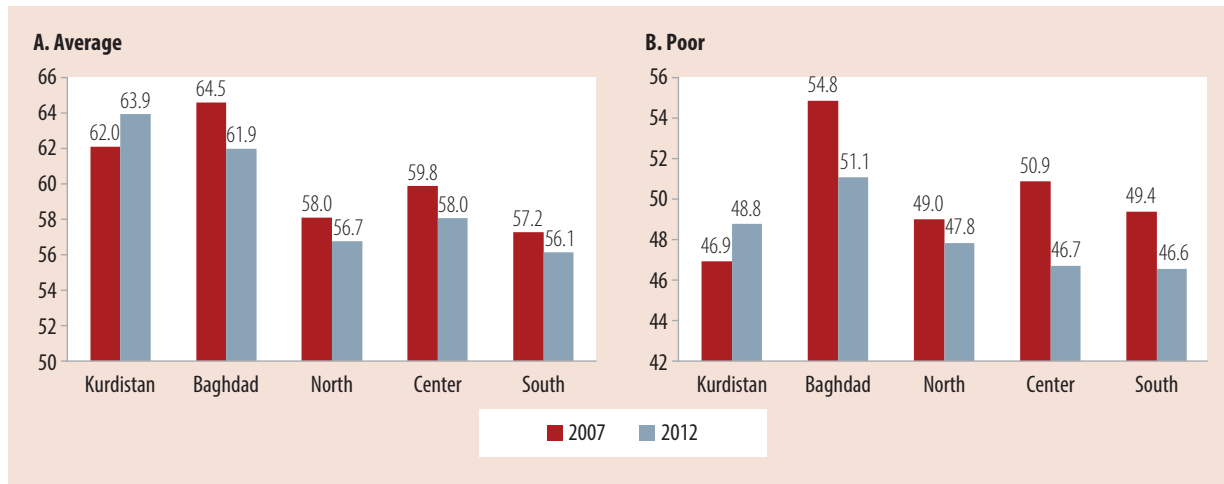
that despite the observed population growth, both labor force participation and the employment-to-population ratio decreased over the period, particularly for women. At the household level, the share of working adults (ages 15–64) slightly decreased (Figure 131 panel B), pointing to a potential decline in consumption attributable to lower work-force participation as a result of discouragement on the one hand and to lower employment rates for women on the other.

FIGURE 131: Demographic Characteristics



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 132: Share of Adults Per Household

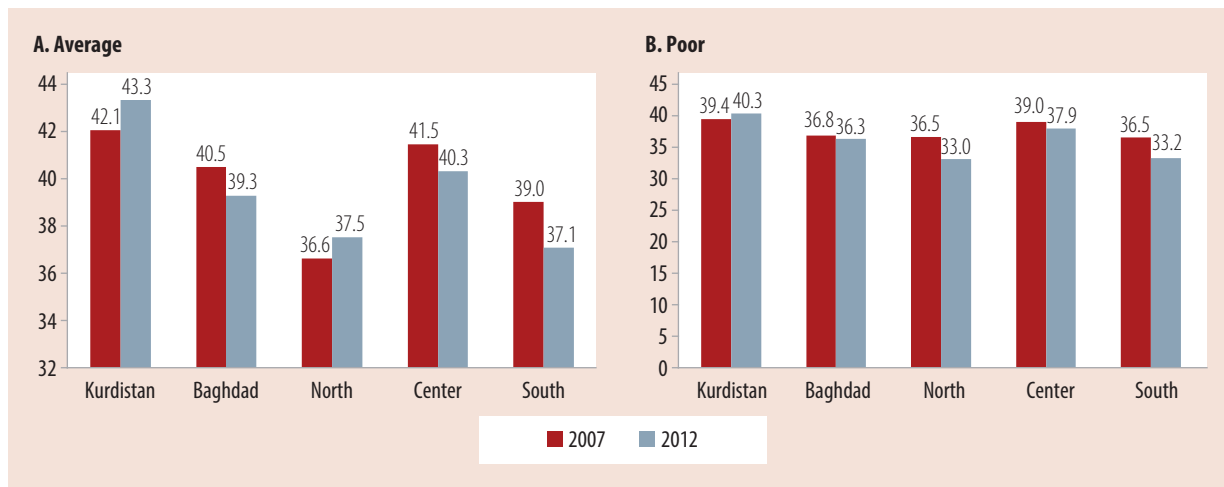


Source: Authors' calculations, IHSES 2007 and 2012.

This negative trend in the share of working adults holds true not only among divisions but also across households within each geographical division (Figure 133). The exception is Kurdistan which indeed experienced the opposite trend, with an increase in its share of working adults over the period for poor and non poor households. In each of the other divisions, even among poor households, movements followed the same trend as the average, although the magnitude of the changes are not significant except for poor households in the South and North, who experienced a significant decline.

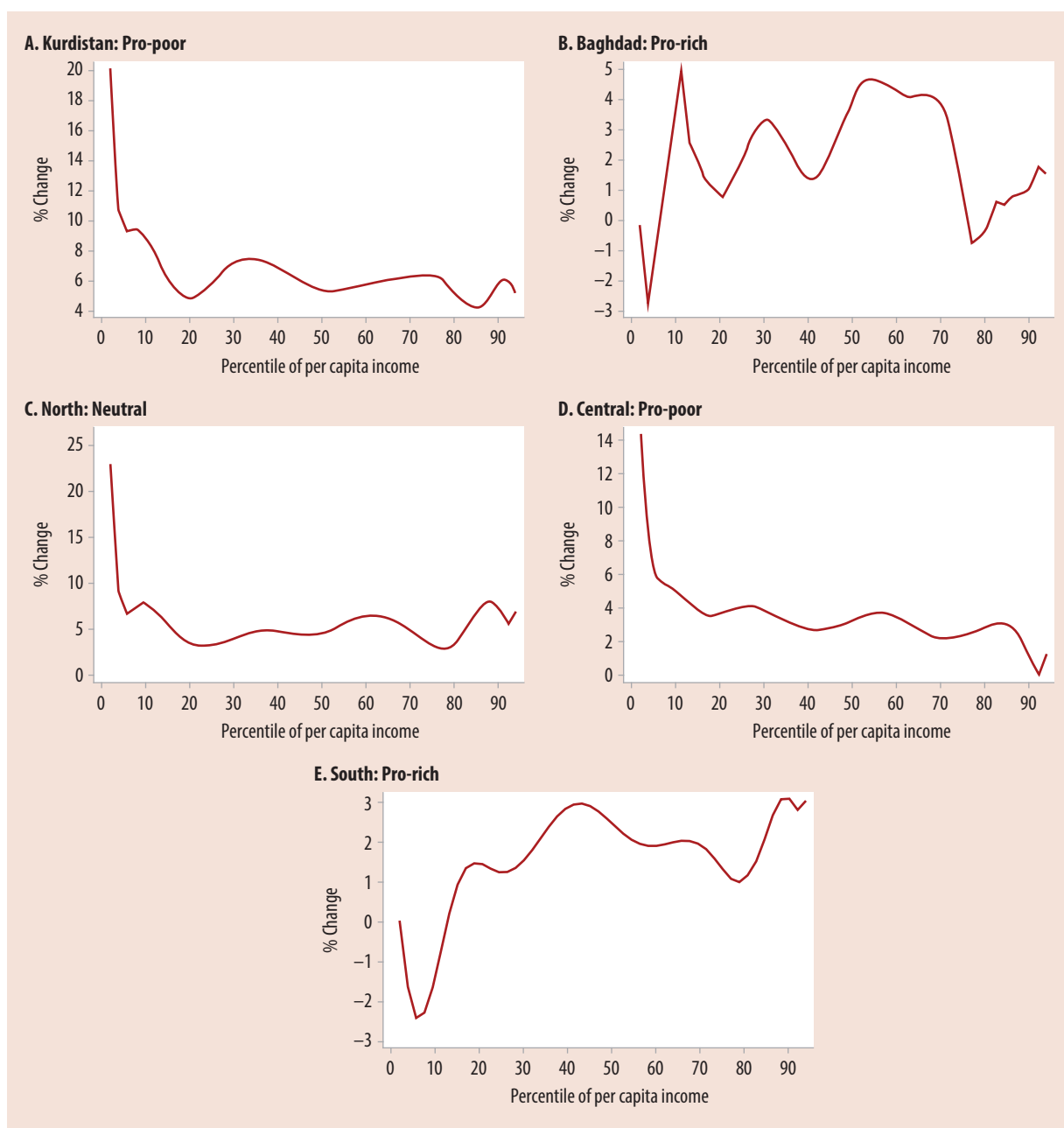
Having said this, earnings moved to counteract these lower employment rates. There is evidence that labor incomes per adult increased at the bottom of the distribution in most divisions except the South (Figure 134). Unfortunately, we cannot determine whether this is due to higher earnings per hour or due to a greater number of hours worked or a combination of the two. In any case, in most parts of the country, the incomes that the poor derive from their work have increased over the period.

FIGURE 133: Share of Working Adults Per Household



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 134: Labor Income by Region – Growth Incidence Curves



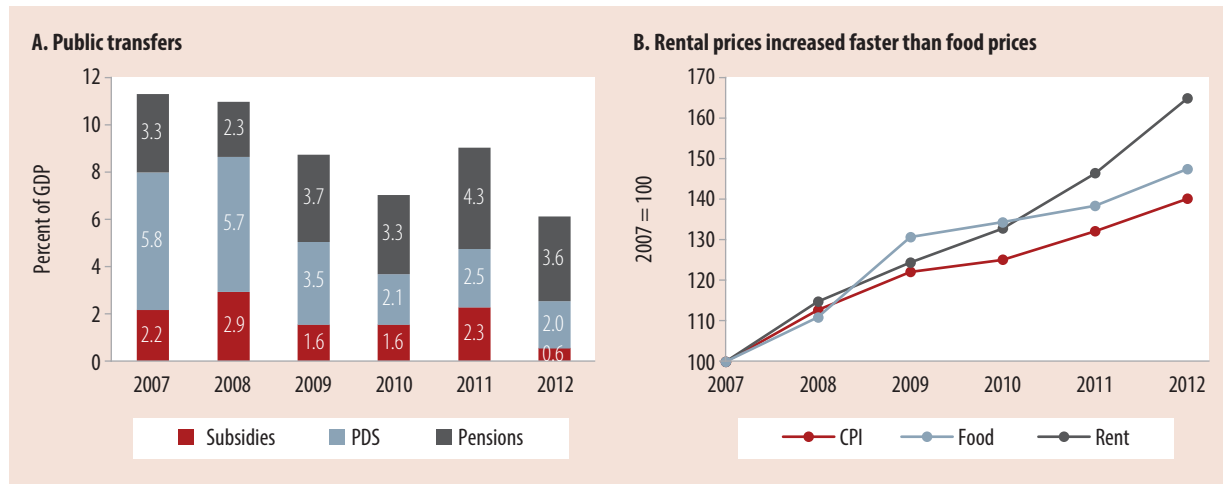
Source: Authors' calculations, IHSES 2007 and 2012.

Poverty reduction could have been related to growth in different non-labor income components. Figure 135 panel A shows the public transfers have decreased by almost 6 percentage points as a share of the GDP over the last 5 years. This represents a reduction of a 2.75 percent per annum in absolute terms (from almost 5.5 ID trillions in

2007 to less than 4.75 ID trillions in 2012 in real terms).<sup>37</sup> Government spending for subsidies have decreased as a share of the GDP while pensions

<sup>37</sup> Government social expenditures were deflated using GDP deflator for General Government in order to express it in 2007 prices.

FIGURE 135: Public and Private Transfers

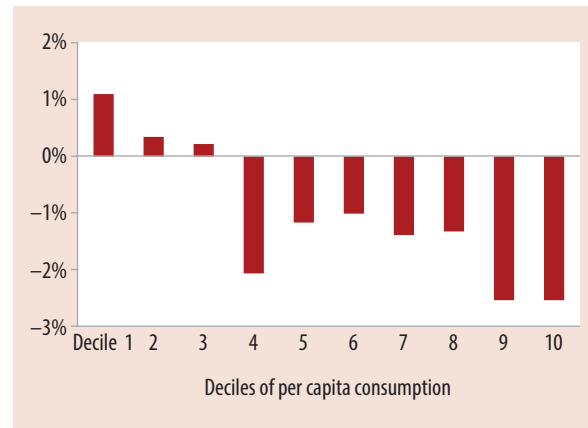


Source: Authors' calculations, PER (2013) and CSO (2014).

have partially compensated this trend by increasing 75 percent in real terms between 2007 and 2012 (from 1.3 ID trillions to more than 2.3 ID trillions in real terms for 2007 and 2012 respectively). Other social benefits in the form of transfers associated with the Public Distribution System (PDS) were cut in more than half over the 5 years period. In addition to public sources of transfers, flows of services from dwellings (i.e. the implicit rental income earned by living in owner-occupied households) have increased over the period. Rental values have in fact grown much faster than prices of food and non-food items over the 2007 to 2012 period (Figure 135 panel B).

Finally, in the absence of measurement error, changes in consumption-based poverty could also be related to changes in consumption and saving patterns. Faced with growing incomes, households could either increase consumption proportionately or they could increase their savings. However, given measurement errors in income and expenditure aggregates in households surveys, and the low rates of formal savings and credit in Iraq, it is difficult to differentiate between changes in household consumption on account of real behavioral shifts versus changes due to measurement. Figure 136 shows that in Iraq the consumption-to-income ratio increased for households at the bottom of the

FIGURE 136: Change in the Consumption-to-Income Ratio

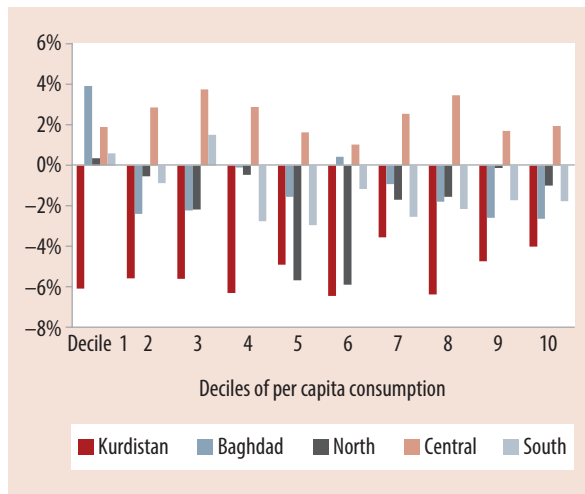


Source: Authors' calculations, IHSES 2007 and 2012.

distribution, while it fell for those at the top over the period.

However, this trend was not homogeneous across divisions. Indeed, the ratio fell across the whole distribution for Kurdistan and for almost all deciles of per capita consumption in Baghdad and North except the lowest decile. These behaviors in consumption patterns could be related to lower poverty rates and relatively higher welfare levels. The rest of the country matches the behavior of the country except for the Central division where the

**FIGURE 137:** Changes in the Consumption-to-Income Ratio by Division



Source: Authors' calculations, IHSES 2007 and 2012.

consumption-to-income ratio increased across the distribution (Figure 137).

All in all, each of the sources of change described above could have contributed in a positive or negative manner to the observed reduction in poverty over the period for the Iraq and each division in particular. The question we turn to next is how important the contribution of each of these forces was.

### Decomposing Poverty Reduction: 2007–2012

In contrast to methods that focus on aggregate summary statistics such as the growth and redistribution analysis in Chapter 2, the micro-decomposition methods applied in this chapter generate a series of simulations of entire counterfactual distributions to account for the contributions of different factors such as demographics, labor income, and non-labor incomes to poverty reductions. Underlying the decomposition is a simple model of household consumption. In particular, consumption per capita in household  $h$  is defined by:

$$C_h = \theta_h \left[ \frac{Y_h}{n} \right]$$

Where  $n$  is the total number of members in household  $h$ ,  $\theta_h$  is the consumption-to-income ratio, and  $Y_h$  represents the total income of household  $h$ .

We decompose the contribution of changes in real per capita consumption expenditures to poverty reduction following the Paes de Barros et.al. (2006) methodology. In particular, poverty reduction is divided into 4 main components: a household's propensity to consume, adult population in the household, labor income per adult, non-labor income per adult (Figure 138). This decomposition helps to estimate the relative contributions of each of the different components to changes in real per capita consumption and, consequently, to the observed poverty reduction over the last 5 years.

Figure 139 summarizes the contributions of the different factors to poverty reduction and the direction of their influence, so that the total contributions add up to (explain) a 100 percent of the total observed change in poverty. Changes in labor income played the most significant role in reducing poverty in Iraq over the 2007–2012 period. Moreover, it was the growth in labor income that contributed the most (145 percent) and more than compensated for the effect of the reduction in the number of workers or jobs (–2 percent) measured as the shared of occupied adults. In other words, had everything else stayed the same, the change in labor income alone would have generated a further reduction in poverty headcount rates to 18 percent instead of the observed 19.8 percent. However, we are not able to disentangle whether the increase in earnings was due to improvements in quality of jobs, changes in productivity, or simply due to longer hours.

The increase in the flow of the dwelling's services has also contributed to poverty reduction. Improvements in the economic situation and the significant increase in rental values would positively impact the actual value of the dwelling. In a country such as Iraq where more than 70 percent of the households own their dwellings, imputed rental values have played a significant role in poverty reduction by explaining more than a quarter of its change.