

The Unfulfilled Promise Of Oil and Growth

Poverty, Inclusion and Welfare in Iraq
2007–2012



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Foreword

Iraq is a nation with a promising endowment—in terms of its once rich human capital and ancient culture, agricultural potential and natural resources—whose potential has been repeatedly thwarted because of years of violence and insecurity. This difficult legacy has posed almost insurmountable development challenges that will take sustained effort and years to overcome. The period covered by this report, between 2007 and 2012, while one of relative stability, still represents just the beginning of Iraq's path towards reconstruction and recovery.

A key priority of the Government of Iraq since 2005–06 has been to fill the huge knowledge gap in terms of a deeper understanding of the state of the economy and of a range of socio-economic indicators of welfare with the objective of building a strong evidence base for effective policy making. This effort has been led since 2006 by the Poverty Reduction Strategy High Committee (PRSHC) of Iraq, a high-level technical working group whose members represent a range of stakeholders including parliamentarians, line ministries and academics. The first Iraq Household and Socio-Economic Survey (IHSES) in 2006–07 represented the most comprehensive survey of its kind in Iraq at the time, and benchmarked the welfare of the Iraqi population for the first time in decades. The IHSES team demonstrated incredible courage and commitment at a time of insecurity to implement this nationwide exercise. The Government of Iraq drew on international expertise to ensure the best possible standards for survey design and implementation; and the

analyses informed the first ever Poverty Reduction Strategy of Iraq.

This was not a one-off effort. Very soon, the team started planning the next survey, learning from the experience of the first round, and invested in technical improvements to the survey instrument, field procedures and survey scope, which has culminated in the second IHSES in 2012. This was accompanied by sustained capacity building and technical support from the World Bank; and the poverty measurement methodology evolved with this process. In a record three months after survey completion, poverty estimates were produced and agreed upon with the PRSHC using best practice methodology; and Iraq released its second poverty estimates in June 2013.

The rich analyses presented in this report, that goes well beyond counting the poor, to give an incisive understanding of the multi-layered development challenges faced by the nation is a testament to the commitment of the Government of Iraq, the staff of the Central Statistics Office and Kurdistan Region Statistics Office. It will form the basis for a new strategy for Iraq's development and to ensure broad-based welfare improvements for the population.

Throughout this process, the World Bank has been a steady partner to the government, in providing technical assistance and capacity building, and this is a collaboration we wish to continue. The new poverty map for Iraq, developed with the assistance

of the World Bank, which will provide estimates of poverty at the community level, will provide yet another tool to design effective poverty reduction policies in Iraq. We look forward to a long and productive collaboration with the World Bank to help build a more inclusive and prosperous Iraq.

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Conflict, Growth and Development

The overarching context for this report, which focuses on the period from 2007 to 2012, is Iraq's status as a resource-rich, fragile and conflict-affected state. The country has been a nexus of conflict and fragility since the early 1980s, and has experienced multiple types of conflict: insurgency, international war, sectarian strife, persistent terrorism, regional fragmentation, and spillovers from conflict in other countries. What should have been a promising endowment of natural resources (land, oil, and gas) and human capital did not provide the foundation for poverty reduction and shared prosperity, because the realization of potential was confounded by war and repression. Yet, externally imposed regime change in 2003 and a tortuous process of reestablishing elected civilian government had in principle set the stage for inclusive growth in Iraq.

The country's trajectory since the 1970s has been a series of divergences from regional and global trends, beginning first with the Iran-Iraq war of the 1980s and followed by the invasion of Kuwait, which was even more damaging, triggering comprehensive sanctions, which didn't end until the 2003 US-led invasion. During each phase, any hope of catch-up was thwarted by further events, and policy reform was off the table.

1991–92 forms a major rupture in Iraq's development trajectory. With the government consolidating around the goal of regime survival and the private sector unable to function, this was the beginning of large-scale detachment from government and the formal sector for many Iraqis—laying the roots of

profound marginalization. The space for market allocations was constricted since so much was taking place through administrative fiat, giving privileged access to state enterprises and certain cadres, especially during the sanctions era. Since the formal sector had to be run through the government, many market activities shifted to the informal sector, with consequent effects on productivity, investment horizon, and job quality. At the same time, the catastrophic decline of agriculture posed challenges for food supply and employment of the sector's workforce. While some problems predated the conflict era (irrigation water supply, salinity, and desertification), throughout the 1990s and beyond, the sector was afflicted by lack of access to critical inputs and low productivity. State-owned enterprises (SOEs) remained dominant and the state had no incentive to restructure SOEs; even aside from their value as a means of economic control, public sector jobs were one of the few reliable instruments that the post-2003 government had at its disposal. Far from being impetus to reform, growing oil revenues became an enabler of the status quo.

Spatial divergence became pronounced. Whereas the Kurdish region had been the most victimized before the 1990s, with de facto independence from Baghdad, and more flexibility—and access to cash—basic needs could be met more effectively. On the other hand, the southern provinces saw a double negative impact: the destruction of wars compounded by a failed rebellion. In principle, these trends should have been moderated post-2003 since the Iraqi government could direct resources to areas of greatest deprivation. In practice, the

significant variation in the quality of service delivery suggests the equalizing role of the central government was not effective. While oil continued in the enclave development model, other sources of economic activity such as pilgrimages, trade with Iran, and the Basra port, came into play as drivers of regional growth.

A cross-cutting element of Iraq's legacy is severe economic and social fragmentation. Civil conflict created substantial internal displacement corresponding to ethnic and sectarian divisions. Baghdad became a city of internal boundaries formed by blast walls, checkpoints, and no-go areas. For the country as a whole, a basic prerequisite of economic development—internal integration—was lost. Increasing sectarian violence in 2013 and militancy and armed insurgency in 2014 have further fragmented the nation, leaving swathes of the country outside government control. Achievement of the twin goals of ending extreme poverty and boosting shared prosperity is bound to be an uphill struggle in this context. Quantitative evidence suggests that while development efforts by the government and other actors can mitigate the negative role of violence, the required effort is substantial. Thus, on a macro-economic level, and absent the establishment of peace and security in the nation, maintaining growth can in itself be a challenge in Iraq, and without these two pre-conditions in place, poverty reduction and broad-based prosperity will be difficult to sustain.

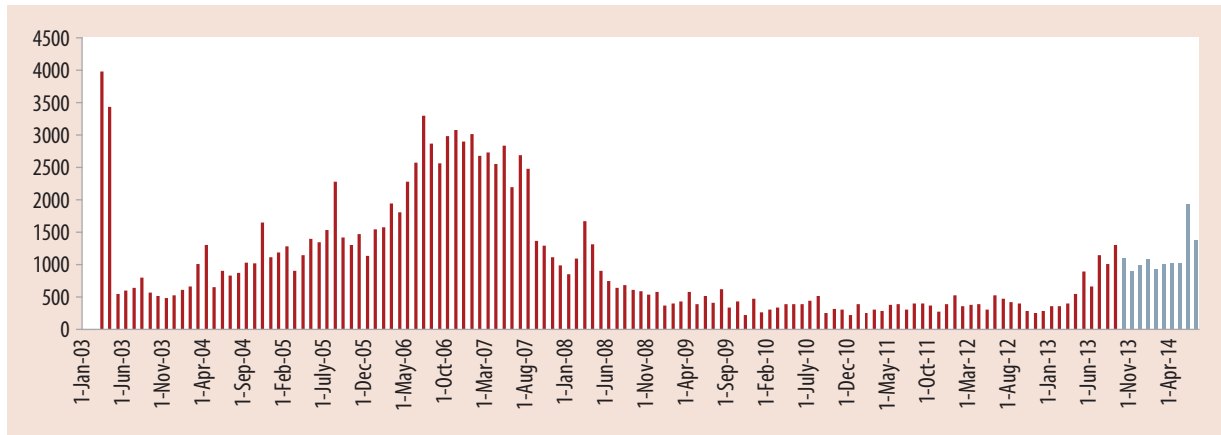
Introduction

The 2011 *World Development Report* (WDR 2011) highlighted the interaction of conflict and fragility with poverty and exclusion. Not only do countries affected by major violence experience slower poverty reduction, the effects are cumulative. “On average, a country experiencing major violence over the entire period (1981–2005) had a poverty rate 21 percentage points higher than a country that saw no violence”. While the cost in terms of human life falls disproportionately on men, children and women bear significant indirect costs; not to mention the consequences of large-scale displacement. Beyond these human costs, large-scale and protracted

violence stalls social development, is associated with large losses in productivity, as well as the destruction of assets and infrastructure. The WDR notes that conflict is typically recurring, and it can take a generation to recover from the setbacks to poverty reduction associated with conflict. At the same time, jobs and access to services, especially security and justice, are critical to peacebuilding, catching up on deferred progress, and reducing the susceptibility to conflict relapses.

Iraq provides an apt case study for this framework. The country has been a nexus of conflict and fragility since the early 1980s, and has experienced multiple types of conflict: insurgency, international war, sectarian strife, persistent terrorism, regional fragmentation, and spillovers from conflict in other countries. What should have been a promising endowment of natural resources (land, oil, and gas) and human capital did not provide the foundation for poverty reduction and shared prosperity, because the realization of potential was confounded by war and repression. Yet externally imposed regime change in 2003 and a tortuous process of reestablishing elected civilian government had in principle set the stage for inclusive growth in Iraq.

This poverty and inclusion assessment provides the first in-depth analysis of Iraq's economic and social development spanning the period 2007 to 2012, since the end of sectarian war of 2006–07, accompanied by recovery in the oil sector, a massive scaling up of oil revenues, and extensive efforts by the government to meet the high expectations of the people. However, Iraq's relationship with violence is not yet at an end: in 2013, sectarian violence led to an increase in civilian mortality that has not been seen since the 2007 spike in violence (Figure 1). Moreover, a violent insurgency in 2014 has left parts of the country outside of government control, leading to massive internal displacement in parts of the country yet again. This report therefore covers a period of relative stability in Iraq, following the end of the sectarian violence of 2007, and ending in 2012, prior to the militancy and insurgency in the northern governorates of the summer of 2014.

FIGURE 1: Civilian Deaths in Iraq, 2003 to Present

Source: Iraq Body Count, <https://www.iraqbodycount.org/database/> (Retrieved: July 29, 2014).

Note: Casualties since October 2013 are estimates that have not yet been verified.

This introductory chapter contains six further sections. Section 2 discusses the decades-long experience of internal strife, war, and sanctions which left indelible marks on Iraq. Section 3 looks at the more immediate context for understanding poverty and inclusion in Iraq in terms of the aftermath of the 2003 invasion and later civil war. Section 4 moves specifically to the economic policy context within which the current socio-economic outcomes are unfolding. Section 5 summarizes in terms of the legacy of all these factors, which provides a framework for thinking about the findings of subsequent chapters. Section 6 presents quantitative estimates of the relationship between conflict, development efforts and growth in Iraq for the post-2003 period, and section 7 concludes with the framework of analysis and outline of the report.

Repression, Invasion, and Sanctions

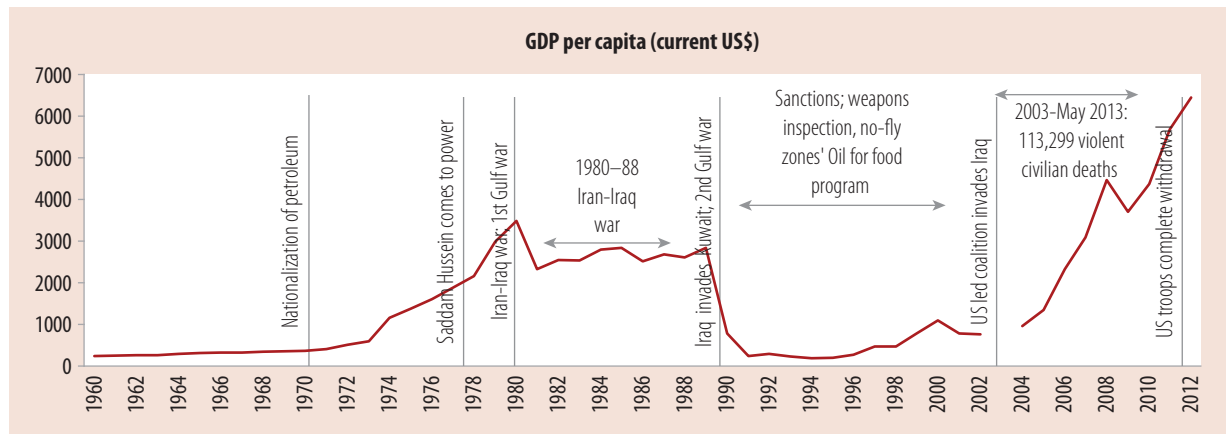
Although the long sweep of Iraqi history is fairly well known, it is useful to think about the country's trajectory since the 1970s in terms of a series of divergences from regional and global trends, during which time any hope of catch-up was thwarted by further events. The result of these divergences was to negate the beneficial effects of Iraq's promising endowment (agriculture, hydrocarbons, and

human), leaving the country with significant challenges of delayed development today.

In the 1970s, Iraq was still in the Arab mainstream. Although in policy terms this was associated with Nasserite statism and authoritarianism, the state was playing a clear developmental role, meaning provision of infrastructure and scaling up of access to social services. At the same time, the surge in oil prices in the 1970s generated substantial revenues for the state and increased per capita income (Figure 2); there were ambitious plans for further increases in production in the oil sector. Unlike the Gulf states, Iraq had reasonable capacity for absorbing oil revenues at home (as opposed to overseas saving), and prospects for oil-financed development were plausible, even allowing for some of the pitfalls of this state-centered mode of development.

Nevertheless, warning signs were already present by the late 1970s. Even by the standards of the region, the rule of Saddam was taking on an increasingly autocratic character, including purges within the Baath party apparatus and brutal suppression of dissent, notably among the Shia and Kurdish populations. The 1979 Islamic Revolution in Iran altered the geopolitics of the region, so whereas the Saddam regime was once seen as part of a modernizing republican/presidential group of states in contrast

FIGURE 2: GDP Per Capita (current US\$), 1960–2012, and Timeline



Source: World Development Indicators (2012); estimates for 1990–1996 from CSO, Iraq.

to the Gulf monarchies, both Iraq and Gulf states were now aligned against the Islamic and Shia fundamentalism emanating from Iran.

This culminated in the costly 1980–88 war with Iran—initiated by Saddam—which marked the first of Iraq’s divergences from its neighbors. While this period was associated worldwide with the first wave of reducing the role of state and structural reforms, in Iraq the war effort further centralized the allocative role of the state, favoring corruption and connections over private sector development. In practical terms, the war front involved Iraq’s key oil producing and exporting facilities in the south, putting an end to oil sector expansion plans and causing considerable destruction. While Iraq was still able to produce and export oil during this period, and benefitted in terms of access to global commerce from suspicion about Iran, the economic base was narrowing as defense and food imports were prioritized. The country’s capital market access dwindled to *de facto* or *de jure* official sources, such as export credit guarantees and loans from the GCC countries.

As can be seen in Figure 2, Iraq’s development trajectory during this period was stalled growth rather than collapse of the economy. Certainly, GDP per capita stagnated during the 1980s, but this was the typical experience for the region’s oil exporters due to low prices and cuts in production in response to

declining global demand. However, whereas in other developing countries the loss of momentum in development was the impetus for structural reform, in Iraq, policy reform was off the table, leaving in place the 1970s structures of a large role for the state, ossified administrative procedures, subsidies, and crowding out of the private sector.

The end of the Iran-Iraq war brought little respite. In principle, Iraq had the opportunity to use the reconstruction effort to drive a broader catch-up with the lost years of the 1980s. However, the Saddam regime was instead focused on its own entrenchment, and a sense of impunity around the inner circle was pervasive—with a severe deterrent effect on anyone who might come to the attention of the regime. In economic terms, the war had left large a debt overhang, a considerable amount in the form of war loans from the Gulf countries. The combination of deteriorating relations with the Gulf countries over these debts with Saddam’s increasing sense of nationalistic grievance proved to be a lethal combination, leading to the invasion of Kuwait in July 1990 and then a multinational military operation to liberate Kuwait and destroy Saddam’s invasion force in January 1991.

This early 1990s period was Iraq’s second divergence, and in many respects it was more damaging than the first. Unlike the Iran-Iraq war, where

Iraq had significant tacit international support, the invasion of Kuwait was almost universally seen as a catastrophic miscalculation which had upended the sovereign norms of the Arab world. The invasion resulted in an overwhelming alignment of Arab countries against Iraq (including all the Gulf countries, Jordan, Egypt, and Syria), with one of the few dissonant notes coming from the PLO and Yemen. As is widely known, the US-led force which liberated Kuwait pursued Saddam's military into southern Iraq, compounding the destruction in the southern provinces from the Iran war era. However, the coalition could not agree on an extension of the mission to remove Saddam from power and he was left in place. This lack of finality meant that Iraq would continue under a stringent UN sanctions regime (initiated following the invasion of Kuwait) until 2003.

The immediate aftermath of the 1991 war was stark. Encouraged by the belief that Saddam's demise was imminent, there were significant uprisings in the Shia-dominated south and Kurdish north. The coalition intervention was limited to imposing northern and southern no-fly zones. This has limited effect in the south because the regime could still move in ground forces, but the Kurdish region took advantage of its geography and universal disenchantment with the central government to establish a *de facto* autonomous region based on the three provinces that already had a nominally special status within Iraq dating from the 1970s. Backed by its own Peshmerga militia, the Kurdish Region was able to enforce its separation from the regime in Baghdad. However, one consequence of this was that Iraq now had a fragile internal border in the north, with ethnic groups scattered both sides of it and extensive hydrocarbon resources below it. This set the stage for forced displacement as the regime continued with a policy of "Arabizing" the areas in northern Iraq that it controlled.

As already mentioned, Iraq came under extremely tight UN sanctions following the invasion of Kuwait. Exports and imports were subject to a sanctions framework in which all oil export revenues had to be paid into a designated US bank account, with

5 percent going off the top for Kuwait reparations, and other revenue released only to finance approved essential imports, most notably food and medicine but also basic industrial parts and equipment. Since the government's entire policy framework—for jobs, subsidies, and investment—had been predicated on access to oil revenues, the result was near-total economic collapse by the middle of 1991.¹ The scale of the decline in GDP per capita in 1990–91 compared to that in the early 1980s (which reflects the combined effect of oil price decline and war with Iran) is striking.

A critical aspect of the post-1991 sanctions environment was the protracted process for putting permanent arrangements in place, during which time the most stringent form of the sanctions applied. As a result, the 1990–91 GDP decline was locked in for a decade, in contrast to the normal pattern of a reconstruction-driven recovery. There was a wide divergence between the Saddam regime and the UN Security Council over the structure of sanctions. Negotiations took several years, and given its secure grip on control, the regime had little incentive to take general well-being and the impact of sanctions thereon into account. A workable sanctions system in terms of meeting national humanitarian needs was not in place until 1996 and industrial imports were essentially frozen for the entire decade. Oil output in 1995 was less than in 1960. The oil sector could only accomplish routine maintenance—enough to keep crude export flowing at something like post-1991 levels, but new investment, or even reinvestment to maintain existing capacity, was ruled out. As the country had defaulted on most of its international financial obligations following the invasion of Kuwait, its capital market access was gone and its domestic financial sector was insolvent.

For ordinary Iraqis, the operational impact of the sanctions regime was through government delivery

¹ The consequences in terms of welfare indicators is described in Dreze, Jean and Haris Gazdar, 1991. Hunger and Poverty in Iraq, 1991, World Development Vol. 20, No 7, pp 921–945.

of food rations and medicine under the auspices of the Oil-for-Food program, all under UN oversight.² The performance of the Oil-for-Food program itself became a point of controversy in the run-up to the 2003 invasion, but it seems clear that the food component thereof—the Public Distribution System (PDS)—did succeed in delivering a monthly subsistence ration to most Iraqis between 1996 and 2003. Nevertheless, the sanctions did have somewhat paradoxical effects: although targeting the regime, their effect was to increase the power of the regime since it had a role in delivering the goods and awarding the various export and import contracts under the program. Thus, incentives for corruption (especially given the ease of trading spot cargoes of oil) were considerable. The signal to the private sector about what kind of activities would be rewarded was unmistakable.

With a broader development policy agenda off the table, these post-war arrangements remained dominant throughout the 1990s. The Kurdish region began putting the basics of a state—in administrative terms, a replica of the Iraqi state—in place. The Shia majority provinces were already neglected in the pre-1991 era and now subject to the distrust of the Baghdad government. The private sector had never been given a major role in Iraq's economy, and there was no internal or external impetus for modernization of private sector (e.g. WTO membership). Relations with the Gulf had ruptured in 1990, and land trade routes to the Gulf were effectively closed. For practical purposes, the only open land routes were through Syria and Jordan, and these routes are not aligned with Iraq's major commercial centers which were on a north-south axis reflecting the historic influence of the rivers and the Ottoman orientation of the pre-independence administration.

It is worth noting that by the early 2000s, Iraq had already endured 20 years of disruption and isolation. Although the regime had little interest or ability in playing a developmental role, it was well-entrenched and any potential opposition had long since been repressed or exiled. A chronic brain drain which had begun in the late 1970s accelerated

with each phase of isolation, while the brain drain compounded that isolation as the country lost its intellectual connections to the outside world. Any commercial opening to the world required the approval and facilitation of the regime apparatus: this was privilege in extreme form, and hardly the stage for inclusive growth.

Reconstruction and Insurgency

Although the 2003 US-led invasion generated numerous impacts, for the purposes of the poverty and inclusion assessment, some pertinent after-effects are as follows. In quick succession during 2003–04, the Iraqi administrative and security state was dismantled and then reassembled. Administrative and Baath party structures were abolished and the former reinstated, but at the cost of an enormous loss of remaining capacity as much of the public sector did not know who they worked for. By 2004, there was a rapidly deteriorating security situation which transformed into the sectarian civil war of 2005–06, resulting in high levels of displacement across the country and within Baghdad. With a limited range of instruments to respond, the government placed emphasis on security spending and public sector jobs and pay increases to secure the loyalty (or at least the non-defection) of the public.

The security situation made it impossible for the government to focus on reconstruction (especially for fragile network infrastructure like electricity and water) or chronic and accumulating sector problems such as agricultural decline. As a result, broad-based economic development and diversification, which needs such basic infrastructure, was effectively on hold until some semblance of stability could be restored. At the same time, a new layer of displacement and internal fragmentation of cities was added to previous episodes. In terms of economic growth, the oil sector started to ramp up production, but in an enclave model of development: the focus of

² In the Kurdish region, the food ration delivery was managed directly by UN agencies.

the companies was on oil-field rehabilitation and export infrastructure. Thus there were limited local spillovers and a downgrading of priorities that usually feature in emerging natural resource producers, such as local content development.

With restored oil production coming on stream at a time of high and rising global oil prices, large amounts of revenue and spending began flowing through the government, but in a context of very weak public financial management (PFM) and governance mechanisms. In the face of instability, the government had no appetite to undertake major reform of state-owned enterprises (SOEs), even though many had been defunct since the 1980s. Despite their lack of viability, the government could rely on the two large state-owned banks, Rafidain and Rashid—themselves insolvent—to lend to the SOE sector for payroll financing. This locked in continued state dominance of financial sector, since a financial sector restructuring would have opened up the question of broader SOE reform.³

In terms of the social safety net, the PDS continued to function as a universal food ration and the backstop to subsistence consumption for the country. There were also universal price subsidies for energy, although these have been somewhat reduced over time by eliminating on-budget fuel subsidies. Iraq continues to spend a sizable percentage of its social protection budget on pensions. In 2010 more than 4 percent of Gross Domestic Product went to pensions. This is among the highest levels of spending in the region. Emergency policies that were implemented after April 2003 replaced regular pensions with emergency “flat” payments paid directly from the Ministry of Finance budget, with very limited contributions from employers and employees. At the same time, only around 25 percent of the total labor force in Iraq is covered by a mandatory pension system (most of these public sector workers). Only around two percent of the labor force in the private sector is actually covered. Therefore, there are now various calls for reform of the pension system, including full integration of the public and private sector scheme as one fund, and

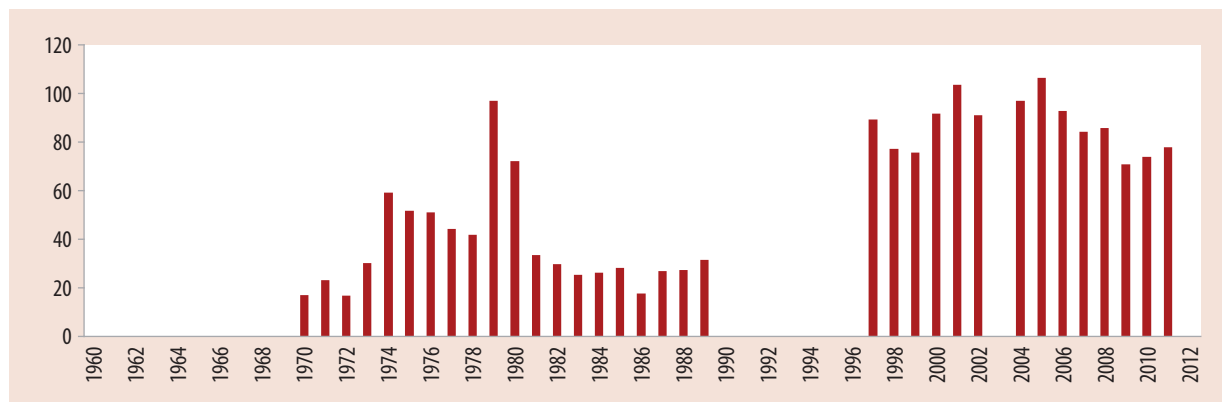
ensuring the system’s adequacy, affordability, and fiscal sustainability.

The other, smaller, pillar of social protection is a cash transfer program. Along with *ad hoc* transfers to the vulnerable such as from religious foundations, it can be an important source of income for households in specific categories. The use of broad social categories rather than more effective targeting mechanisms (such as proxy-means testing or geographical targeting) to determine eligibility is likely to result in the majority of the poor falling through the cracks of the non-subsidy safety net.

While oil remained the main driver of economic and fiscal developments, there were other bright spots, notably the reopening of trade with Iran and a revitalization of the pilgrimage cities (Najaf and Karbala), also linked to increased openness with Iran. But there was no transformation in the structure of GDP; it is noticeable that the share of oil rents in GDP remained broadly stable from the mid-1990s to the present, despite the tumultuous events during this period (Figure 3). The crude oil sector accounted for 44 percent of real GDP in 2012.

Overall, the reconstruction period marked the beginning of the end of Iraq’s divergence from the region. However, the reintegration was very incomplete. Civil war acted as a further deterrent for skilled Iraqis to remain in Iraq, or for the externally displaced population to return. Foreign investors were likewise deterred. Relations with the GCC countries remained frozen, and unresolved legacy debts with the GCC countries outside the Paris Club framework acted as a legal impediment to commercial relationships.

³ The public sector’s total domestic obligations have increased significantly since 2009. Total obligations increased from ID 5.2 trillion at end-2009 to ID 16.2 trillion at end-2012 (6.5 percent of GDP). The obligations are composed of (1) T-bills held by the banking system and bank loans totaling ID 7.5 trillion; and (2) government guaranteed loans by state-owned banks to state-owned enterprises totaling ID 8.6 trillion.

FIGURE 3: Oil Rents (% of GDP), 1960–2012

Source: World Development Indicators (2012).

Very little structural policy reform took place during the reconstruction period, and private sector development is probably the weakest reform area of all. Iraq ranks 169 for starting a business and 189 for resolving insolvency—the worst score in the world—because it is not possible to legally close a business. The informal sector in Iraq is very large vis-à-vis the formal sector and formal sector firms are squeezed between SOEs with open-ended funding and informal firms that don't have to comply with the same rules as them.

Current Policy Framework

The legacy factors and economic circumstances discussed above are mediated partly through the prevailing economic policy framework. This section outlines this policy framework and describes how some key economic outcomes are affected by it. Perhaps the dominant influence on households is that in the post-2003 era, public sector jobs and numbers became part of the oil redistributive mechanism. This is the pattern throughout the MENA region, but it had been somewhat constrained from operating in Iraq as oil revenues were preempted by war and sanctions, so oil revenue management had not been a significant area of discretion for the government since the early 1980s. However, once revenues started to increase and public sector positions were one of the few things the government could reliably deliver, oil

revenue became an enabler of rapid growth in public sector employment. The size of the public sector in Iraq—measured by public spending-to-GDP ratio—is one of the highest in the region (61.1 percent of GDP), and the approximately 4 million public sector employees account for nearly half of total employment. Government and state-owned enterprises employ approximately half of the labor force. The wage bill in the public sector and military jobs consume a large part of the recurrent budget.

Yet growth in public sector employment has not animated the labor market overall: participation rates remain exceedingly low, especially for women. Multiple factors explain low participation including lack of security, “wait unemployment” pending a public sector job, and substantial numbers of discouraged workers as the labor market does not generate appealing jobs. The gains associated with public sector employment are substantial: one study (ERF) found based on 2007 data that the most important determinant of receiving formal benefits is the sector of employment: public sector workers are 83 percent more likely than private sector workers to have formal benefits.

International trade would normally be expected to be a driver of integration. The potential for trade to grow would similarly be expected to be high, as the constraints of sanctions were relaxed. But in addition to the challenges of insecurity, trade was also subject to the vagaries of geopolitics. The country

had only one consistent trade partner in the entire post-1991 era (Jordan), while its relations with other neighbors were in constant flux as they calculated how to position themselves to their own advantage and the disadvantage of others. For example, Syria and Iran had complex stances during the 2006–07 civil war, which included enabling the transit of Sunni militants, while over time Turkey has varied its emphasis on relations with Baghdad and Erbil, depending in part on its own energy strategy.

Iraq has trade barriers, mainly regulatory and bureaucratic practices, which restrict the level of trade and investment. These include increasingly burdensome import procedures, corruption at the border, stringent requirements on certificates of origin, pre-shipment inspection certification requirements on agricultural products; significant behind-the-border barriers and inadequate mechanisms in place to perform these processes or revise them to more progressive ones. Many of these issues can be traced to Iraq having been largely absent from the international trading stage for more than three decades, other than with regional trading partners, and having little experience with free trade as a result. Instead, trade relations are seen as an extension of political relations.

Iraq has an unusual macroeconomic stability context, even allowing for the effects of oil and conflict. Because of the structural weaknesses of the financial sector, the economy is cash-based and somewhat dollarized, given the Iraqi dinar peg to the US dollar (ID1170 per dollar). In turn, the peg is a product of an exchange-rate based stabilization during 2006–2008 which was designed to bring down high inflation. As with many exchange rate based stabilizations, this appears to have contributed to persistent overvaluation of the currency, compounding the standard effects of Dutch Disease in squeezing the traded goods sector. While there are high headline GDP growth rates, these are driven by expansion in crude oil production. At the same time, there are strong indications of capital flight, which serves to constrain domestic non-oil investment. When combined with fragility and insecurity,

this policy mix favors short-term and easily reversed investments over the sustained commitments that Iraq needs to boost its growth potential.

The content for intergovernmental fiscal relations is also important. Iraq is designated a federal state in its constitution. The common subnational layer is composed of governorates, of which there are 18; 15 are not grouped into a region. The constitution permits the formation of semi-autonomous regions from one or more governorates, but to date only the semi-autonomous Region of Kurdistan, with 3 governorates, operates in this fashion. The boundaries of KRG reflect a 1970s arrangement by the Saddam regime to moderate separatism, but meaningful autonomy dates from 1991. With the exception of this region, subnational powers are limited.

It is important to note that a revised provincial powers law passed in 2013 which substantially increases the power of the elected provincial governments, especially over public service delivery. But this law has not yet been implemented. This illustrates a more general issue that the assignment of powers and responsibilities between the layers of government is incomplete and a large grey area is left to be determined by power politics.

Exclusive federal powers include (a) “drawing foreign sovereign economic and trade policies ... setting up general budget of the nation and drawing up currency policies”; (b) drawing up financial and customs policies; and (c) planning policies connected to water resources from outside Iraq. There are also a set of powers that are shared by federal authorities and regional authorities which may require some coordination between the two levels of government—for example general planning and development policies, administration and organization of customs and organization and distribution of the main electrical power resources.

Virtually all expenditure and revenue assignments are central, with policies established in Baghdad and implementation through de-concentrated agencies of central ministries in the governorates and

municipalities. The share of total public spending executed through federal government including de-concentrated structures is estimated to exceed 90 percent. The two exceptions are (1) a small number of capital projects assigned directly to governorate administrations for implementation and (2) projects that are included in the “Regional Development Program” which is a special item in the budget (around ID4 billion) allocated to the governorates using a formula which is intended to capture needs.

Global experience with service delivery shows that functioning of administrative systems can have a strong influence on performance. In Iraq, public financial management (PFM) is a known area of weakness. In practical terms, this can mean the coexistence of aggregate revenue abundance and line ministries, especially in the governorates, that are often short of cash. The Ministry of Finance (MOF) has treasury operations in each governorate. Line ministries have their own offices at each layer of government including municipality and they execute their local activities through these offices rather than through the local government. The revised provincial powers law is supposed to bring these operations under provincial control.

Provincial councils have little power as most services are delivered by de-concentrated offices of central ministries. They have no hiring authority. However the provincial councils do play a role (jointly with the Ministry of Planning) in formulating and executing the provincial capital projects included in the National Development Plan. In KRG, provinces have more autonomy over services, but employees are appointed by the regional government and paid out of the 17 percent revenue allocation from the center. Districts and municipalities engage in purely local services, such as street paving and cleaning, and feeder roads.

Legacy

The purpose of the above overview has been to set the context and expectations for the poverty assessment.

Some key emerging messages are as follows. First, 1991–92 forms a major rupture in Iraq’s development trajectory. While the Iran-Iraq war was costly and destructive, the state had managed to maintain its core functions, and Iraq was not isolated from the world during the 1980s. However, the invasion of Kuwait triggered comprehensive sanctions months before Operation Desert Storm, and as noted above, the sanctions era didn’t end until 2003. With the government consolidating around the goal of regime survival and the private sector unable to function, this was the beginning of large-scale detachment from government and the formal sector for many Iraqis—laying the roots of profound marginalization.

Second, the space for market allocations in Iraq was constricted since so much allocation was taking place through administrative fiat. Throughout the sanctions era, state enterprises and certain cadres (military, Ba’ath) were given favored access to imports. This was privilege and connectedness in extreme and debilitating form. Since the formal sector had to be run through the government, many market activities shifted to the informal sector, with consequent effects on productivity, investment horizon, and job quality. A closely related issue is the impact of governance shortfalls on diversification: if effort and resources are being pulled into distortions caused by deficient procurement, arbitrary decision-making, and excessive procedures for commercial transactions, they are being directed away from job creation and productive investment.

Third, spatial divergence became pronounced. Whereas the Kurdish region had been the most victimized before the 1990s, with de facto independence from Baghdad, food and nutrition distribution was directly implemented by UN agencies. These had more flexibility—and access to cash—than the Baghdad government for the rest of Iraq, meaning that basic needs could be met more effectively. On the other hand, the southern provinces saw a double negative impact: the destruction of wars now compounded by a failed rebellion. In principle, these trends should have moderated post-2003 since Iraqi government could direct

resources to areas of greatest deprivation. The administrative system for governorates not in a region is de-concentrated and therefore might be insulated from capacity differentials across regions. In practice, there seems to be a significant variation in the quality of delivery of common services across the country: the equalizing role of the central government was not effective. There is considerable World Bank knowledge on approaches to establishing (or re-establishing) social cohesion and basic services in conflict-affected and fragile environments. However it is worth noting that three well known cases—Indonesia Kecamatan Development Program (KDP) and local government support in Bangladesh and Sri Lanka—arguably represented cases of strong central governments seeking a direct channel to local communities. Iraq's central government did not have this type of capacity, and thus gaps in local services across the country were highly persistent.

With the uneven nature of security restoration across the country, the ingredients for a new set of divergences between the provinces were now in place. Since the southern provinces were finally out of the grip of a hostile government in Baghdad, and home to many of the country's oil fields, the pace of economic development could pick up. While oil continued in the enclave development model, other sources of economic activity such as pilgrimages, trade with Iran, and the Basra port, came into play as drivers of regional growth. On the other hand, the provinces north and west of Baghdad were in effect contested regions: between sects, ethnicities, tribes, and insurgents, all interacting in different ways with the government. In particular, the government faced a complex calculation vis-à-vis the provinces: those with clear majorities of one sect could be taken for granted—perhaps to their detriment—while those with more finely balanced populations could also attract more competition for influence but also more violence and insecurity.

Fourth, there was a catastrophic decline of agriculture, posing challenges for food supply and

employment of the sector's workforce. Cereals production in 2000 was around one quarter of its 1990 level. Some sector problems predate the conflict era (irrigation water supply, salinity, and desertification) but throughout the 1990s the sector was afflicted by lack of access to critical inputs. Severe droughts in the late 1990s made things worse. Again, the Kurdish region fared somewhat better due to availability of rain-fed land and the ability to source inputs through grey markets outside the sanctions regime. Thus with more effective food distribution and more diversified supply, nutritional outcomes in northern Iraq began to diverge from the rest of country in the 1990s.

Fifth—and related to the second point above—state-owned enterprises (SOEs) remained dominant. Agriculture is a good example: the agricultural inputs industries were concentrated around Baghdad both to provide sources of patronage and ensure regime control of the sector nationwide. This would prove to be a major vulnerability from 2003 onwards, as insecurity disrupted the sector's supply chain across the country given the need to get critical inputs from areas around Baghdad. More generally, the state had no incentive to restructure SOEs; even aside from their value as a means of economic control, public sector jobs were one of the few reliable instruments that the post-2003 government had at its disposal. Far from being impetus to reform, growing oil revenues became an enabler of the status quo. State dominance of financial sector remained, the insolvency of the system became a reason to do nothing, and banks now had the means to expand as their government business was growing.

Sixth, a cross-cutting element of Iraq's legacy is severe economic and social fragmentation. Civil conflict created substantial internal displacement corresponding to ethnic and sectarian divisions. Baghdad became a city of internal boundaries formed by blast walls, check-points, and no-go areas. For the country as a whole, a basic prerequisite of economic development—internal integration—was lost.

Previous World Bank analytical work on Iraq provides some guidance as to the effects that could be expected from Iraq's recent growth pattern. The 2012 Country Economic Memorandum used a modeling framework drawing from the Oxcarre methodology for describing the sectoral effects of various options for oil revenue management in Iraq. One of the stylized options considered was allocating all revenues to public sector pay and numbers, which is helpful in illustrating the impact of the actual dominance of this type of spending in the budget. The model shows that such spending essentially eliminates the economy's traded good sector. Wages rise sharply, which mitigates any beneficial impact of government spending on the real economy in terms of provision of goods and services. Given spending patterns of relatively well-off public employees, consumption needs are met by imports (which are high cost due to logistical deficiencies), and because there is no public accumulation of capital or foreign assets, the economy is completely oil-dependent. In practice, Iraq does allocate a significant portion of oil revenues to investment, but long-standing deficiencies in public investment management limit the productive effects of this spending.

In summary, the overarching context for the poverty assessment is Iraq's status as a resource-rich fragile and conflict state (FCS). Achievement of the twin goals of ending extreme poverty and boosting shared prosperity is bound to be an uphill struggle in that context. As the Global Monitoring Reports have shown, weakness of state capacity in FCS plays a disproportionate role in the failure to achieve the MDGs. The dynamics of income growth in resource-rich FCS are often closely linked to fissures in society (e.g. limited formal or resource sector growth which only benefits connected groups). How did these forces play out at the individual and household level in Iraq? Before we turn to evidence from micro-level data, we provide some quantitative macro-level evidence on the relationship between conflict and violence in Iraq in the period following the US-led invasion; development efforts and economic growth.

Violence, Growth and Development

It is very difficult to quantify the entire economic and social impact of violence on growth and development. In this report, we attempt to provide quantitative evidence of the relationship between conflict and development in Iraq, in the immediate period covered by this poverty and inclusion assessment, and in some cases, the effect of longer term violence and deliberate neglect. While the rest of the report primarily draws on evidence from micro data (household surveys), we begin by drawing on a district-level dataset to establish and quantify the negative relationship between conflict and economic growth on the one hand, and the positive relationship between development efforts and growth on the other. In doing so, we show that while development efforts by the government and other actors can mitigate the negative role of violence, the required effort is substantial. Thus, on a macro-economic level, and absent the establishment of peace and security in the nation, maintaining growth can in itself be a challenge in Iraq, and without these two pre-conditions in place, poverty reduction and broad-based prosperity will be difficult to sustain.

The relationship between growth, development and conflict can run both ways. Miguel et al. (2004) use cross-country data to investigate the effect of economic development on conflict, and find that a negative shock to economic growth is associated with a significantly higher likelihood of conflict emerging in the following year. In the Iraqi context, Berman et al. (2011) combine detailed data on insurgent violence with information on reconstruction projects aimed at restoring public services in Iraq. They find that improvements in service provision tend to reduce insurgent violence, most noticeably for smaller projects, and in particular after the "surge" began in 2007.⁴

⁴ Ahrens (2013) provides further empirical support for the negative correlation between development and violent conflict using cross-country data for Africa. Shapiro and Weidmann (2011) further investigate whether improved communication means can influence the degree of violence in the context of Iraq. They argue that if there is in-

On the other hand, conflict can also negatively affect growth and development. Abadie and Gardeazabal (2003) try to estimate the economic cost of violent conflict, focusing on the Basque country in Spain. The economic cost of conflict is found to be quite substantial; after violent conflict emerged in the late 1960s, per capita GDP in the Basque country was found to have declined by about 10 percent relative to a control region that has not been exposed to violent conflict. Murdoch and Sandler (2002) use cross-country data in their effort to estimate the effect of violent conflict on economic growth.⁵ They too find that violent conflict is detrimental to economic growth, but that the damage is most pronounced in the short-run.⁶

In what follows, we try to further understand and quantify the relationship between the level of violence on the one hand and development efforts on the other on economic growth in Iraq. We do this by estimating a set of growth regression models using district level panel data with annual observations between the years 2003 (which marks the beginning of the US-led invasion of Iraq) and 2010.

Since disaggregated income or GDP data at high frequency is not available, we rely on night-time-lights (NTL) data as a proxy for local economic output; and information on the number of US financed reconstruction projects in Iraq as a proxy for development efforts.⁷ Thus, the independent variables considered in the growth regressions are: lagged NTL (to account for convergence effects across different parts of the country with different levels of initial growth); conflict violence (as measured by the number of civilian deaths according to the Iraq Body Count); reconstruction projects; ethnic fractionalization and the share of agricultural land. Since the latter two variables do not vary over time, we interact these with the violent conflict and reconstruction project variables. These interaction terms, if significant, will tell us how the effect of conflict and reconstruction efforts on growth might vary depending on the degree of ethnic diversity and/or the degree of

urbanization. Finally, we also include GSM cell-phone coverage to measure the role of enhanced communication.

We use night time lights high gain data from DM-SP-OLS, which are publicly available from NOAA.⁸ We derive two metrics from the night time lights data at the district and governorate level: the mean of all night time light pixels within an administrative unit and an inequality measure (the Theil Index) within an administrative unit. We expect mean night time lights to be significantly correlated with economic growth. Figure 4 plots this measure at

deed a relationship, the sign of the effect can go both ways, as improvements in communications may ultimately help both sides (the side who wishes to initiate violent conflict and the side who seeks to curb conflict). The question then is which side is best equipped to take advantage of the new technology. Their empirical results suggest that the counterinsurgents gain the most as an increase in cellphone coverage is found to have reduced insurgent violence in Iraq.

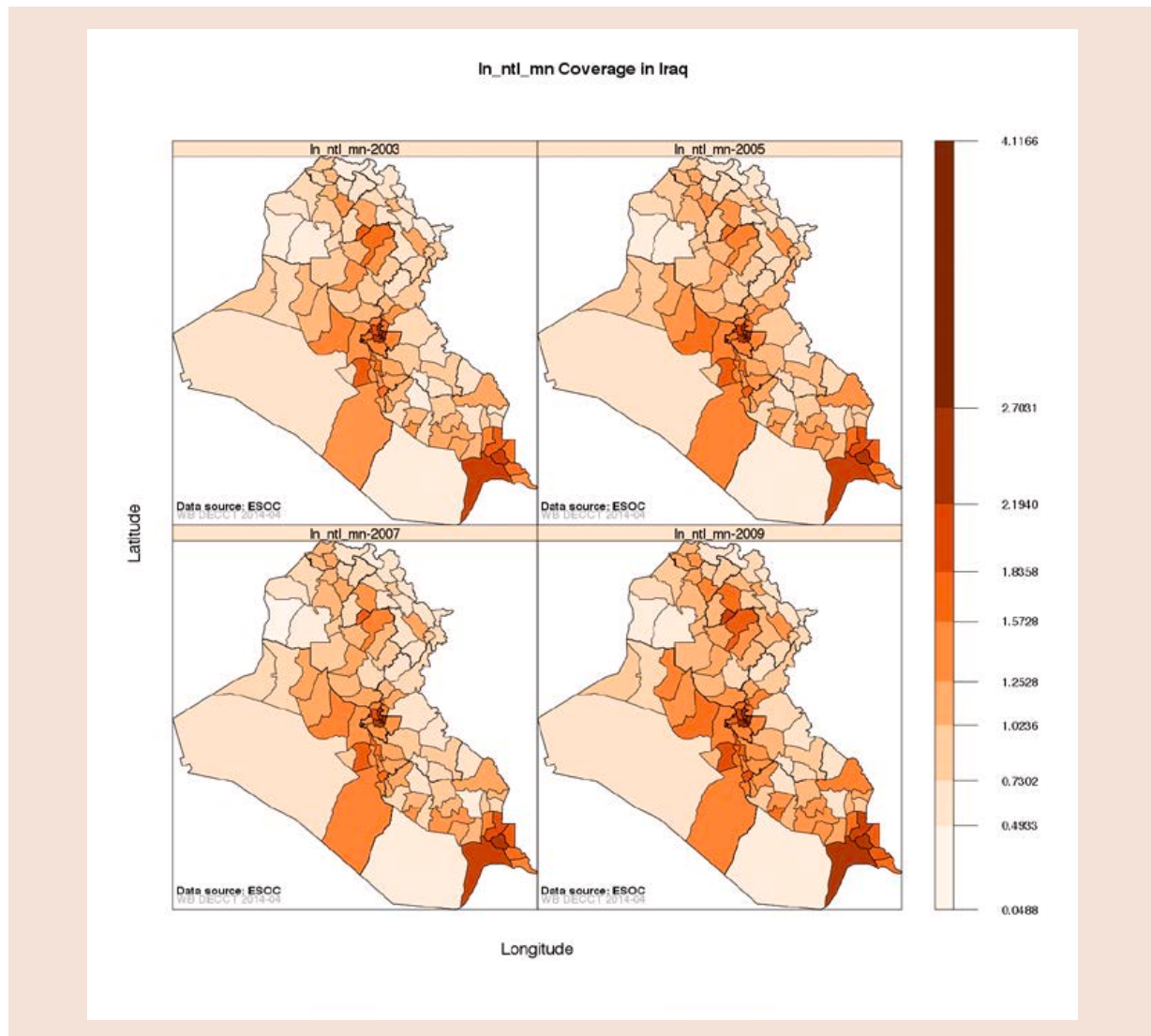
⁵ They consider different lengths of “growth-spells” (5 years compared to 10–25 years) to investigate the importance of the time-horizon, and also explore the significance of spatial spill-overs.

⁶ They offer two possible explanations for this finding: (a) violent conflicts tend to be relatively short-lived, and (b) in the longer term, the effects of conflict on growth may get diluted with the convergence effect.

⁷ This has been shown to work reasonably well, see e.g. Henderson et al. (2012). [Henderson, V., Storeygard, A. and D. Weil, Measuring economic growth from outer space, *American Economic Review*, 102(2), pp994–1028].

⁸ NOAA DMPS-OLS (The National Oceanic and Atmospheric Administration’s Defense Meteorological Satellite Program) has another night time light data product that provides a radiance correction and corrects for the top-coding problem, which is present in the high gain night time lights data. Currently, the low gain data are not available at a consistent annual basis necessary for this time-series analysis.

The data display luminosity in units of Digital Number from 0 to 63, where high values represent high luminosity. Due to the lack of inter-calibration of the satellite, we perform an adjustment to the raw data in order to calibrate the data for time-series analysis according to Elvidge et al. (2013).

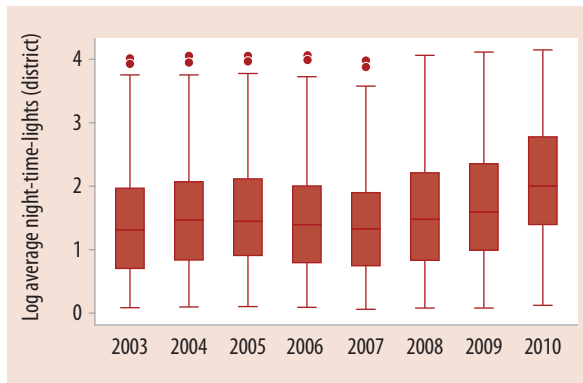
FIGURE 4: Log Mean Night Time Lights (District Level), 2003, 2005, 2007 and 2009

the district level on a map for 2003, 2005, 2007 and 2009 and shows high levels in and around Baghdad as well as near Basra. With regards to the between region differences, the highest levels are in the Central region and the lowest levels are present in the North region. Figure 5 shows the annual changes in night time lights at the district level; there is a small gain from 2003 to 2005, then there is a decline to the minimum level at 2007, and finally there is a steeper increase in the night time lights until the last year in the analysis (2010). Thus, this proxy measure for economic growth

appears to be in line with GDP, reflecting a steady increase, especially after 2007, which represented the peak of internal violence in Iraq.

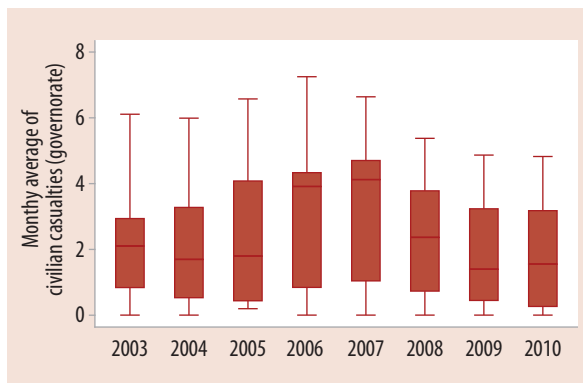
Data on violence comes from Iraq Body Count (<https://www.iraqbodycount.org>), which is a database of violent civilian deaths in Iraq since 2003, drawn from crosschecked media report and supplemented by review of hospital, morgue, NGO and official figures. We use their conflict incidents database, where each incident has a start date, an end date, and an estimate of minimum and maximum

FIGURE 5: Log Average Night Time Lights, 2003–2010



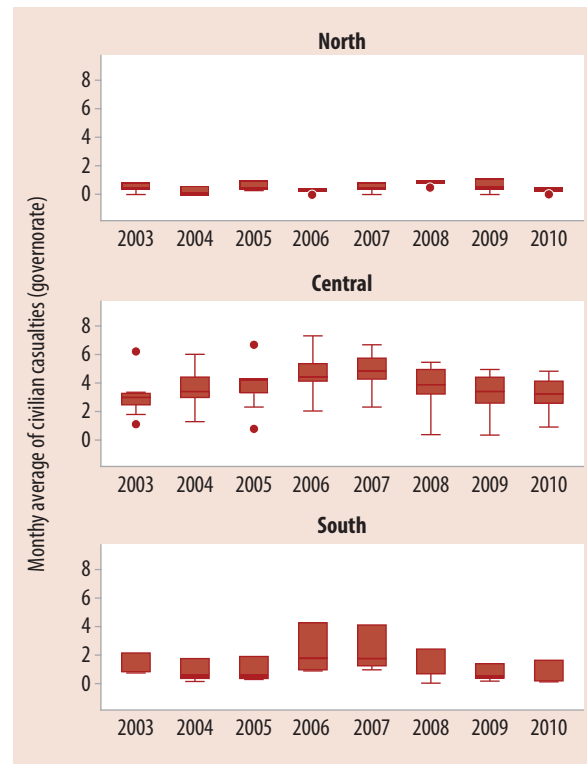
Source: Authors' calculations derived from DMSP-OLS.

FIGURE 6: Average Civilian Casualties (Iraq Body Count): 2003 to 2010



body count. Since both the minimum and maximum estimate of the body count is provided, the midpoint is used in the analysis. Incidents can occur across months; the given start date is considered the month of the incident. Then, it is possible to calculate the average body count per month within a year at the governorate level. It is expected that the body count data have a negative effect on growth. Figure 6 shows the variation by year during period 2003 to 2010, which shows a peak of the body count in 2007. Figure 7 displays the between region differences for the same time period; the Central region experienced the highest body count and the North region shows the lowest counts of the three regions.

FIGURE 7: Average Civilian Casualties (Iraq Body Count) By Region: 2003–2010



Data on reconstruction projects and ethnic fractionalization are drawn from the ESOC database, while population estimates are drawn from the Landscan population database.⁹ The available data on the cellphone network is for the Zain network, which is a dominant provider in the Baghdad and South regions; we do not use any GSM cell phone data for the north of Iraq and also exclude the Central districts of Nineveh, Salahaddin, and Kirkuk due to lack of consistent or missing data from Zain.¹⁰ In order to measure agricultural land use in Iraq we

⁹ For a detailed discussion of the ESOC dataset kindly refer to the ESOC-I-v3 codebook, available at: <http://esoc.princeton.edu/subfiles/codebook-iraq-civil-war-dataset-v3> (accessed 2014-05-06). A more detailed description of Landscan can be found at: http://web.ornl.gov/sci/landscan/landscan_documentation.shtml (accessed 2014-05-12).

¹⁰ Jake Shapiro kindly provided data on cellphone coverage.

use the Global Hybrid dataset (0611–2012 V2) produced by Fritz et al. (2011) which estimates the percentage share of land used for agriculture within a one square kilometer pixel. In this analysis, we also use Normalized Differentiated Vegetation Index (NDVI) data constructed by the U.S. National Aeronautics and Space Administration (NASA) Global Inventory Modeling and Mapping Studies (GIMMS) at a bi-monthly frequency between 2003 and 2009 that measure greenness over 8 square kilometers pixels available for the entire area of Iraq (Zhu et al. 2013).¹¹

The correlates of growth we are indeed most interested in are the incidence of violent conflict on the one hand, and reconstruction efforts on the other hand. Do they both have an impact on growth (presumably with opposing signs)? If indeed, to what extent are the reconstruction efforts able to compensate for the damage done by violent conflict? Finally, under what conditions are the effects on growth particularly strong (or diminished)? We consider three regions: the north comprising Kurdistan, the south, comprising Basra, Thi Qar, Muthanna, Missan and Qadisiya and the central region, comprising the rest of the country. We use two different samples for our growth regressions: one with and one without the northern region (Kurdistan), the reason being that we only have GSM cell phone coverage data for the rest of the country. Hence the regressions with GSM coverage as one of the control variables exclude the northern region from the sample, while regressions without GSM coverage use the full cross-section of district observations.

To establish the robustness of our findings, each regression model is estimated using three different types of estimation methods: (i) Pooled OLS with governorate dummies; (ii) District Fixed Effects (the “within estimator”); and (iii) System GMM. The GMM estimator is often considered the preferred method as it allows one to account for potential problems of endogeneity.¹² Below we present the findings based on the System GMM estimator.

We indeed find that in Iraq, violent conflict between 2003 and 2010 had a negative effect on subsequent growth (proxied by growth in night time lights), while development efforts (measured by reconstruction projects) mitigated this effect by promoting growth. This finding is fairly robust across the different methods of estimation and across the different samples used. Estimates based on the System GMM suggest that compared to a district with no civilian casualties, a district with the average number of casualties experienced between 5.7 and 11.4 percent lower growth depending on the specification used (Annex Table 1.1). On the other hand, a doubling of reconstruction projects increased growth between 5.8 and 8.4 percent. This suggests that the size of the development effort required to compensate for the negative growth effect of violence is substantial.

Moreover, the negative effect of violent conflict on growth is strongest in the central region (including Baghdad), in ethnically mixed districts, and in relatively poorer districts (proxied by low intensity of NTL). On the other hand, the positive effect of development efforts on growth was strongest in the central region (including Baghdad) and the southern region; in urban areas (with low shares of agricultural land); in high income districts (proxied by high intensity of NTL) and in ethnically homogenous districts. With the inclusion of GSM coverage information and for the sub-sample excluding the Kurdistan region, districts with improved communication are also associated with higher growth (Annex Table 1.2).

Thus, not only is the development effort required to mitigate the negative impact of violence on

¹¹ Jim Tucker NASA kindly provided the data.

¹² It also avoids the finite sample bias that affects standard OLS and FE estimators as they try to account for the district fixed effects (the so-called “Nickell bias”). We use Principal Component Analysis to reduce the number of instruments in an effective manner. Too many instruments relative to the dimension of the panel data are found to reduce the effectiveness of the System GMM estimator (see e.g. Roodman, 2009, 2012).

growth substantial, violence disproportionately affects growth in poorer parts of the country, while development efforts are more effective in richer parts of the country. This implies that it will take an even larger development effort to maintain growth when violence affects poorer districts. Keeping this, and the larger political economy, institutional and macro-economic context in mind, we now turn to the levels, trends and correlates of poverty and shared prosperity in Iraq between the years 2007 and 2012.

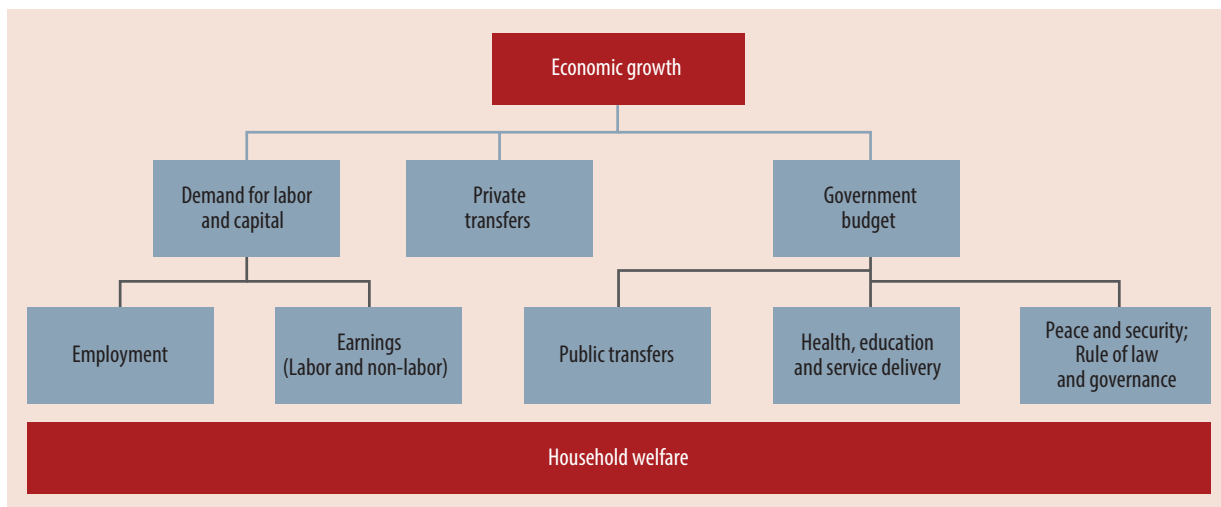
Framework of Analysis and Report Outline

This report takes a broad and comprehensive approach to the analysis of poverty and welfare in Iraq, and examines how inclusive the development process has been—across space, groups, and gender. Over and above the typical association between poverty and large families, lack of human capital, and adverse labor market outcomes, poverty in Iraq is a reflection and symptom of much larger, structural and often long-term factors. Iraq is an upper-middle income country with one of the world's largest proven oil reserves and has experienced strong growth in the period considered in this report. Yet

it has also suffered from a long and difficult legacy of violence and insecurity, which continues in some parts of the nation to this day. In some sense then, any progress in improving the welfare of its citizens is in and of itself a commendable achievement, and has perhaps occurred despite the odds. The objective of this report is to use the rich and detailed survey information available to learn from the experiences of the five year period between 2007 and 2012; and to identify the many opportunities for change in the future.

In general, economic growth in a country can translate into welfare improvements for its citizens through two main channels: by enhancing the demand for labor, capital and other inputs and therefore employment and earnings; and by boosting the resources available to the government to transfer, redistribute and provide services to the population (see Figure 8 for a simple representation). Another core function of government, which is particularly relevant in the case of Iraq, is the establishment and maintenance of peace and security and the rule of law. Each of these elements—employment, income (earned and unearned), the access to and quality of basic services, and the overall environment—contribute directly or indirectly to household welfare, and therefore, to poverty and shared prosperity.

FIGURE 8: Economic Growth and Welfare: Main Channels



This report began with an overview of the institutional, macro-economic and political economy of the nation, which sets to context for the findings and analysis in the rest of the report. The next chapter follows with the core poverty and shared prosperity diagnostic, and an examination of the determinants and correlates of life satisfaction and subjective well-being and how these move with consumption poverty. We then take up an in-depth analysis of each of the important correlates of welfare—human development, place of residence, labor market outcomes, and the role of public transfers. Given the strong relationship between education and poverty in Iraq, Chapter 3 examines the relationship between broader human

development—health, education, and basic services—and poverty. The chapter that follows delves deeper into the factors driving spatial disparities in welfare across the five divisions of Iraq; and in particular, the role of past and current violence and insecurity in the country. Chapter 5 identifies the different sources of household incomes that account for poverty reduction for the country as a whole and for different sub-divisions to get a sense of the importance of different channels. The next three chapters focus on the links between economic growth, the labor market, public and private income transfers and household welfare. The last chapter pulls the implications of the analysis together to provide directions for policy.

Poverty, Shared Prosperity and Subjective Well-Being in Iraq

2

Over the five year period spanning 2007 and 2012, Iraq's GDP grew at a cumulative rate of over 40 percent, averaging 7 percent per year between 2008 and 2012. At the same time, Iraq's population grew by approximately 4 million persons, or at an annual rate of 2.5 to 3 percent. However, per capita real consumption, the basis for measuring poverty, grew at a rate of around 1.75 percent per year, or in cumulative terms, by only 9 percent over the five year period. High rates of GDP growth did not translate into commensurate consumption growth, and the latter was also unevenly distributed across the population and across the regions of Iraq. Consumption of the highest quintiles, the top 60 percent of the consumption distribution, grew faster than that of the lowest; consumption growth was faster in rural areas than in urban areas; and consumption grew slower in Baghdad and Kurdistan relative to the rest of Iraq. Overall, poverty headcount poverty rates fell from 23.6 percent in 2007 to 19.8 percent in 2012, a 3.8 percentage point decline.

Poverty in Iraq is significantly higher among larger households, those with less educated heads, and varies by the employment sector of the head of household. Household size and composition, the education and sector of work (in general) of the head of household and the location of the household are all strong determinants of consumption and poverty. While public sector jobs are in general associated with a lower probability of poverty, households dependent on agriculture and construction are as likely to be poor compared to households with heads who are unemployed or out of the labor force.

Poverty reduction has been spatially uneven. Rural poverty fell by 8 percentage points, compared with the much smaller decline of 2.5 percentage points in urban areas. While there was little discernable improvement in poverty in Baghdad and Kurdistan, in the remaining 14 governorates of the country taken together, headcount rates fell significantly. 70 percent of those in the bottom 40 percent of the population live in these governorates, with Baghdad accounting for another 20 percent. The pattern of poverty reduction has been accompanied by a greater spatial concentration of poverty. In 2007, half of Iraq's poor lived in five governorates—Baghdad, Basra, Nineveh, Babylon and Thi-Qar. By 2012, while Baghdad's share of the poor remained unchanged at around 19 percent, Nineveh almost doubled its share to 15.7 percent. Three southern governorates, Thi-Qar, Qadisiya and Misan, now account for almost a quarter of the country's poor. In 2012, 58 percent of Iraq's poor lived in these five governorates, compared to 40 percent in 2007.

Subjective measures of wellbeing and welfare highlight the different elements that the Iraqi people take into account when evaluating their own welfare, elements that go beyond consumption and income. Overall, headcount rates based on consumption are fairly similar to those based on the minimum income question and on life satisfaction, while poverty as measured by subjective well-being is higher at 26 percent. In rural areas, 20 percent of individuals report being dissatisfied with their lives, 24 percent have lower per capita consumption than their estimated basic income needs, while more than 30 percent are poor based on the

consumption poverty line or assess that their household is poor or very poor. In urban areas, while consumption poverty headcount rates are relatively low, other measures of poverty are significantly higher.

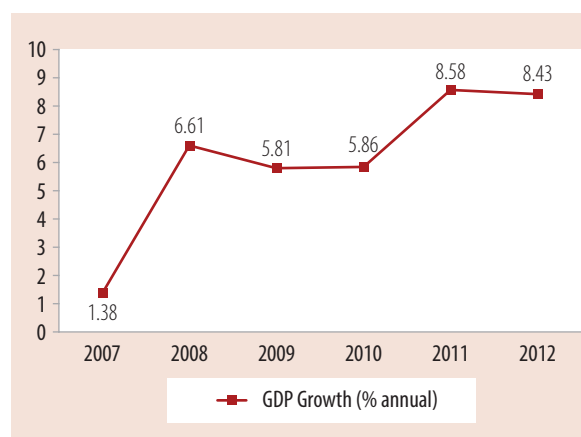
In determining subjective self-assessments of poverty status, the largest weight is placed on lack of consumption or income, with smaller but relatively equal weight on educational deprivation or on place of residence. In contrast, dissatisfaction with life appears to be driven more by where an individual lives, reflecting the additional importance of location specific factors including security concerns, local labor market conditions and service delivery. Using these deprivations to construct a multidimensional index of deprivation; headcount rates would be higher than as measured by consumption poverty—25.6 percent if derived from the subjective poverty measure and 28.4 percent if the life (dis)satisfaction measure were used (compared to 19.8 percent consumption poverty) in 2012.

GDP and Consumption Growth in Iraq: 2007–2012

Over the five year period spanning 2007 and 2012, Iraq's GDP grew at a cumulative rate of over 40 percent, and averaged an annual rate of 7 percent between 2008 and 2012 (Figure 9). At the same time, Iraq's population grew by approximately 4 million persons, or at an annual rate of 2.5 to 3 percent.¹³ However, per capita real consumption, the basis for measuring poverty, grew at a rate of around 1.75 percent per year, or in cumulative terms, by only 9 percent over the five year period (Table 1).

Not only did these high rates of GDP growth not translate into commensurate consumption growth, the latter was also unevenly distributed across the population and across the regions of Iraq. Consumption of the highest quintiles, the top 60 percent of the consumption distribution, grew faster than that of the lowest (Table 1). For instance, the top 40 percent of the consumption distribution experienced annual growth in real per capita consumption of almost 2 percent, compared with 0.7 percent

FIGURE 9: Annual GDP Growth in Iraq, 2007–2012 (%)



Source: World Development Indicators, 2012.

TABLE 1: Mean Per Capita Consumption Expenditure

	2007	2012	Percentage change	Annual change
Urban/Rural				
Urban	191.1	207.7	8.6	1.67
Rural	133.7	152.9	14.4	2.72
Region				
1 Kurdistan	277.9	279.0	0.4	0.08
2 Baghdad	184.0	201.4	9.5	1.83
3 Rest of Iraq	150.2	167.8	11.7	2.24
Quintiles				
Lowest quintile	80.9	83.7	3.5	0.69
2	116.9	124.9	6.8	1.33
3	149.1	162.5	9.0	1.73
4	193.2	214.1	10.8	2.08
Highest quintile	332.7	366.5	10.2	1.95
Total	174.6	190.4	9.0	1.75

Source: Authors' calculations, IHSES 2007 and 2012.

for the bottom 20 percent. On the other hand, consumption grew faster where levels of consumption were lower to start with—outside Baghdad and Kurdistan, by 2.24 percent per annum; and in rural parts of the country, by 2.7 percent per year.

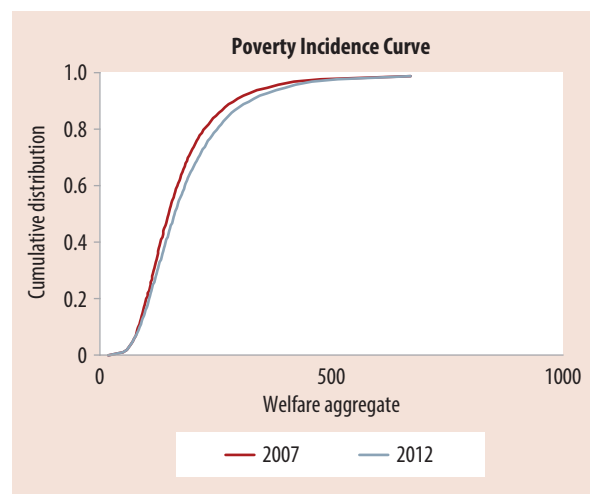
¹³ Per capita GDP grew by 24 percent during 2007–2012.

The distribution of the welfare or consumption aggregate over time reveals improvements in welfare in line with the increase in mean per capita consumption expenditure. Figure 10 plots the poverty incidence curve, which is the cumulative distribution of the welfare or consumption aggregate for 2007 (in red) and 2012 (in blue). For any possible and reasonable value of the consumption aggregate chosen as the poverty line, the distribution of consumption in 2012 lies to the right of that of 2007, implying lower rates of poverty in 2012. Figure 11 on the right panel plots the probability density function of the welfare aggregate in the two years, and clearly shows, in line with Figure 10, the increase in median consumption over time.

Measuring Poverty in Iraq

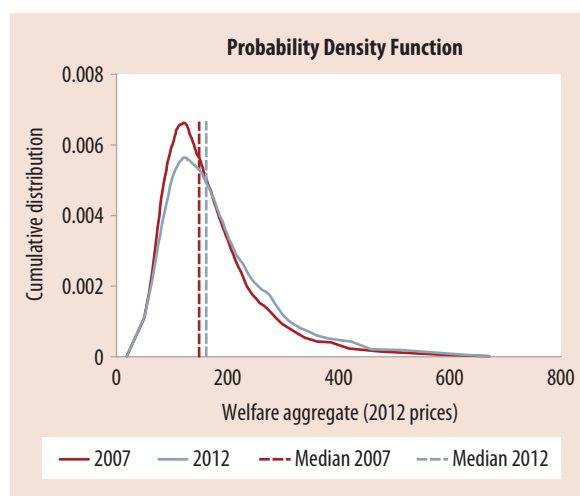
Iraq uses an “absolute” poverty line, which fixes a welfare threshold and is based on the Cost of Basic Needs approach (CBN). The CBN approach as applied in Iraq defines the poverty line as the level of expenditure that allows the households to spend just enough on food to meet a certain caloric threshold, and just enough to meet basic non-food needs. The total poverty line is therefore calculated by adding

FIGURE 10: Cumulative Distribution – Welfare Aggregate, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 11: Probability Density – Welfare Aggregate, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

up a food poverty line and a non-food poverty line (For more details, see Annex Chapter 2).

The food poverty line in Iraq was fixed at a level equivalent to the expenditures needed to meet a minimal nutritional intake of 2337 calories per person per day, or ID 50,473.26 per person per month in 2012. In order to better account for the increasingly important differences in consumption expenditure across space in terms of non-food items—for instance, clothing and shelter—we allow the non-food allowances to vary by three regions in Iraq—Baghdad, Kurdistan and the rest of Iraq. This implies that for a given national food poverty line, for each region, the corresponding non-food allowances are defined according to the distribution of consumption within that particular region.

The official poverty line in Iraq is defined at the national level, i.e., the non-food allowance is defined in accordance to the national non-food consumption patterns and distribution. In contrast to using a single national non-food allowance, in this report, and as agreed with the government, we allow for regional variation in defining the non-food allowances, so that in effect, we use three regional poverty lines. As a result, and as we show in the next section, the

primary implication of adopting regional poverty lines as opposed to a single national line is that the levels of poverty in Baghdad, and to a larger extent, Kurdistan, are higher; while there is little difference for the 14 governorates comprising the rest of Iraq. In addition, the choice of national or regional poverty lines does not alter the trends in poverty at the national, regional or governorate level; and for the parts of the country significant changes in poverty were experienced, the magnitude of these changes is similar irrespective of the approach adopted.

Table 2 shows the resulting food and total poverty lines, using the regional as well as the national approach. Both regional and national poverty lines include the same food poverty line. However, allowing for regional variation in the cost of basic non-food items implies higher poverty lines for Baghdad and especially for Kurdistan, relative to the national non-food allowance, while there is little difference for the Rest of Iraq.

In the next section, we explore levels and trends in poverty, and show that over and above level differences in headcount rates for Kurdistan and Baghdad, both approaches yield similar findings in patterns and trends of poverty. One consequence of the use of regional poverty lines is that the distribution of the poor across the consumption distribution is no longer equivalent to the bottom 2 deciles of the consumption distribution, or strictly speaking, the bottom 19.8 percent of the consumption distribution. This is because poverty when using the regional lines assumes a different threshold for each region, so that, for instance, someone in the third or

fourth consumption decile may still be counted as poor if their per capita real consumption expenditure fell below the cost of basic needs in the region where they live. Similarly, an individual belonging to the 41st percentile may be classified as poor because they live in Baghdad, whereas an individual living in the rest of Iraq belonging to the 40th percentile may not. In order to make appropriate comparisons across the consumption distribution, therefore, we use, where appropriate, an adjusted consumption aggregate, which rescales the welfare aggregate in each of the three regions, so that they are comparable under a single poverty threshold (which is a weighted average of the three regional poverty lines).¹⁴ Thereafter, and throughout the rest of the report, the analysis uses only regional poverty lines, rather than the official lines as they better account for the important spatial differences in basic needs and welfare in Iraq.

Poverty and Shared Prosperity in Iraq: 2007–2012

The improvement in the welfare distribution is reflected in the decline in poverty over the 2007 to 2012 period. Overall, headcount poverty rates, as measured using the regional poverty lines, fell from 23.6 percent in 2007 to 19.8 percent in 2012, a 3.8 percentage point decline. A similar trend is evident using the official poverty line, which records a decline in headcount rates from 22.4 percent in 2007 to 18.9 percent in 2012, a 3.5 percentage point decline.

In rural Iraq, poverty as measured by the regional lines declined by 8 percentage points, as compared with a much smaller decrease of 2.5 percentage points in urban areas. Given the presence of universal food subsidies delivered through the Public Distribution System (PDS), the low rates of food poverty are unsurprising (Table 3), although there has been little change in these rates, perhaps because of a decline

TABLE 2: Poverty Lines (ID Per Person Per Month)

	2007	2012
Food poverty line	35796.64	50473.26
Kurdistan poverty line	101000.50	142410.70
Baghdad poverty line	82223.19	115934.70
Rest of Iraq poverty line	72110.57	101675.90
National (Official) poverty line	74822.98	105500.40

¹⁴ The adjusted consumption aggregate is used when comparisons across the consumption distribution are being made, for instance, in the analysis of inequality and consumption growth across different parts of the distribution.

TABLE 3: Overall Poverty (Regional Poverty Lines)

	Poverty Headcount Rate			Poverty Gap			Squared Poverty Gap		
	2007	2012	Change	2007	2012	Change	2007	2012	Change
Total poverty line									
Urban	17.4	14.8	-2.5	3.0	2.7	-0.2	0.8	0.8	0.0
Rural	38.9	30.6	-8.3	9.1	7.4	-1.7	3.1	2.6	-0.6
Total	23.6	19.8	-3.7	4.7	4.2	-0.5	1.5	1.3	-0.1
Food poverty line									
Urban	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural	2.9	2.2	-0.6	0.4	0.3	-0.1	0.1	0.1	0.0
Total	1.0	0.9	-0.1	0.1	0.1	0.0	0.0	0.0	0.0

Source: Authors' calculations, IHSES 2007 and 2012.

in the number of items delivered through the PDS between 2007 and 2012. Other measures of poverty, such as the poverty gap and the squared poverty gap, did not change substantially over the 2007–2012 period (Figure 12). The poverty gap, which measures the average shortfall between the consumption of the poor and the poverty line, relative to the poverty line fell by only half a percentage point. The squared poverty gap, which is an average of the square of all consumption shortfalls, barely changed.

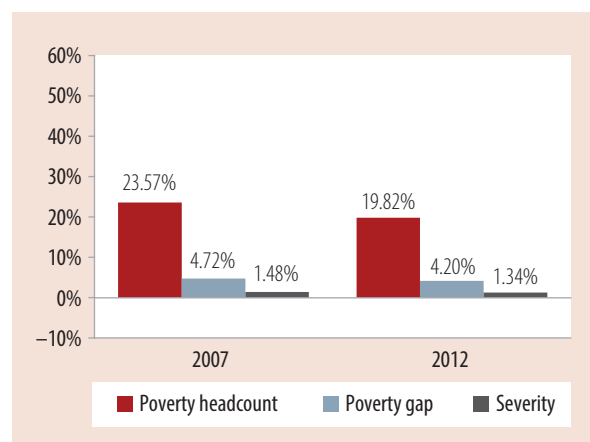
Poverty is shallow in Iraq: consumption is densely concentrated near the poverty line, and small

changes in the poverty line can lead to large changes in headcount rates (Table 4). In other words, a small increase or decrease in incomes and consumption can lead to large changes in the incidence of poverty. For instance, a five percent increase in the poverty line in 2012 would raise poverty by 16 percent, while a ten percent increase would raise poverty by more than 30 percent.

Spatially Uneven Poverty Reduction

Although poverty has declined over the five year period, poverty reduction has been spatially uneven.

FIGURE 12: Poverty Headcount, Gap and Severity – Iraq: 2007–2012



Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 4: Sensitivity of Headcount Poverty Rate with Respect to the Choice of Poverty Line

	2007		2012	
	Poverty Headcount Rate	Change from actual (%)	Poverty Headcount Rate	Change from actual (%)
Actual	23.6	0.0	19.8	0.0
+5%	26.6	12.6	23.0	16.0
+10%	30.8	30.8	26.1	31.5
+20%	38.5	63.1	32.6	64.6
-5%	19.6	-16.9	17.1	-13.7
-10%	15.9	-32.6	14.2	-28.5
-20%	10.0	-57.7	9.3	-53.3

Using the official (single national) poverty line, poverty in Baghdad shows little discernible change (12.6 percent in 2007 and 12 percent in 2012); while a small decline is recorded in Kurdistan (from 4.3 percent in 2007 to 3.5 percent in 2012). In the rest of Iraq, official headcount rates fell from 29.7 percent in 2007 to 24.4 percent in 2012.

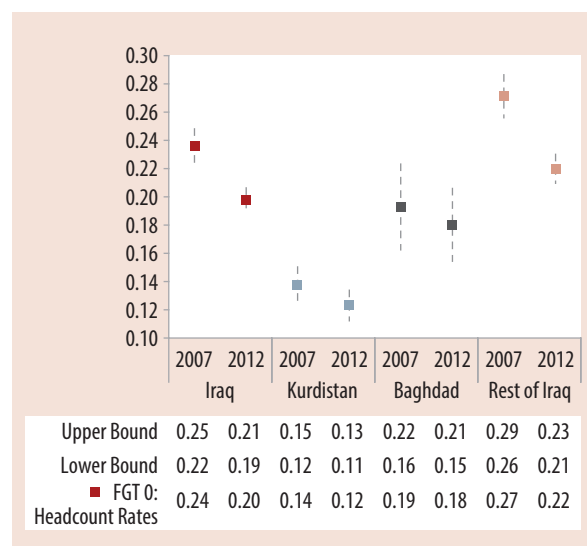
The same trend is evident when the regional lines are used. In Baghdad, by far the most populous governorate in the nation, poverty did not change significantly; and in the Kurdistan region, poverty declined, albeit at a small rate (Figure 13 and Table 5). In contrast, the rest of Iraq (RoI), comprising the 14 other governorates, registered a 5 percent decline in headcount rates. Recall that the national and regional poverty lines are very similar for the rest of Iraq; and consequently the levels and trends are almost identical irrespective of the line. For Baghdad and Kurdistan, the use of a regional non-food allowance takes into account higher expenditures required to fulfil basic non-food needs, and these higher poverty lines imply that the levels of poverty calculated using the regional lines are higher. However, using either approach, there is little perceptible change in

poverty in both regions. Thus, for the most part, significant changes in poverty were experienced in those governorates in Iraq where national and regional poverty lines are very similar.

Within the RoI, the poverty reduction record was very mixed. In the governorates south of Kurdistan and north of and around Baghdad—Diyala, Anbar, Babylon, Kerbala, Salahaddin, Najaf—poverty declined substantially, with the sole exception of Nineveh. In Nineveh and four of the southern governorates—Qadisiya, Muthanna, Thi-Qar and Missan, poverty increased significantly (Table A 2.1). Basra is the only southern governorate where poverty fell. Table A 2.2 shows estimates and trends of poverty at the governorate using the official national poverty line.

This pattern of poverty reduction has been accompanied by a greater spatial concentration of poverty. In 2007, half of Iraq's poor lived in five governorates—Baghdad, Basra, Nineveh, Babylon and Thi-Qar. By 2012, while Baghdad's share of the poor remained unchanged at around 19 percent, Nineveh almost doubled its share in the poor to 15.7 percent. Three southern governorates, Thi-Qar, Qadisiya and Missan, with 10 percent, 7 percent and 6.7 percent of the poor respectively, now account for almost a quarter of the country's poor. In 2012, 58 percent of Iraq's poor lived in these five governorates, compared to 40 percent in 2007.

FIGURE 13: Regional Poverty Headcount Rates, 2007–2012



Source: Authors' calculations, IHSES 2007 and 2012.

Although the rates of extreme poverty (the share of the population living on less than USD 1.25 a day, 2005 PPP) are low and have barely changed, hovering around 4 percent in 2007 and 2012, the spatial distribution of the extreme poor has altered considerably. In 2007, Nineveh, Diyala and Salahaddin together accounted for almost 35 percent of the extreme poor, with another 9 percent living in Muthanna. In 2012, Nineveh's share in the total population of Iraqis living below the \$1.25 a day line increased to 18 percent, while Qadisiya, Thi Qar, Muthanna and Missan together accounted for half of the extreme poor. Thus, the increase in poverty in Nineveh and the four southern governorates was accompanied by an increasing concentration of extreme poverty.

While some of these patterns and trends are due to increases in poverty within governorates, some part of the explanation also lies in changes in the distribution of the population. Despite its relatively lower poverty headcount rates, Baghdad contributes to a large share of Iraq's poor because it alone accounts for large share of the nation's population (Table 5). More than one in five Iraqis live in Baghdad, although in 2012, there appears to have been little population growth in Baghdad, which is reflected in a decline in the share of the population and the poor in urban areas relative to rural areas. In the three governorates of the Kurdistan region—Duhok, Suleimaniya and Erbil, small increases in the share of the poor have been accompanied by large increases in population in these governorates over the last five years. These changes in population are likely a result of population growth and voluntary and involuntary flows, a combination of return migration in response to improved local conditions and displacement as a result of deteriorating security and economic conditions in other parts of Iraq. In the absence of census data, it is difficult to disentangle these flows, yet it is notable that survey estimates suggest Kurdistan added 1 million additional persons between 2007 and 2012.

Breaking down poverty rates within regions by urban and rural areas, it becomes apparent that rural parts of Kurdistan and the RoI made significant gains in poverty reduction, relative to urban areas in the two regions, which saw small changes in headcount rates. In rural Kurdistan, which accounts for 20 percent of Kurdistan's population, poverty fell by 9 percentage points, from 32 percent to 23 percent. Poverty in rural parts of the rest of Iraq, where 40 percent of the region's population lives, fell by 10 percentage points. In contrast, in Baghdad, rural poverty increased by 15 percentage points, doubling to 33 percent by 2012. At the same time, the share of the rural population in Baghdad almost doubled to 13 percent.

Within the RoI, in the governorates where poverty increased, by and large, rural poverty rose faster than urban poverty. In contrast, in the governorates where poverty fell, rural areas witnessed larger reductions in poverty. Of the five governorates where headcount rates increased—Qadisiya, Thi Qar, Misan, Muthanna and Nineveh—in four, rural poverty increased at a higher rate than urban poverty over the 2007–2012 period. The exception was Muthanna, where increases in poverty came entirely from urban areas. Barring Nineveh, rural areas account

TABLE 5: Population and Poor Population, by Region, 2007–2012

	Population	Distribution of the Population	Poor population	Distribution of the Poor
All Iraq				
2007	29,752,018	100%	7,013,294	100.0%
2012	34,043,890	100%	6,748,588	100.0%
Kurdistan				
2007	3,839,102	13%	528,656	7.5%
2012	4,732,818	14%	584,394	8.7%
Baghdad				
2007	6,971,005	23%	1,345,808	19.2%
2012	7,213,046	21%	1,301,363	19.3%
Rest of Iraq				
2007	18,941,911	64%	5,138,751	73.3%
2012	22,098,026	65%	4,862,825	72.1%

Source: Authors' calculations, IHSES 2007 and 2012.

for more than half the population in these governorates. Five governorates rapidly reduced poverty, at rates of 14 percentage points or more—Basra, Salahaddin, Diyala, Babylon and Kerbala. In each of these, rural areas recorded faster rates of decline in headcount rates than urban areas.

Unequal Consumption Growth and Shared Prosperity

Between 2007 and 2012, consumption grew faster for Iraq's relatively better off, amongst the highest quintiles. But it also grew where consumption levels were lower to start with: in rural Iraq and in the RoI. While the consumption Gini coefficient for Iraq is relatively low and has increased by almost 3 percent over this period, the ratio between the consumption of the 90th percentile and the 10th percentile increased at a higher rate (Table 6). In rural areas, where consumption grew the fastest, the latter ratio has increased by 12 percent.

Increasing inequality is also evident in growth-incidence curves, which graph the growth rate of per capita consumption expenditure for each percentile of the population. For a given percentile, the height of the curve represents the growth in per capita expenditure for that percentile of the population. These curves assess how incomes change across

quintiles over time: if the growth rates of the lower quintiles are higher than those of the upper, consumption growth was pro-poor. This is not the case in Iraq.

With the exception of Kurdistan, consumption per capita grew faster for the well-off than for the less-well off, as is evident in the growth-incidence curves for Iraq as a whole and for the three regions (Figure 14). The same pattern is also evident in urban and rural Iraq. In contrast, the growth-incidence curves for Kurdistan are relatively flat, indicating that consumption grew evenly across the distribution, albeit not at a high positive rate.

Overall, poverty reduction in Iraq over the 2007 to 2012 period was driven by lower headcount rates in rural areas and in the Rest of Iraq, and primarily explained by the growth in consumption. While redistributional effects were relatively smaller, changes in inequality hampered poverty reduction. If there had been no change in the distribution of consumption relative to 2007, national poverty would have declined by 6 percentage points, rural poverty by 12.21 percentage points and poverty in the RoI by 8 percentage points (Figure 15).

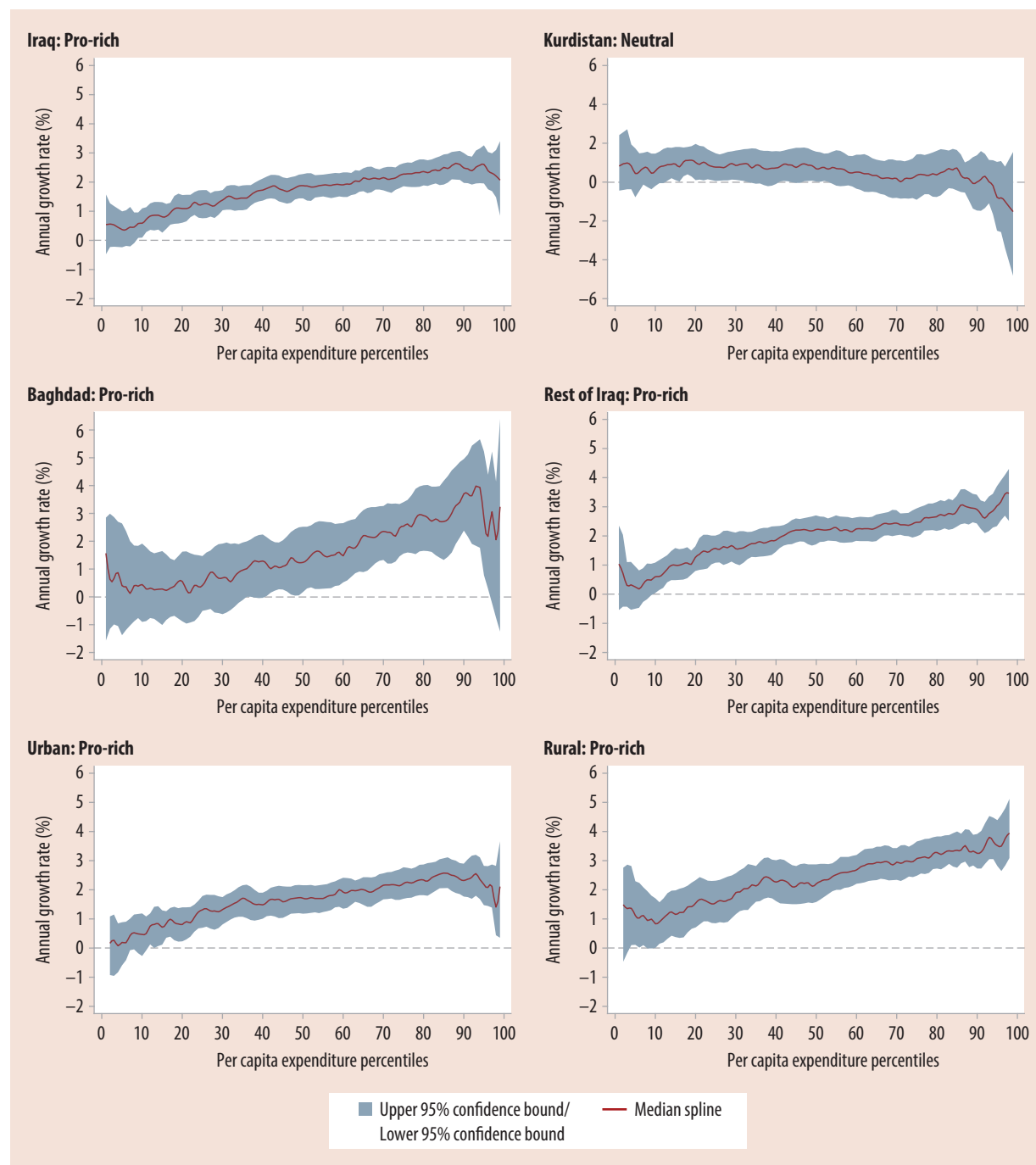
The preceding insights of increasing inequality and slower consumption growth for the lower quintiles

TABLE 6: Inequality in Per Capita Expenditure Distribution by Urban and Rural Areas

	Bottom Half of the Distribution		Upper Half of the Distribution		Interquartile Range p75/p25	Tails p90/p10	Gini
	p25/p10	p50/p25	p75/p50	p90/p75			
Total							
2007	1.28	1.33	1.36	1.36	1.81	3.15	26.49
2012	1.32	1.37	1.39	1.38	1.90	3.46	27.94
Urban							
2007	1.25	1.33	1.35	1.36	1.79	3.04	26.02
2012	1.30	1.36	1.38	1.36	1.87	3.33	27.39
Rural							
2007	1.28	1.33	1.31	1.33	1.75	2.97	24.23
2012	1.33	1.38	1.37	1.34	1.89	3.34	27.00

Source: Authors' calculations, IHSES 2007 and 2012.

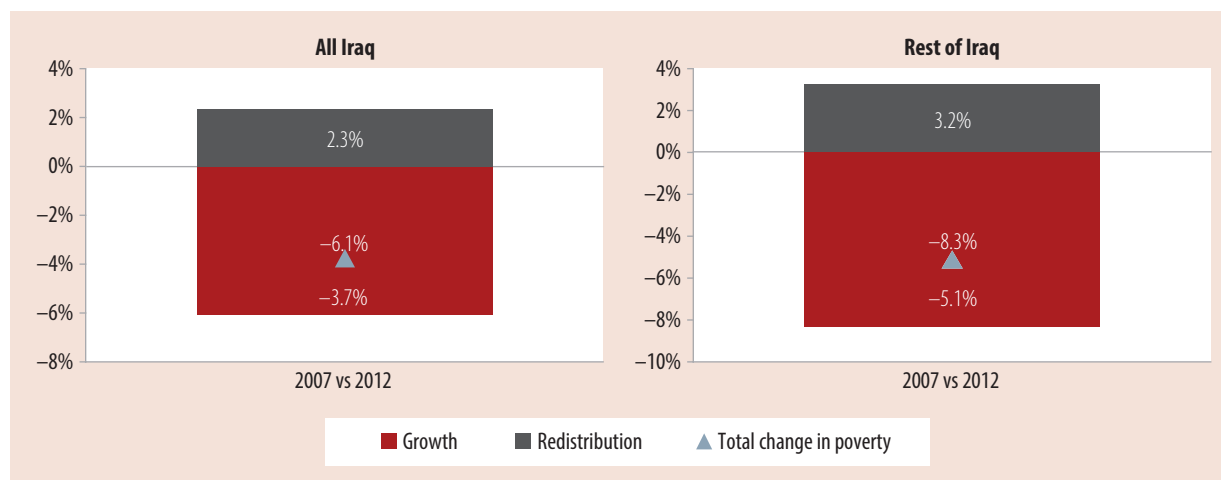
FIGURE 14: Growth Incidence Curves – National, Rural-Urban, Divisional



Source: Authors' calculations, IHSES 2007 and 2012.

can also be expressed in terms of 'shared prosperity'. This measure tracks the consumption or income growth of the bottom 40 percent of the population relative to the consumption or income growth of the entire population.

The average consumption (in thousands of Iraqi dinar and in 2005 purchasing power parity adjusted Iraqi dinar) of the bottom 40 percent of the consumption distribution and of the population as a whole in 2007 and 2012 is shown in Table 7.

FIGURE 15: The Contribution of Growth and Redistribution to Poverty Reduction

Source: Authors' calculations, IHSES 2007 and 2012.

While consumption of the population as a whole grew at an average annual rate of 1.965 percent per annum, consumption for those in the bottom 4 deciles of the population grew slower, at 1.113 percent per year.¹⁵

Treating the per capita consumption of the 40th percentile as a relative poverty line, the population of Iraq can be divided into two categories: the bottom 40 and the top 60. Whereas nationally, the consumption of the total population grew by 9 percent over the 2007–2012 period, the consumption of the bottom 40 grew by a cumulative 5 percent, less than half the rate of growth of consumption of the top 60.

Where do the bottom 40 live? 70 percent of the population who are in the bottom 40 percent of distribution live in the rest of Iraq, with Baghdad accounting for 21 percent, and Kurdistan accounting

for close to 10 percent (Figure 16). However, a significant share of each region's population belongs to the national bottom 40 percent. 43 percent of the population of the rest of Iraq belongs to the bottom 40 percent, as does 39 percent of Baghdad's population and 29 percent of Kurdistan's.

Who are the Poor? A Profile of Poverty, 2007 to 2012

Poverty in Iraq is significantly higher among larger households, those with less educated heads, and varies by the employment sector of the head of household. Table A 2.3 summarizes the mean characteristics of poor and non-poor households in 2007 and 2012.¹⁶ In 2012, a typical poor Iraqi household had

TABLE 7: Shared Prosperity – Annual Consumption Growth of the Bottom 40

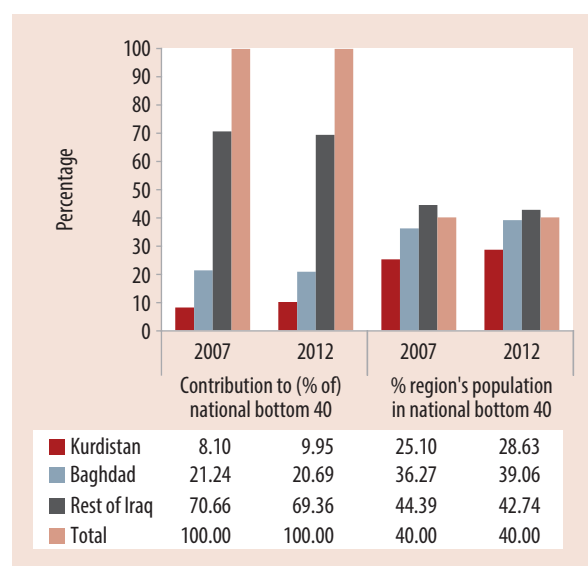
Year	Iraqi dinars (thousands, 2012 terms)	
	Bottom 40	Overall
2007	101.83	171.37
2012	107.63	188.88

Source: Authors' calculations, IHSES 2007 and 2012.

¹⁵ If the national/official poverty line were used, it is consistent with the unscaled welfare aggregate, and the shared prosperity indicator is very similar, with the bottom 40 growing by 1.201 percent per annum, while overall consumption was 1.876 percent per year. These calculations assume a cumulative inflation rate between 2007 and 2012 of 40.1 percent, based on the official CPI series.

¹⁶ There is a significant difference between the non-poor and the poor in all characteristics except for the number of household members who lived elsewhere for at least six months in 2007 and the proportion of household heads employed in electricity, gas and water supply in 2012.

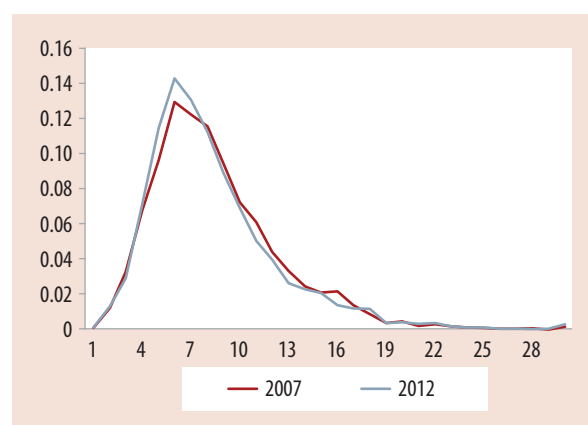
FIGURE 16: Shared Prosperity and the Distribution of the Bottom 40 Percent



Source: Authors' calculations, IHSES 2007 and 2012.

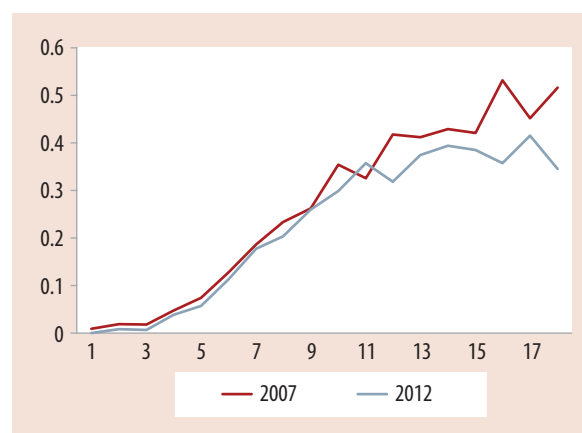
11 members, almost 6 children, and was equally likely to live in urban or rural areas. 52 percent of poor households' heads had less than primary education. Agriculture, construction and transport and storage constituted the three most likely sectors of employment for the head of household, accounting for almost half of all employed heads of poor households. A typical non-poor Iraqi household in 2012

FIGURE 17: Population Share by Size of Household



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 18: Poverty Headcount Rates by Household Size, 2007 and 2012

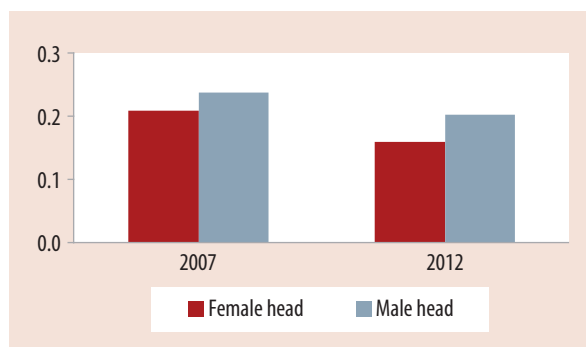


Source: Authors' calculations, IHSES 2007 and 2012.

had almost 8 members, with approximately 4 dependents (including children and the elderly), and likely lived in urban areas. Among non-poor households with employed heads, almost half were employed in commerce and retail; transport and storage; financial, insurance and professional services; or public administration, health and education. Almost 40 percent of heads of non-poor households had intermediate education or higher.

Poverty headcount rates are significantly higher for larger households (Figure 18). More than 90 percent of Iraq's population belongs to households of 14 or fewer members, with median household sizes of between 7 to 8 members (Figure 17). A majority of the poor belong to large households: less than 1 percent of the poor belonged to households with 4 or fewer members. In 2007, 78 percent of the poor belonged to households with 8 or more members, with about half of them being from families with more than 11 members. A similar pattern is apparent in 2012, where three-quarters of the poor belong to families with 8 or more members and almost a third belong to families with more than 11 members. Poverty in fact increases steeply with household size, from 4 percent among households with 4 or fewer members to around 40 percent among households with 13 or more members (Figure 18). Between 2007 and 2012, poverty among

FIGURE 19: Poverty Headcount Rates for Female and Male Headed Households



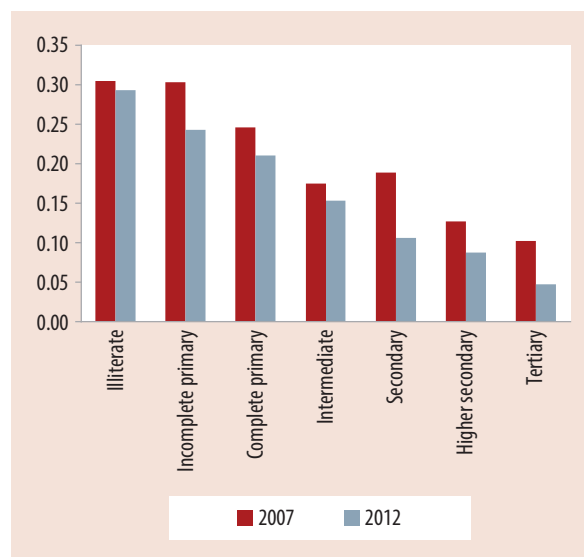
very large households with 13 or more members, who made up 13 percent of the population in 2012, appears to have come down.

A vast majority of Iraqi households, and 92 percent of poor Iraqi households (Table A 2.3), were headed by males in 2007 and 2012. In 2012, female headed households faced poverty rates of 16 percent, relative to 20 percent among male headed households (Figure 19). While poverty rates have come down for both male and female headed households between 2007 and 2012, the decline has been larger for female headed households.

One possible explanation for the decline in poverty rates among very large households and households headed by women is the Government of Iraq's social protection scheme. At the beginning of the 2003 war in Iraq, the government of Iraq announced the inclusion of households with unemployed heads in the social protection scheme. Starting in January of 2005, the government started distributing monthly grants to beneficiaries, based on the number of family members. The social protection scheme also included widows and divorced women, among others. Grants through the social protection are determined based on the size of the family, and increased with family size.¹⁷ All the grants were raised by 25% in 2006.¹⁸

The relationship between poverty and the education of the household head is striking in Iraq. Between

FIGURE 20: Poverty Headcount Rates by Education of the Head of Household

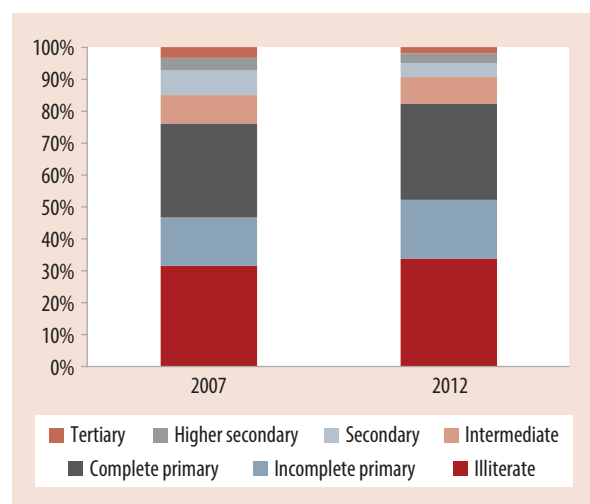


Source: Authors' calculations, IHSES 2007 and 2012.

2007 and 2012, there has been a secular decline in headcount rates among all education levels of household heads (Figure 20). While this is heartening, the share of the poor who belong to households whose heads have primary education or less has increased: these households account for more than 80 percent of the poor in 2012 and face poverty rates upwards of 20 percent (Figure 20 and Figure 21). More than

¹⁷ Iraqi magazine for research on markets and social protection 2009, University of Baghdad, *Social Protection Networks in Iraq and the effect on consumer protection*, See page 116 for the numbers of families benefiting from the social protection scheme based on region <http://www.iasj.net/iasj?func=fulltext&aId=1782>.

¹⁸ Ministry of Planning, 2008 http://cosit.gov.iq/documents%5Cstatistics_ar%5Cpoverty%5Cstrategy%5CBackground%20papers/%D8%AF%D9%88%D8%B1%20%D8%B4%D8%A8%D9%83%D8%A9%20%D8%A7%D9%84%D8%AD%D9%85%D8%A7%D9%8A%D8%A9%20%D8%A7%D9%84%D8%A7%D8%AC%D8%AA%D9%85%D8%A7%D8%B9%D9%8A%D8%A9%20%D9%81%D9%8A%20%D8%A7%D9%84%D8%AA%D8%AE%D9%81%D9%8A%D9%81%20%D9%85%D9%86%20%D8%A7%D9%84%D9%81-%D9%82%D8%B1.pdf.

FIGURE 21: Share of the Poor, by Education of the Head of Household

Source: Authors' calculations, IHSES 2007 and 2012.

half of poor households in 2012 had heads with less than primary education, among whom poverty rates are more than 25 percent. In contrast, in 2012 those whose heads have tertiary or higher secondary education face poverty rates of between 5 to 9 percent, and account for less than 5 percent of the poor.

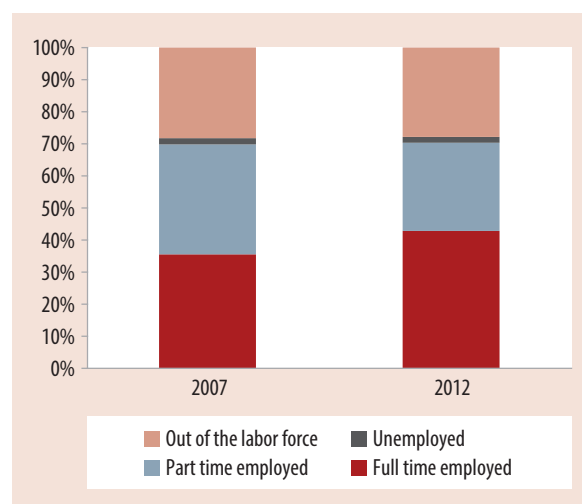
Poverty does not vary as starkly by the labor force status of the household head, but rather by the sector of employment. As may be expected, poverty is lower in households where the head is employed, between 17 and 18 percent in 2007 and 2012, as compared to 20 percent among those where the household head is out of the labor force (Figure 22). Headcount rates are almost 30 percent among households where the head is unemployed, although these households comprise only 1 to 2 percent of all households (Figure 22 and Figure 23). Surprisingly, full time employment is not associated with much lower incidence of poverty; and in 2012, more than 42 percent of poor households had heads who were employed full time; an increase of 7 percentage points since 2007.

Figure 24 plots headcount rates by the household head's sector of employment, based on an annual reference period. Among households whose heads are employed in agriculture or in construction,

FIGURE 22: Poverty Headcount Rates by Labor Force Status of the Head of Household*

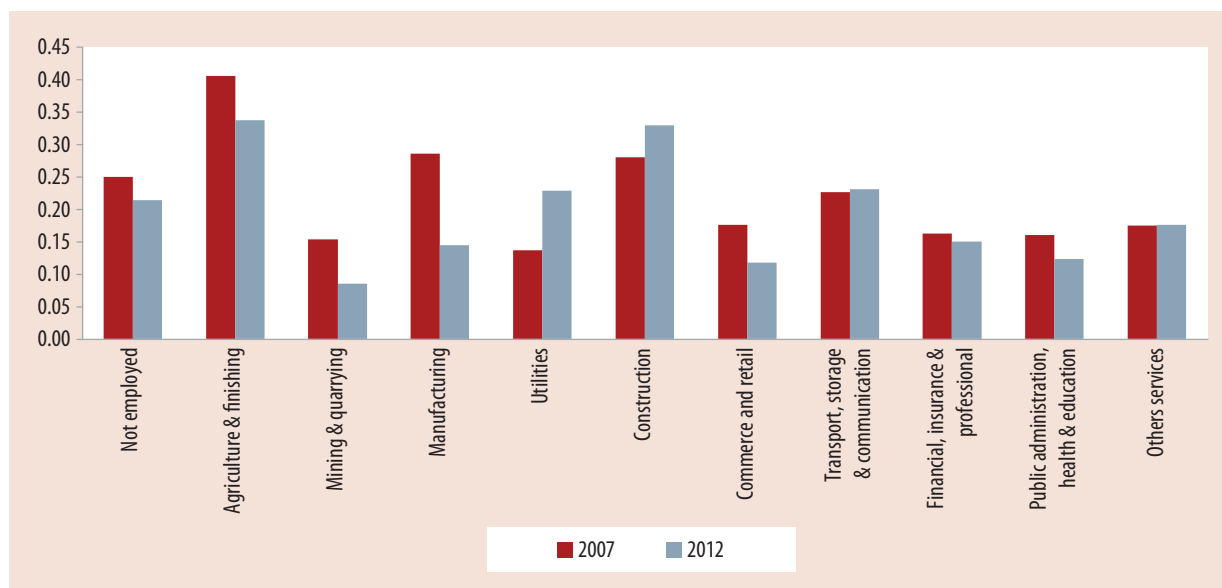
Source: Authors' calculations, IHSES 2007 and 2012.

Note: * Labor force outcomes are based on 7 day recall, ILO definitions.

FIGURE 23: Share of the Poor, by Labor Force Status of the Head of Household

Source: Authors' calculations, IHSES 2007 and 2012.

poverty is 33 percent, higher than among households with heads who are not employed. This is a worrying pattern, as these two sectors alone account for 24 percent of all poor households, while non-employment accounts for almost another 30

FIGURE 24: Poverty Headcount Rates by Employment Sector of the Head of Household

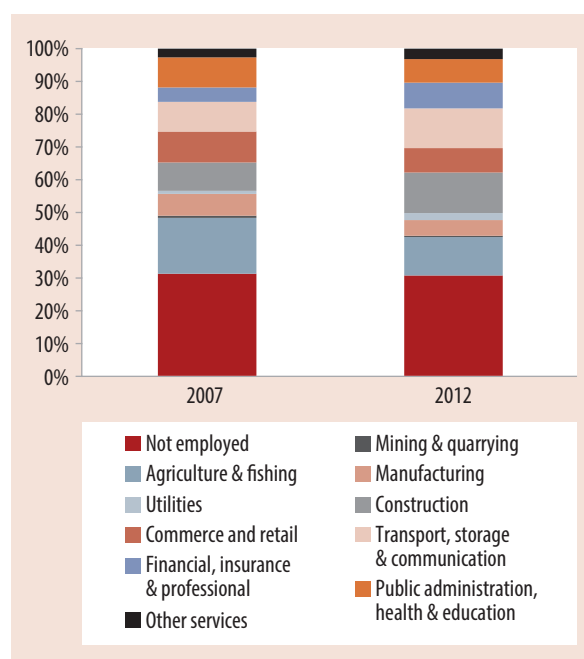
Source: Authors' calculations, IHSES 2007 and 2012.

percent (Figure 25). In contrast, the sector with the lowest incidence of poverty, mining and quarrying, accounts for less than 1 percent of the poor.

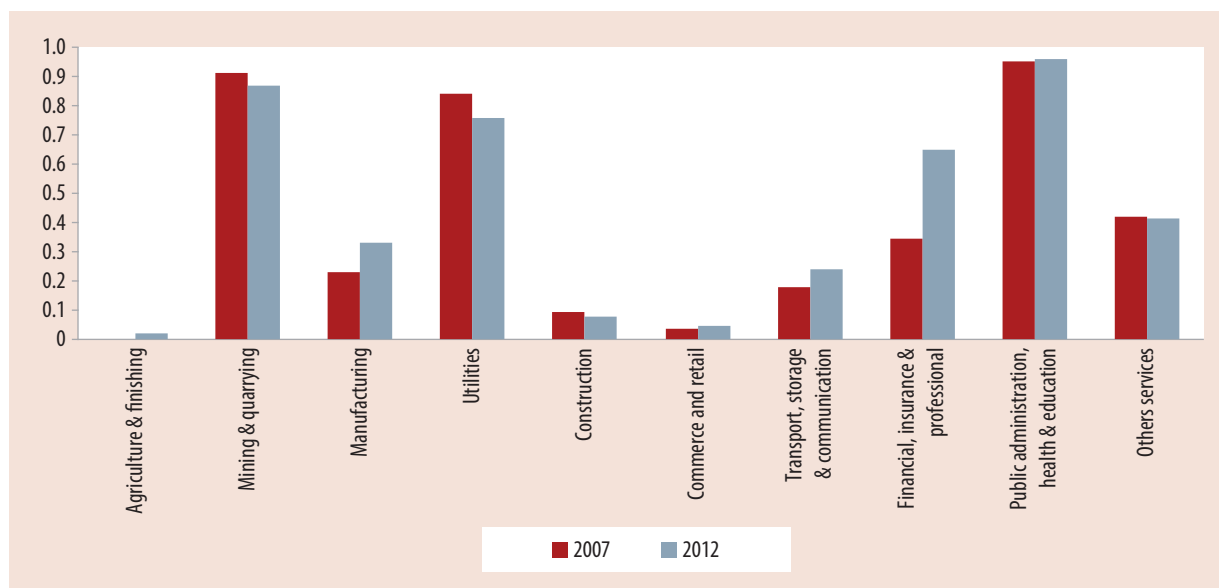
In 2012, 5 sectors of employment of the household head had poverty headcount rates of 15 percent or less—Mining, Manufacturing, Commerce, Finance and Public Administration—and employed less than 30 percent of heads of poor households. In contrast, the 5 sectors with poverty rates of 20 percent or more included Agriculture, Construction, Utilities, Transport, and non-employment, and accounted for almost 70 percent of poor households.

It should be noted that while almost all jobs in the public administration sector are public sector jobs, not all public sector jobs are in the public administration sector. The vast majority of the jobs in the mining and quarrying sector, and in the utilities (electricity, gas and water) sector are public sector jobs. In addition, there has been a significant increase in the share of public sector jobs in the financial, insurance and professional services sector, from 34 percent in 2007 to 65 percent in 2012 (Figure 26). Thus private sector activity in terms of employment in Iraq is concentrated in agriculture, manufacturing,

construction, transport, storage and communication and commerce and retail. In addition, employment in agriculture and commerce predominantly take the

FIGURE 25: Share of the Poor by Employment Sector of Head of Household

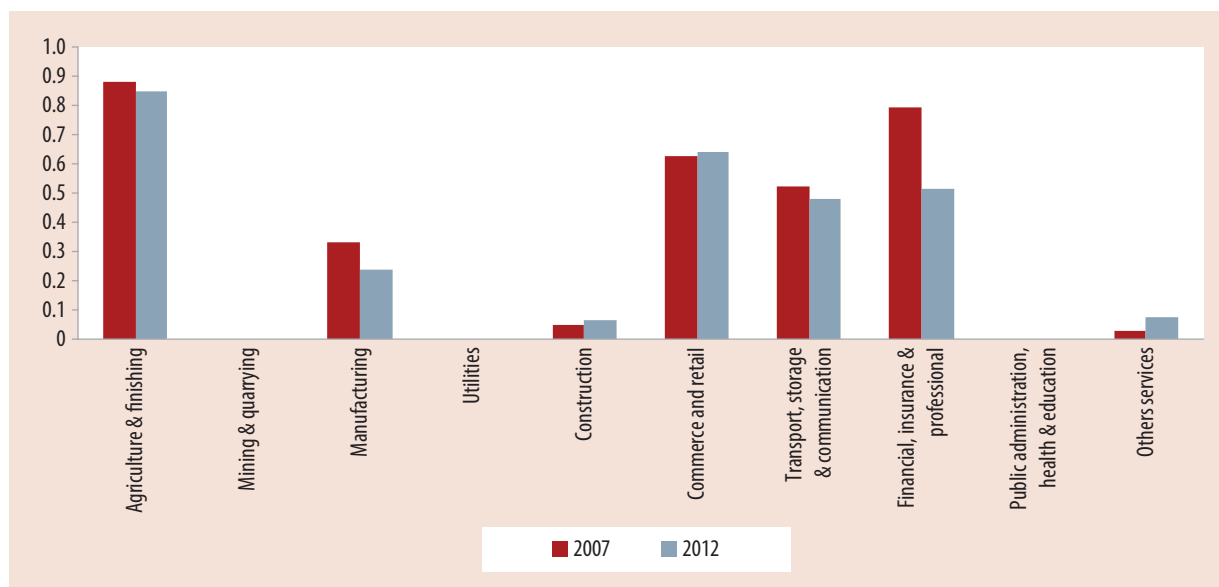
Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 26: Public Sector Employment as a Share of Employment in Each Sector, 2007–2012

Source: Authors' calculations, IHSES 2007 and 2012.

form of self-employment rather than wage work, and about half of the private sector jobs in financial, insurance and professional services and in the transport, storage and communications sector consist of self-employment rather than wage employment (Figure 27). Taken together these suggest that

many of the employment sectors that are associated with lower poverty rates and account for smaller shares of the poor are dominated by the public sector. In contrast, the private sector (and in particular, agriculture and construction), the engine of growth and job creation in a healthy economy, seems to be

FIGURE 27: Self-Employment in the Private Sector as a Share of All Employment in the Private Sector

Source: Authors' calculations, IHSES 2007 and 2012.

comprised of mostly self-employment opportunities (which may indeed be subsistence activities) rather than salaried wage employment.

Correlates of Consumption Expenditure and Poverty

In this section, we explore how different factors come together to explain consumption expenditure, and attempt to measure the effect of each factor while holding others constant. We also identify their role in determining whether a household is poor (consumption below the poverty line) or belongs to the bottom 40 percent (consumption below the consumption of the 4th consumption decile). The advantage of the first approach is that it allows us to use information across the consumption distribution although it assumes that the influence of each factor is linear.¹⁹ The latter approach, where the outcome is whether the household is poor or not, estimates the effect of each factor in determining whether household consumption is sufficiently low, i.e., below the poverty line; rather than the overall relationship with consumption.

Table A 2.4 presents the results of a regression of log per capita real consumption expenditure on a range of household and household head characteristics, as well as location variables. In 2007, consumption was lower for larger households and with more children and higher for households with elderly persons (likely the effect of pension income). It was also positively correlated with the number of employed working age males. Education was strongly associated with higher consumption. Almost all sectors of employment were correlated with higher per capita consumption (relative to households with non-employed heads), with the exception of construction, which was associated with lower consumption. The same relationship with household size and composition, education, and employment remains in 2012, except that households with heads employed in agriculture were not significantly different from households whose heads were not employed in terms of their predicted per capita consumption, when all other factors were controlled for.

Over the five year period, the correlation between consumption and location has altered in important ways. For one, the size of the correlation between living in an urban area and higher consumption has halved. For another, the effect of living in Nineveh has reversed, from a relative advantage to a significant disadvantage, while the three governorates of Kurdistan, Kirkuk, and Najaf continue to be associated with higher consumption relative to Baghdad in both years. In addition, households living in Anbar, Babylon, Salahadin and Basra tend to have higher consumption in 2012 compared to similar households in Baghdad. In both years, certain governorates were associated with lower consumption relative to Baghdad after controlling for the effect of household characteristics on consumption, including Diyala, Kerbala, Wasit, Qadisiya, Thi Qar, Muthanna and Missan.

In Table A 2.5, we present the results of a probit regression of the factors that predict poverty at the level of the household, including location, household demographics, education and work status of the head of household, and migration status. Living in an urban area reduced the likelihood of being poor by 11 percent in 2007 and 5 percent in 2012. Household demographics—household size, the number of children and elderly—are all correlated with poverty in 2007 and in 2012: larger households and households with higher dependency ratios are more likely to be poor.

Measures of employment status are also correlated with poverty. An additional employed working age male reduces the probability of poverty by about 2 percent. In addition, certain sectors of employment (relative to being unemployed or out of the labor force) are correlated with lower odds of poverty—in 2007, households with heads working in electricity, gas and water supply (utilities) and public administration, health and education were 8 and 4 percent

¹⁹ Ravallion (1996) points out that the reason for which level regression should be preferred is that it depends on weaker assumption about the error term than the binary model of being poor or not.

less likely to be poor (Table A 2.5). In 2012, almost all sectors of employment except electricity, gas and water supply and agriculture lowered the odds of poverty. However, households with heads working in construction were 7 percent more likely to be poor.

Education of the head of household is strongly correlated with poverty: at higher levels of education, the odds of poverty fall, at an increasing rate. For instance, relative to a household with an illiterate head of household, households with primary educated heads face 7 to 8 percent lower probability of being poor, while those with higher secondary and tertiary educated heads face on average more than 16 percent lower odds of being poor.

How do the poor compare to the bottom 40 percent of the consumption distribution? By definition, in Iraq, all the poor belong to the bottom 40, but the reverse is not true. In line with the relative concentration of people around the poverty line, the average characteristics of the bottom 4 deciles are remarkably similar to those of the poor. Table A 2.6 compares the characteristics, on average of the poor, those in the bottom 40 percent, and the top 60 percent in 2007 and 2012. Just like the poor, the average household in the bottom 40 percent is almost equally likely to live in an urban or rural area and has more than 10 members, with almost 6 dependents. 4 out of 5 heads of bottom 40 households have primary or less education, and two-fifths are employed in agriculture, construction, commerce and transport (predominantly private sector jobs). In contrast, almost 80 percent of top 60 households are urban, with a typical household size of 7 members, almost 4 of which are dependents. 42 percent of top 60 households have heads with more than primary education, and almost two-fifths are employed in public administration, finance or commerce.

Probit analysis of the characteristics that predict being in the bottom 40 confirm these findings (Table A 2.7). In 2007, living in an urban area reduced the odds of being in the bottom 40 by approximately 13 percent, a relation that continues to hold in 2012, although the coefficient had

declined to 7 percent. Household size and dependency are strong correlates with belonging to the bottom 4 deciles: in 2012, each additional household member increased the probability of being in the bottom 40 by 8.6 percent, each child by approximately 6 percent. Belonging to a male headed household increases this probability by 9 percent in 2012.

Measures of employment and labor force are also very important. Each additional employed working age male lowers the risk of being in the bottom 40 by 4 percent. All employment sectors lower or do not alter the odds of being in the bottom 40 relative to the household head being unemployed or out of the labor force, with the exception of construction, which increased the risk of being in the bottom 40 by 8 percent in 2012. Employment for the household head in public administration, finance, and mining sectors, which are mostly public sector jobs, have large impacts, lowering the odds of being in the bottom 40 by 11, 9, and 16 percent respectively in 2012. Finally, higher education for the head of household starkly lowers the likelihood of being in the bottom 4 deciles of the consumption distribution.

Poverty Across Space

In order to better understand the spatial dimensions of poverty, the analysis that follows will further subdivide the rest of Iraq into three parts, yielding five *divisions* of Iraq (Map 1), of relatively equal population size (Table 8):

1. Kurdistan comprising the three governorates of the Kurdistan Regional governorate, Duhok, Erbil, and Sulaimaniya, making up around 15 percent of the Iraqi population
2. North comprising of the three governorates directly south of Kurdistan and to the North of Baghdad—Nineveh, Kirkuk, and Salahadin, accounting for 18 percent of the population
3. Baghdad comprising of the single governorate of Baghdad, the capital city, making up a fifth of the Iraqi population

4. Central comprising of the governorates to the east, west and immediately south of Baghdad—Anbar, Diyala, Najaf, Karbala, Wasit, and Babylon—accounting for a quarter of Iraq’s population
5. South comprising the five southern most governorates of Iraq—Qadisiya, Thi Qar, Muthanna, Missan, and Basra—making up almost 22 percent of the total population.

During the period from 2007 to 2012, three divisions witnessed larger than average population growth (including natural population growth as well as migration)—Kurdistan, the North and the Central division. On the other hand, Baghdad’s population barely grew, and population growth in the South was below the national average of 14 percent.

This divisional break-up shows the stark differences in welfare improvements within the 14 governorates that make up the Rest of Iraq. Figure 28 plots poverty head count rates in each division in 2007 and 2012, and the changes in poverty over the period (in percentage points). It is evident that poverty reduction was concentrated entirely in the Central division, where headcount rates fell by 14 percentage points between 2007 and 2012. In contrast, the South was the only division where headcount rates increased, albeit slightly, over the 2007–2012 period. The Central division, as a result, was the only division to witness a decline in its share of the poor, by 12 percentage points, while the South’s share of the poor increased by 6 percentage points, and the North’s by 4 percentage points, a rate significantly higher than the increase

MAP 1: Five Divisions of Iraq

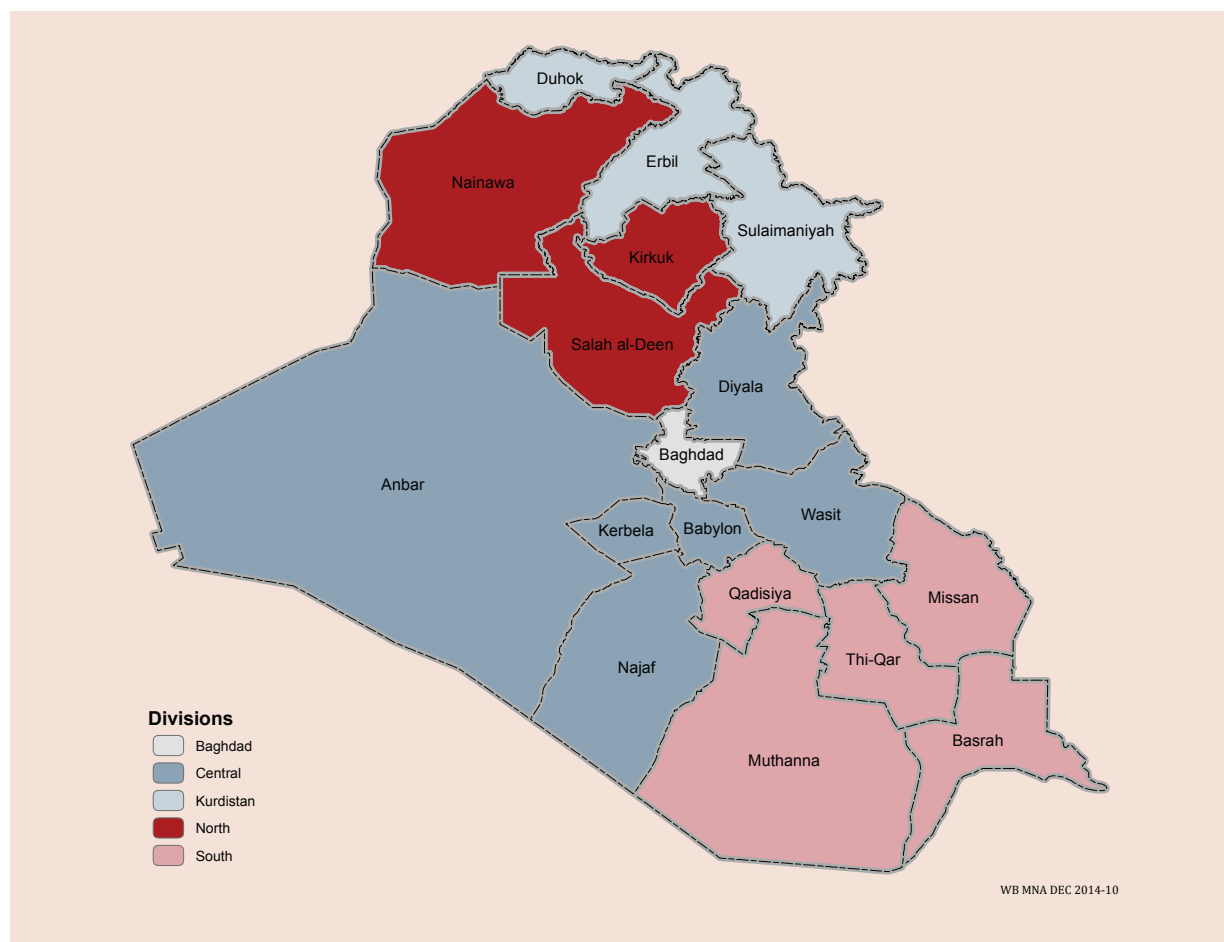


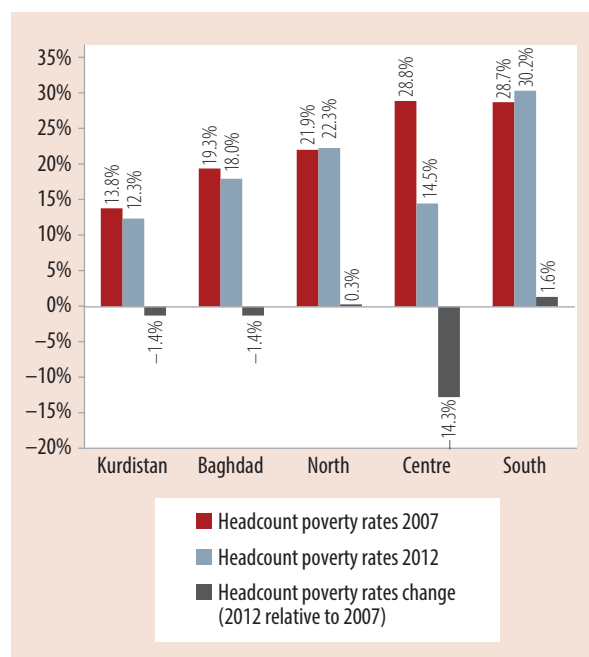
TABLE 8: Survey Based Estimates of Population by Division*

	2007	2012	% Change (cumulative): 2012 relative to 2007	% of 2012 population
Kurdistan	3,838,437	4,728,838	23.2	14.0
Baghdad	6,961,071	7,193,415	3.3	21.2
North	5,049,876	6,128,938	21.4	18.1
Centre	7,247,272	8,515,574	17.5	25.1
South	6,526,511	7,300,681	11.9	21.6
Total	29,623,167	33,867,446	14.3	100.0

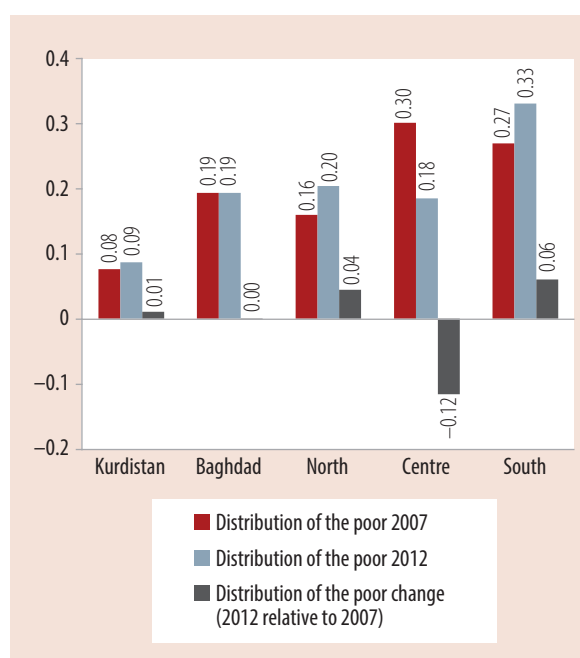
Source: Authors' calculations, IHSES 2007 and 2012.

Note: * While no recent population estimates based on census data is available, survey based estimates of population provide some indication of the size and share of each division, although these should be interpreted with caution.

in headcount rates, because of their large populations (Figure 29).

FIGURE 28: Division Headcount Rates (Percent) and Changes (Percentage Point), 2007–2012

Source: Authors' calculations, IHSES 2007 and 2012.

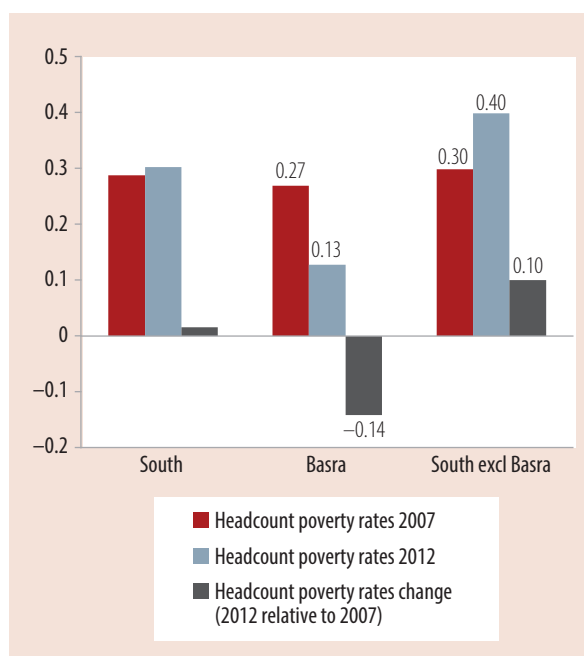
FIGURE 29: Distribution of the Poor by Divisions, 2007–2012

Source: Authors' calculations, IHSES 2007 and 2012.

Furthermore, the overall rates and trend for the South mask an increasingly divergent performance between Basra and the other governorates in the South (Figure 30). While poverty fell by 14 percentage points in Basra to 13 percent in 2012, in Thi Qar, Muthanna, Qadisiya and Missan, the four other governorates in the Southern division, headcount rates increased by 10 percentage points to a staggering 40 percent. Similarly, within the North, headcount rates increased sharply in Nineveh, from 20 percent in 2007 to 32 percent in 2012, while poverty fell in Salahaddin and Kirkuk, the two other Northern governorates.

Poverty Beyond Consumption

Poverty in Iraq, as in the developing world, goes well beyond material deprivation—the inability to satisfy basic needs of food, shelter, clothing and other necessities that make up a minimum standard of living. Over and above the deprivation of many Iraqi households in human development—health,

FIGURE 30: Poverty in Basra and the Rest of the South, 2007–2012

Source: Authors' calculations, IHSES 2007 and 2012.

education and living standards (described in detail in the next chapter)—, household self-assessments of their welfare status incorporate a range of other measurable and unmeasurable dimensions of welfare. The 2012 IHSES surveys ask a series of questions to better understand subjective and relative wellbeing. This section uses these measures and their correlates to further our understanding of

welfare as perceived by Iraqis themselves, and how these relate to consumption poverty.

The first such question asks the main respondent: “In your view, what’s the minimum monthly income that your household needs to cover your basic needs?” For Iraq as a whole, the average minimum monthly income per capita reported by households as being adequate to cover their basic needs is ID 128900. On average, rural households report 32 percent lower minimum income requirements compared to urban households (Table 9). The highest reported minimum income needs are in Baghdad, 28 percent higher than the national average, with the lowest in the North, 21 percent lower. The largest differences between urban and rural households is in Kurdistan, with rural households reporting needing 38 percent lower incomes per capita per month; while Baghdad and the North have the lowest urban-rural differential of around 20 percent. It is interesting to note that despite the regional non-food adjustment that allows for a significantly higher consumption poverty line in Baghdad, perceived differences between minimum income requirements and the poverty line are substantial. Households in Baghdad report needing a minimum income that is on average 40 percent higher than the Baghdad poverty line. Similarly, in the Central province, where poverty has come down sharply in many governorates, households report minimum income needs almost 30 percent higher than the regional poverty lines.

TABLE 9: Average Minimum Per Capita Monthly Income (‘000s Iraqi Dinar) Required to Meet Basic Needs, 2012

	Rural	Urban	% Difference (Urban relative to rural)	Total	% Difference (Relative to National)	Consumption poverty line	% Difference (Relative to Regional poverty line)
Kurdistan	100.88	138.88	37.67	131.45	1.98	142.41	-7.69
Baghdad	140.42	168.69	20.13	165.13	28.10	115.93	42.43
North	91.29	109.23	19.65	101.81	-21.02	101.68	0.13
Central	113.95	145.46	27.65	131.16	1.75	101.68	29.00
South	96.12	119.90	24.74	111.90	-13.19	101.68	10.05
All Iraq	105.57	139.68	32.30	128.90			

Table 10 shows average minimum per capita monthly incomes reported by households in each governorate (rural and urban areas), as well for the nation. The largest differences between rural and urban areas in this measure is in Erbil, with urban households stating minimum income needs as being 50 percent higher than those in rural areas. The smallest differential is in Basra, where urban and rural households report needing very similar incomes. Minimum incomes required in rural and urban areas are relatively low in the governorates with high consumption poverty, and on relatively high in Erbil, Baghdad, Najaf, Basra, and Anbar. Relative to the national average, residents of Nineveh and Muthanna reported needing more than 30 percent lower incomes per month to meet their basic needs, whereas those in Najaf needed more than 40 percent more.

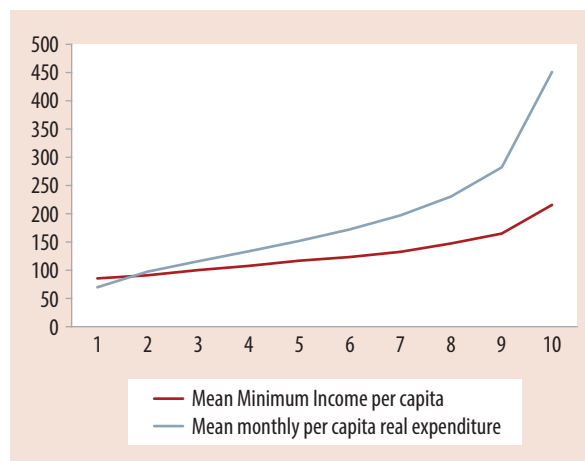
The concept of minimum income needs is not purely an absolute one, but also, one that appears to increase slowly with per capita consumption expenditures (Figure 31). For the bottom decile, mean per capita expenditures are below the reported monthly minimum income needs. Thereafter, minimum income needs increase slowly, at an average rate of 7 percent per decile, until the 7th decile. Thereafter, they increase more rapidly, by 11.6 percent for the 8th and 9th decile, and by 31 percent for the top decile (compared to the 9th decile).

The survey also solicits information on satisfaction along various dimensions; including food, housing, income, work, local security, and trust and acceptance within the community, and life overall. These are asked of all household members above the age of 15. For each of these elements and for the overall

TABLE 10: Average Minimum Per Capita Income Required (monthly, '000s Iraqi Dinar), Governorates

	Rural	Urban	% Difference (Urban relative to rural)	Total	% Difference (Relative to National)
NINEVEH	74.41	86.57	16.35	81.73	-36.59
MUTHANNA	75.17	100.36	33.51	86.22	-33.11
KERBALA	82.00	96.88	18.15	91.91	-28.70
QADISIYA	85.81	101.42	18.20	94.73	-26.51
THI-QAR	81.05	103.61	27.83	94.75	-26.50
MAYSAN	100.82	119.53	18.55	113.89	-11.65
SULAIMANIYA	93.18	119.41	28.15	115.01	-10.78
DIYALA	102.54	129.69	26.47	115.39	-10.48
SALAHADDIN	106.15	127.79	20.39	116.03	-9.99
WASIT	101.54	138.47	36.36	123.06	-4.53
BABYLON	108.84	148.32	36.27	127.13	-1.38
KIRKUK	114.83	143.43	24.91	134.28	4.17
DUHOK	106.15	148.82	40.20	137.10	6.35
BASRA	140.79	138.08	-1.92	138.63	7.55
ANBAR	135.62	141.96	4.68	138.71	7.61
ERBIL	103.80	155.71	50.01	146.73	13.83
BAGHDAD	140.42	168.69	20.13	165.13	28.10
NAJAF	148.43	203.18	36.89	185.80	44.14
All Iraq	105.57	139.68	32.30	128.90	0.00

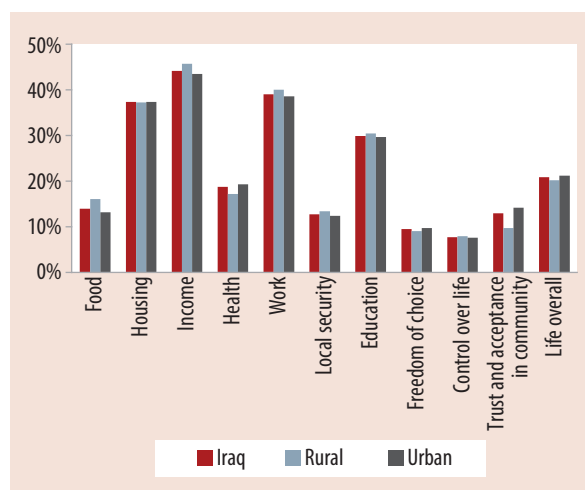
FIGURE 31: Comparing Minimum Monthly Income Needs Per Capita with Monthly Per Capita Expenditures, by Consumption Deciles



assessment of satisfaction, Figure 32 graphs the share of respondent who reported being dissatisfied across different elements. Across rural and urban areas, the highest rates of dissatisfaction are related to housing, income, work and education, with upwards of a third of respondents reporting dissatisfaction.

Rates of dissatisfaction across different elements vary across space (Figure 33). Rates of dissatisfaction

FIGURE 32: Dissatisfaction Across Different Dimensions, Iraq, Urban and Rural



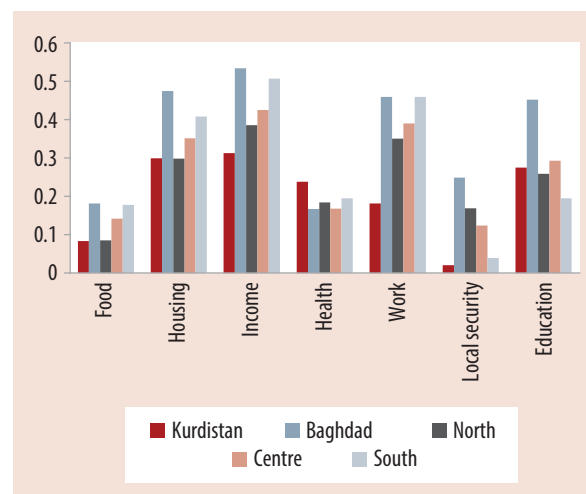
with food, housing, income and work are the highest in Baghdad and the South; while Baghdad also has the highest rates of dissatisfaction in terms of education and local security.

The series of questions on satisfaction are immediately followed by a subjective self-assessment of the household's poverty status, asked of the same set of individuals. Based on these different measures, we construct three additional subjective and self-reported measures of welfare:

1. Minimum income poverty: A household is poor according to this measure if their stated minimum per capita monthly income needed to cover basic needs is higher than their per capita monthly expenditure
2. Satisfaction poverty: An individual aged 15 years and above is poor by this measure if they state that they are 'not very satisfied' or 'not satisfied at all' with life overall
3. Subjective poverty: An individual aged 15 years and above is poor by this measure if they answer that their household's situation is 'poor' or 'very poor'.

Figure 34 plots consumption poverty headcount rates and self-assessment of wellbeing according to

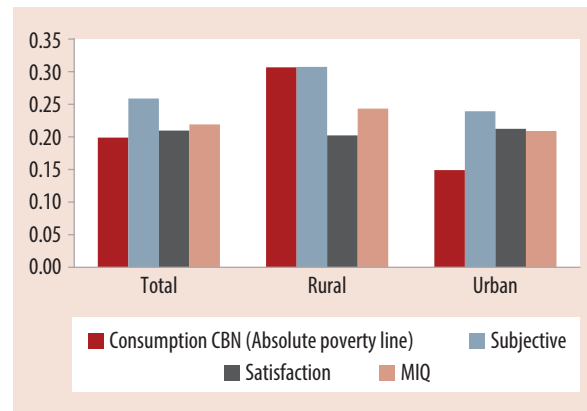
FIGURE 33: Rates of Dissatisfaction, Selected Dimensions, by Division



these measures for Iraq as a whole and for rural and urban areas. Overall, headcount rates based on consumption are fairly similar to those based on the minimum income question and on life satisfaction, while poverty as measured by subjective well-being is higher at 26 percent. In rural areas, 20 percent of individuals report being dissatisfied with their lives, 24 percent have lower per capita consumption than their estimated basic income needs, while more than 30 percent are poor based on the consumption poverty line or assess that their household is poor or very poor. In urban areas, while consumption poverty headcount rates are relatively low, other measures of poverty are significantly higher.

Looking across divisions (Figure 35), in line with consumption poverty rates, Kurdistan has the lowest rates of dissatisfaction, subjective poverty and minimum income poverty. In fact, only 5 percent of the population reported needing more income to fulfil basic needs than their current expenditure. In Baghdad, while consumption and subjective poverty are similar, other measures suggest lower levels of poverty. In the Centre, where consumption poverty rates fell the most since 2007, minimum income, subjective and satisfaction poverty are all much higher, with headcount rates above 30 percent. In the South in contrast, rates of dissatisfaction with life are relatively low, at 23 percent, compared to consumption poverty at 30 percent and subjective poverty at 34 percent. Annex Table 8.9 reports estimates at the governorate level. Across all measures, Sulaimaniya has the lowest headcount rates. While Muthanna has the highest rates of consumption poverty at 48 percent, Qadisiya has the highest rates of subjective poverty, with half the respondents considering that their household's situation was poor or very poor. The lowest rates of life satisfaction are reported in Baghdad, with 36 percent stating that they were not very or not at all satisfied with life overall, likely reflecting the larger rates of dissatisfaction with the security situation. In contrast, in Najaf, where consumption poverty rates are only 10 percent, more than 40 percent have per capita

FIGURE 34: Headcount Rates, Different Measures of Wellbeing, Iraq, Urban and Rural, 2012



consumption expenditures that are below their reported minimum income requirements.

Comparing the incidence of poverty according to these different measures over consumption deciles reveals the extent to which these subjective measures combine both absolute and relative measures. We can see that minimum incomes, while referenced to minimum needs, appear to have a relative dimension, and increase with the wealth of households, the share of households consuming below their self-reported minimum income needs declines steadily as consumption increases; from 62 percent among the

FIGURE 35: Headcount Rates, Different Measures of Wellbeing, Divisions, 2012

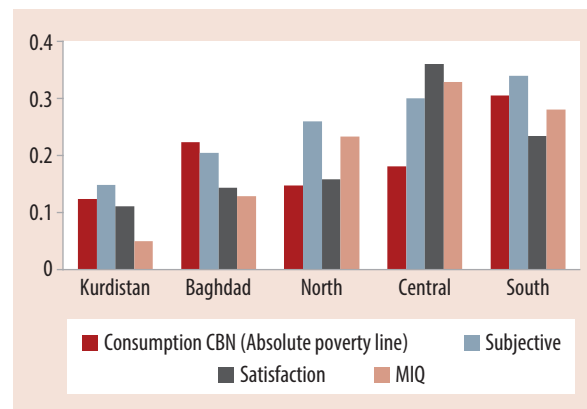
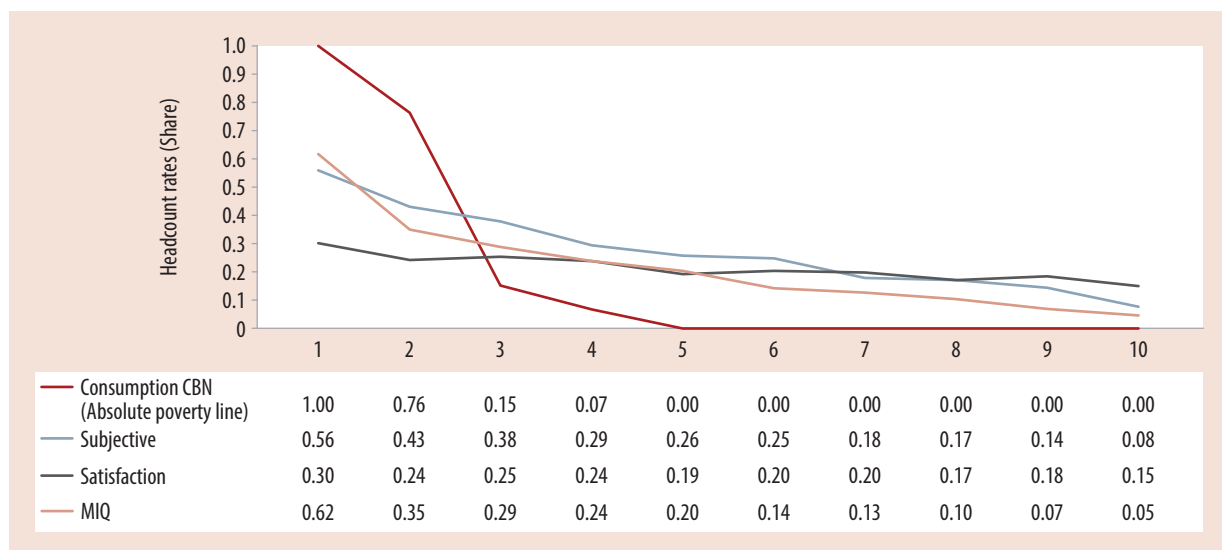


FIGURE 36: Poverty Measures Across Consumption Deciles



bottom consumption decile, to 20 percent among the 5th decile, to 5 percent among the top decile. Life satisfaction and subjective measures on the other hand, which go beyond consumption and income, do not decline as quickly with increases in consumption levels. Subjective self-assessed poverty levels, which are anchored to some notion of absolute welfare, fall from 56 percent among the bottom decile to 26 percent among the 5th decile and to 8 percent among the top decile. Dissatisfaction rates are the least responsive to improvements in income and consumption, remaining as high as 26 percent among the 5th decile and 15 percent among the top decile.

In line with the different aspects of absolute and relative deprivation captured by these different measures, and the elements taken into account in evaluating whether a household or an individual considers themselves as deprived; almost half of the consumption poor are also poor in terms of subjective poverty and minimum income poverty, while only 28 percent are dissatisfied with life overall (Figure 37). 45 percent of those who are poor in the sense that their consumption is lower than their perceived minimum income needs are also consumption poor, 32.5 percent of households who consider themselves poor or very poor are below

the consumption poverty line, while around a fifth of households who express dissatisfaction with their lives are also consumption poor (Figure 38).

The correlates of subjective poverty and life (dis)satisfaction are therefore broader than those of consumption poverty (Annex table 8.10). For instance, larger household sizes, with more children and more elderly persons are associated with lower levels of subjective poverty and of dissatisfaction with life; as is being female. Other correlates are common:

FIGURE 37: Share of Consumption Poor Who are Poor According to other Measures

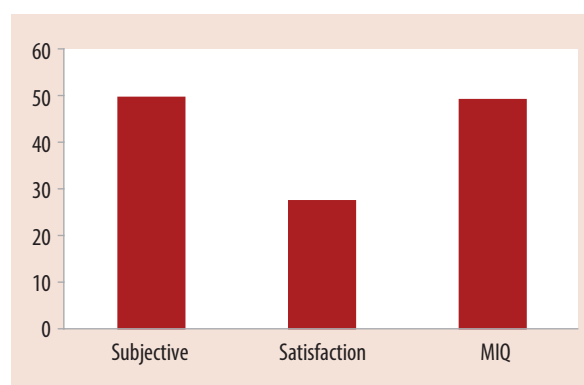


FIGURE 38: Share of Subjective, Satisfaction and Minimum Income Poor Who are Consumption Poor



non-employment, employment in the private sector, as well as fewer working age males employed are all associated with higher poverty according to these measures. Lower education levels also lower these indicators of well-being. Each division is associated with lower well-being relative to Kurdistan; and in addition, individuals belonging to households whose heads were born in a different governorate, or report having been forcibly displaced, are more likely to report lower subjective welfare and satisfaction. Finally, and as expected, the higher the individual's consumption level, the lower the rates of subjective poverty and dissatisfaction.

In order to further understand how Iraqis (in this case, Iraqis aged 15 and above) evaluate their household's welfare status as well as their own satisfaction or dissatisfaction with life, we restrict attention to dimensions of deprivation as revealed by the regressions described above—education, employment (or lack thereof), poverty in terms of low consumption expenditures, either relative to the consumption distribution, or relative to their own notions of minimum income needs, and the division of residence, which proxies for access to services, local security and rule of law, and the local environment and labor market. We exclude household size, composition and the gender of the individual, as we consider these as given rather than deprivations in themselves.

We define the following deprivations:

Education:	Illiterate and incomplete primary (relative to Higher secondary and Tertiary)
	Complete primary and lower secondary (relative to Higher secondary and Tertiary)
Employment:	Non employed (relative to Public sector employment)
	Private sector job (relative to Public sector employment)
	Lower than average share of working age men employed
	Forcibly displaced
Displacement and migration:	Head of household born elsewhere
Consumption and minimum income poverty:	Household per capita expenditure is lower than minimum income needs
	Quintile 1 (poorest) (relative to Quintile 5)
	Quintile 2 (relative to Quintile 5)
	Quintile 3 (relative to Quintile 5)
	Quintile 4 (relative to Quintile 5)
Space:	Subjective poverty: Division (relative to Kurdistan)
	Satisfaction: Division (relative to North)

By normalizing the coefficients of the regressions of these dimensions against the subjective poverty dummy and a dummy for whether an individual is dissatisfied with life, we can construct the relative weights of each of these dimensions (Annex Table 8.11, 8.12 and 8.13). These dimensions are aggregated up into categories: education, employment, displacement and migration, consumption or income poverty and place of residence; and are shown in Figure 39. Figure 40 shows the incidence of each of these deprivations, weighted appropriately.

FIGURE 39: Relative Weights of Different Dimensions of Deprivation in Determining Subjective Poverty and Dissatisfaction with Life

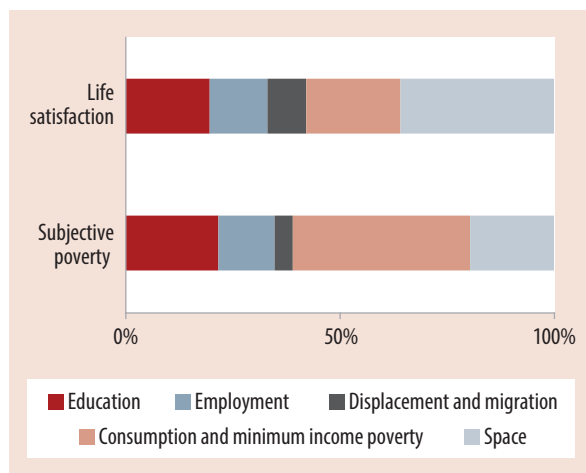
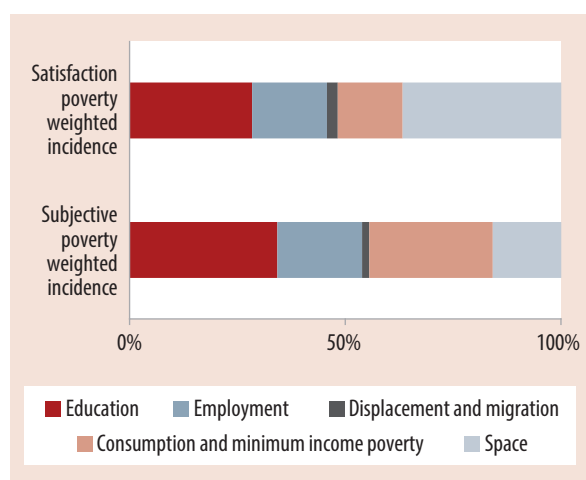


FIGURE 40: Weighted Incidence of Different Dimensions of Deprivation in Determining Subjective Poverty and Dissatisfaction with Life



When comparing the relative weights of different dimensions in Figure 39, it is apparent that in determining subjective self-assessments of poverty status, the largest weight is placed on lack of consumption or income, with smaller but relatively equal weight on educational deprivation or on place of residence. In contrast, dissatisfaction with life appears to be

driven more by where an individual lives, reflecting the additional importance of location specific factors including security concerns, local labor market conditions and service delivery. However, the incidence of these deprivations also varies: for instance, less than 6 percent of individuals report being forcibly displaced; while more than 60 percent of individuals are not employed.

Figure 26 shows how the incidence of these deprivations would change depending on which sets of weights were used. Given the pervasively low levels of education, the incidence of education deprivation is large, and is weighted more in subjective poverty assessments. Similarly, while employment outcomes have a relatively smaller weight; because so few individuals have access to public sector jobs, the weighted incidence of employment deprivations is also relatively large. In line with the relative importance of different dimensions, the incidence of consumption or income poverty is the largest when weighted according to subjective welfare assessments, while the incidence of spatial dimensions is more important when weighted according to the dimensions of satisfaction.

If we were to use these broader dimensions of deprivation, weighted according to their revealed importance in determining self-assessments of household welfare or life satisfaction, to construct a multidimensional index of deprivation, headcount rates would be higher than as measured by consumption poverty, 25.57 percent if subjective poverty weights and deprivations were used and 28.45 percent if life satisfaction weights and dimensions were used.

To conclude, the 2007 to 2012 period has been characterized by low rates of per capita consumption growth relative to the increase in per capita GDP. Consumption growth has been faster, and as a consequence, poverty reduction has been larger, in rural areas and in the 14 governorates outside of Kurdistan and Baghdad. In fact, poverty reduction has been almost entirely focused in the Central division, and a few other governorates, while poverty has increased from already high levels in the South. Consumption has also grown faster for the non-poor than the poor.

Household size and composition, the education and sector of work (in general) of the head of household and the location of the household are all strong determinants of consumption and poverty. But households dependent on agriculture and construction are no less likely to be poor relative to households with heads who are unemployed or out of the labor force; while public sector jobs are in general associated with a lower probability of poverty.

Recognizing that poverty has many facets, we also use subjective measures of wellbeing and welfare

to understand the different elements that the Iraqi people take into account when evaluating their own welfare, elements that go beyond consumption. These include concerns about the work and incomes, education, the ability to fulfil basic needs, as well as local economic and security conditions. Taken together, these findings highlight the importance for putting in place a set of broad based policy reforms to address the multidimensional deprivations faced by Iraqi households that both shape their perceptions of the present and their aspirations for the future.

Poverty in Human Capital

Poverty in consumption is but one dimension of deprivation in Iraq—many individuals experience poor health and education outcomes and limited access to essential services. To benchmark poverty in human development, we create a multidimensional index of human development deprivations. Poverty as measured by this index generally follows the same pattern across space as consumption poverty. But there are important differences. While the high level of consumption deprivation in the South coexists with poverty in human capital, and the low consumption poverty rates in Kurdistan are accompanied by limited deprivation in human development; in the Centre, while welfare as measured by consumption has rebounded, significant deprivations in human capital remain. Unequal access to basic human development outcomes is shaped by both gender and space, in addition to household wealth and family characteristics. Inequality in access to educational attainment is primarily explained by gender whereas unequal access to quality housing and other basic services is driven by the place of residence.

Early childhood nutrition, the lack of which can have irreversible long term consequences, is correlated not only with the household's ability to consume adequate food, but also with space, reflecting differential access to essential services, and with maternal nutrition, proxied by early motherhood. Stunting and child underweight rates vary in Iraq with wealth, with the highest prevalence rates among households belonging to the poorest quintiles. Governorates with higher per capita consumption expenditure, higher total caloric

intake, and a smaller share of food calories from the Public Distribution System also have lower rates of stunting. The negative relationship between mean consumption levels and nutrition is directly related to food expenditures and caloric intake. Stunting is more prevalent among the children below 36 months, suggesting that perhaps malnourished mothers may be giving birth to malnourished children. Indeed, early motherhood is associated with poor nutritional outcomes for children, even after accounting for lower food consumption associated with the household's income and expenditure levels, the place of residence and parental education.

Education, one of the strongest correlates of poverty, varies widely across Iraq, by division and by gender. The median education level for Iraqis is primary schooling, and for the majority of children, schooling ends after primary education. Very little has changed in terms of educational outcomes between 2007 and 2012 in Iraq. One exception is the cohort of young females, who are catching up with the relatively low attainment of their male counterparts. Both gross and net enrollments display a sharp decline after primary school. The sole exception is Kurdistan, where gross enrollment rates are above 100 percent even at the intermediate and secondary levels, the highest in the country. There exist significant gender disparities in gross enrollment at each level. Despite these odds, among the few girls who make it to secondary and tertiary level, net enrollment rates are slightly higher among girls than among boys, suggesting that they are more successful in completing each level on time.

The lack of access to schools, the pressure to support the family by working and the unaffordability of schooling, social norms about the value and appropriateness of girls' education, and a significant lack of interest; all contribute to poor educational outcomes for children. The latter may reflect poor education quality, but these education outcomes are more broadly also likely reflecting limited returns to education on the labor market.

Finally, turning to measures of housing quality and access to basic services, while there have been some measurable improvements in access, there are little improvements in quality, with some significant variations across space and by household wealth. A substantial portion of households who use the public network as the main source of water consider it to be insufficient. Only 3 percent of households in Baghdad, and around a tenth of households in the Centre and the South receive power for more than 12 hours. Housing quality is also perceived to be low, with a large share of Iraqi households reporting inadequate space and inadequate utilities. In fact, on average, households have only 1 bedroom for every 3 to 4 members. Overall, in Iraq, three decades of violence and insecurity have stalled progress in human development and service delivery, and the nation faces a significant deficit, with far-reaching consequences for the economy and for future generations.

Across the world, consumption poverty is associated with poorer education and health outcomes and limited access to and lower quality of basic services. Iraq is no exception—education is a strong determinant of higher per capita consumption expenditure and of lower poverty. More than four-fifths of the poor belong to households with heads having completed primary education or less, and poverty rates increase systematically with lower levels of education of the head of household. In this chapter, we analyze a range of human development outcomes; explore their links to poverty and welfare, with a particular focus on children. We begin with some aggregate indices of deprivation and opportunity in human development in Iraq and examine how they correlate with welfare.

Multidimensional Poverty in Human Development

Poverty in consumption is but one dimension of deprivation in Iraq—many individuals experience poor health and education outcomes and limited access to essential services. In part, this is a legacy of years of violence and instability, which have led to the neglect and destruction of infrastructure, the diversion of public resources away from these types of investments, and the loss of qualified personnel (see Chapter 4 for a more detailed analysis of the role of conflict in explaining stalled progress in key human development outcomes). To benchmark poverty in human development, we create a multidimensional measure that builds on three equally weighted dimensions of deprivation in human development: education, health and standards of living. Each dimension is composed by the following deprivation indicators (each taking the values 0 or 1):²⁰

Education

1. Illiterate household head: Deprived if household head is illiterate
2. School attendance: Deprived if any child under 12 in the household is not currently in school

Health

1. Nutrition: Deprived if there is a malnourished child in the household (suffering from either stunting or wasting)

Standard of living

1. Electricity: Deprived if household has less than 12 hours a day of electricity from the public network
2. Assets: Deprived if the household does not own more than one TV, motorbike or fridge and does not own a car

²⁰ The dimensions were defined so as to be as comparable as possible to the Global MPI (2013), with a focus solely on human development.

3. Flooring: Deprived if household has a brick, earth or other flooring
4. Water: Deprived if household has insufficient supply of water from network
5. Sanitation: Deprived if household does not have flush toilet or if the toilet is shared

Based on the indicators presented above, each household is assigned a deprivation score, which is the weighted sum of the number of deprivations (all three dimensions are equally weighted as is each indicator within each dimension). In computing the Multidimensional Poverty Index for human development, the larger the number of deprivation indicators in each dimension, the smaller the weight of each indicator individually. A given household is considered multidimensional (MPI) poor if their deprivation score lies above the poverty cutoff of 0.33.

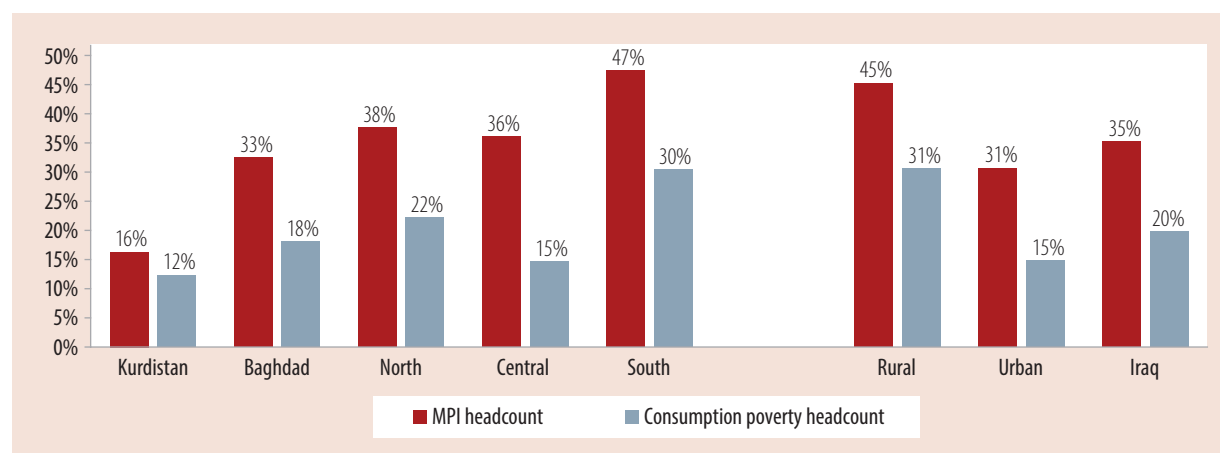
Figure 41 displays a comparison among the figures for consumption and MPI poverty. While estimates of poverty in multiple human development dimensions are higher than consumption poverty in 2012, both measures suggest similar spatial patterns in poverty, with the Southern division having the highest MPI and consumption poverty, and Kurdistan having the lowest. While consumption

poverty in Iraq is approximately 20 percent in 2012, MPI poverty is 35 percent. But the gap between consumption poverty and poverty in human development is the largest in the Centre, 21 percentage points, and in urban areas, 16 percentage points. This suggests that improvements in welfare as measured by consumption, which are relatively high in the Centre and in urban areas, do not always go hand in hand. The exception is Kurdistan, where low rates of consumption poverty are accompanied by low rates of multidimensional poverty in human development.

Poverty in human development goes beyond consumption poverty—this is evident in Table 11: only 10.4 percent of the country's population is both MPI poor and consumption poor, while 55.3 percent are neither consumption poor nor MPI poor. Among the consumption poor, more than half are also MPI poor. In contrast, poverty in human development, as measured by this index, is more wide-ranging in that more than 70 percent of the MPI poor are non-poor in terms of consumption.

Figure 42 shows the incidence of deprivations along the dimensions of living standards, health and education. Lack of sanitation, inadequate electricity and poor nutrition are the most prevalent deprivations

FIGURE 41: Comparison Among Poverty Measures: Consumption Poverty and MPI in Human Development



Source: Authors' calculations, IHSES 2012.

TABLE 11: Consumption Poor Versus MPI Poor

	Consumption non-poor	Consumption poor
MPI non-poor	55.3%	9.4%
MPI poor	24.9%	10.4%

Source: Authors' calculations, IHSES 2012.

in Iraq, followed by water and school attendance. Among these, malnutrition is the deprivation with the highest weight in the index, since it is the only indicator for the Health dimension.

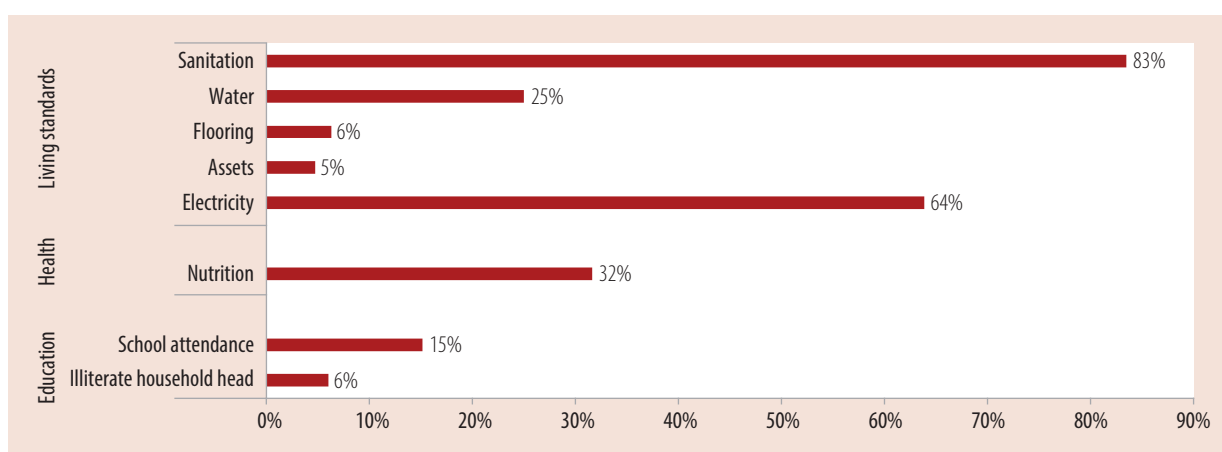
Moreover, the vast majority of households across Iraq suffer not one but multiple deprivations in human development; only a tiny fraction of households suffer no deprivation on these human development indicators. Figure 43 shows the incidence of overlapping dimensions of deprivation in each division, as well as rural and urban Iraq. Overall, in Iraq, 63 percent of households suffer from two or three simultaneous deprivations; while 11 percent experience four or more. In line with the higher rates of MPI poverty in rural areas, 51 percent of rural households are deprived in three or more dimensions, while 21 percent experience four or more, as compared to 33 percent and 8 percent of urban households. Not surprisingly, Kurdistan stands out with the highest incidence of households

free of deprivation (8%). In contrast with the trends in consumption poverty, the Central division appears to be performing the worst in terms of the presence of multiple dimensions of deprivation, with 86 percent of households experiencing two or more deprivations, and 21 percent having four or more. This may suggest that while welfare as measured by consumption has been quicker to rebound in the Centre with the improvements in security and revival of economic activity, the quality of infrastructure and services has not yet caught up to a commensurate level.

The MPI can also be decomposed to quantify the contributions of each of the different dimensions and of each indicator (Figure 44). Looking at the aggregate dimensions, poverty in human development is being driven mostly by deprivation in health (61%), followed by living standards (27 %) and education (12%). When turning to the individual indicators, deprivation in nutrition is the main driver of MPI poverty, followed by sanitation, electricity and school attendance.

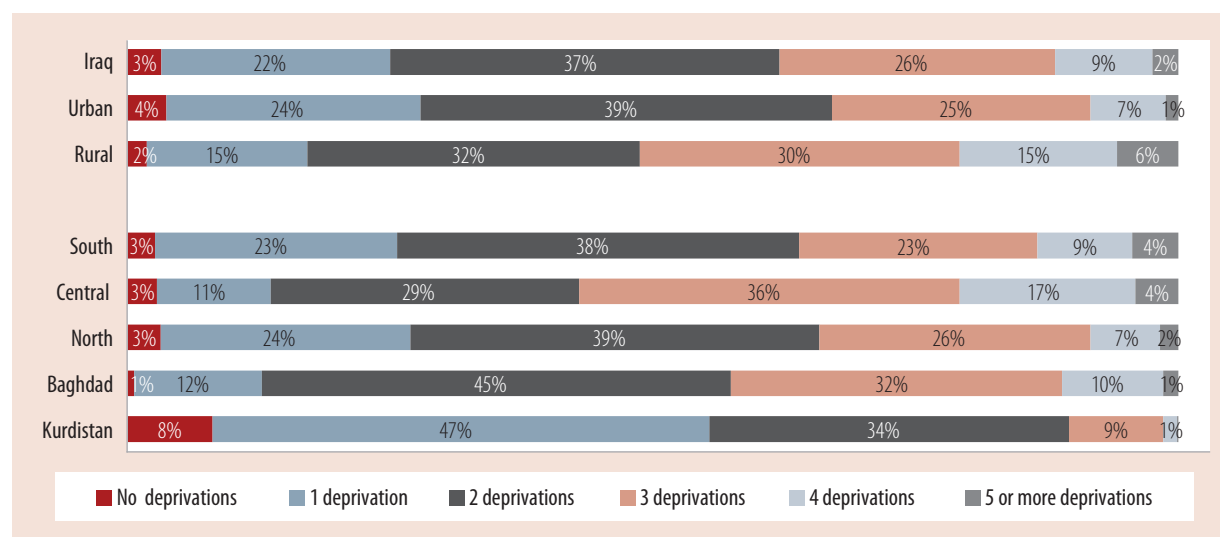
Human Opportunity Index

Access to basic goods and services—such as education and health—can be encompassed by the term opportunity, as described in the 2006 World

FIGURE 42: Dimensions of Deprivation

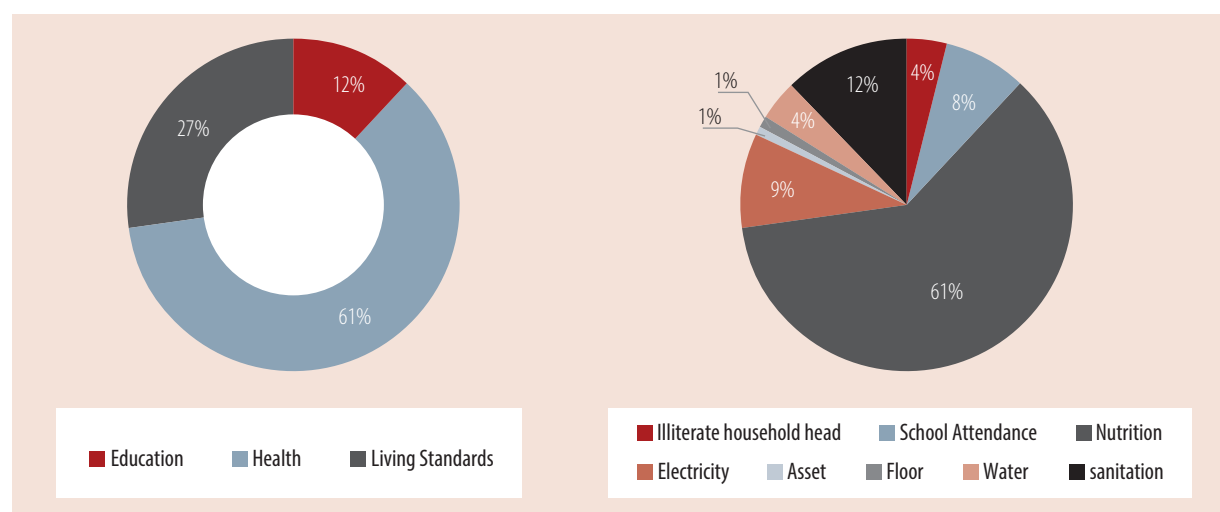
Source: Authors' calculations, IHSES 2012.

FIGURE 43: Overlapping Dimensions of Deprivation



Source: Authors' calculations, IHSES 2012.

FIGURE 44: Contribution of Each Dimension to Iraq's MPI



Source: Authors' calculations, IHSES 2012.

Development Report.²¹ Unlike the notion of equality in earnings or income, there is widespread consensus that such opportunities to access basic goods and services should be made universal and that inequality in children's opportunities propagates deprivation and weakens overall prosperity and economic growth. While it is true that more developed countries will have more resources to deliver basic goods and services to their citizens, developing countries will face important tradeoffs as additional

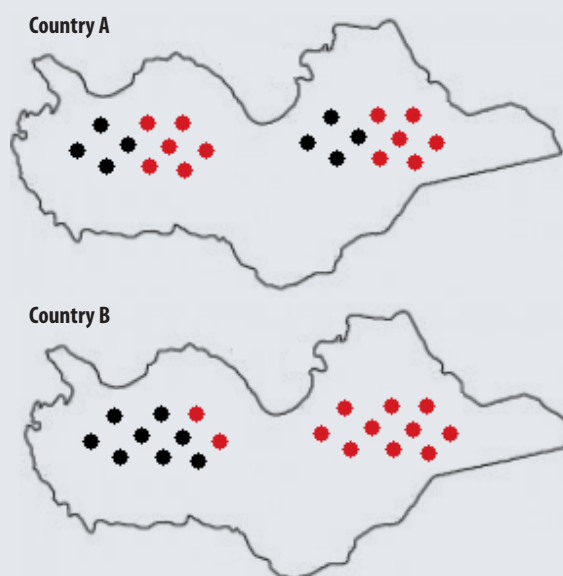
access can be allocated in many different ways. These tradeoffs can be particularly important in countries such as Iraq that face a huge human capital deficit. Analyzing the pattern of allocation, and whether it is being influenced by the circumstances of the beneficiaries is therefore important and lies at the core of the concept of equality of opportunity.

²¹ World Bank (2006) "Equity and Development".

BOX 1: A Stylized Example of the HOI

Consider two countries, A and B, each with a total population equally distributed in 10 western communities and 10 eastern communities. The coverage rate of school enrollment (or the average enrollment rate) for both countries are 0.6, i.e. children in 60 percent of the communities attend school in each country. In the figure, red-colored communities illustrate covered communities. It is evident that access to school is distributed differently among the population in country A and B. In country B, children in western communities have a 20% probability of access to schooling, whereas the probability is 100% for eastern communities.

Equality of opportunity will hold true for each country if western and eastern communities have the same rate of coverage. However, while in country A school coverage is 60% in western and eastern communities, this is not true in country B. This suggests that inequality of opportunities is higher in country B. The D-index is the share of total enrollment that is “misallocated”, namely 0/12 and 4/12 for A and B, respectively. The HOI is then calculated as the coverage rate multiplied by 1 minus the D-index (the share that is equitably allocated). In other words, the HOI penalizes country B for its inequitable coverage rate relative to country A. Therefore, $HOIA = C_0(1-D) = 0.6 * (1-0) = 0.60$; $HOIB = C_0(1-D) = 0.6 * (.33) = 0.40$.



The Human Opportunity Index or HOI (developed by the World Bank and external researchers) is an intuitive measure of the availability of an opportunity in a society (measured by the average coverage rate) that also takes into account the extent to which opportunities are distributed inequitably among individuals of different circumstances (through the calculation of a penalty). In particular, the HOI calculates how personal circumstances influence the probability of a child to access the goods and services necessary to succeed in life. In other words, the HOI is an inequity-penalized estimate of the coverage rate of an opportunity in a society (see Box 1). The penalty increases as the coverage rate among children with different circumstances increases. Opportunities can be defined as any good or service that any society would consider should be provided universally, such as basic education, access to water or absence of malnutrition. Circumstances are all the characteristics into which a child is born and which control are, by definition, outside his/her. Examples of circumstances are the gender of the child, the

wealth of his/her household, or the education of his/her parents, among others.

We estimate results for three types of opportunities. For education-related opportunities, we define two opportunities: attending school (for children 10–14 years old) and having finished primary school (for children ages 12–16). Housing-related opportunities include (all for children ages 0–16) considering the water supply from the public network sufficient, having a public hospital within 5 km of the household, and having electricity available from the public network for at least 20 hours per day. Finally, for health-related opportunities we include the absence of the stunting, wasting, or being underweight—all recorded for children 0–60 months old (Table 12). Health-related opportunities seem to be relatively better. The percentage of children who are not wasted or underweight is above 90%. On the other hand, the percentage of children who are found not stunted is just over 70%. It is notable that all three health-related opportunities registered relatively low levels of

TABLE 12: Coverage Rates and Human Opportunity Index

Group	Opportunity	Coverage	D-Index	HOI
Education	Attending School (10–14 yrs)	82.7%	6.5%	77.3%
	Finished primary (12–16yrs)	80.6%	6.5%	75.4%
Housing	Water supply sufficient	58.3%	17.6%	48.0%
	Public Hospital <5km	56.5%	23.4%	43.3%
	Electricity available >20h	8.8%	62.2%	3.3%
Health	Not Stunted (0–60 months)	72.6%	3.4%	70.1%
	No Wasting (0–60 months)	92.1%	1.0%	91.2%
	Not Underweight (0–60 months)	90.0%	1.9%	88.3%

Source: Authors' calculations, IHSES 2012.

inequality, with no stunting being the most unequal (D-Index of 3%). This result indicates that, overall, children with different circumstances²² face relatively small differential likelihoods of experiencing bad health outcomes.²³

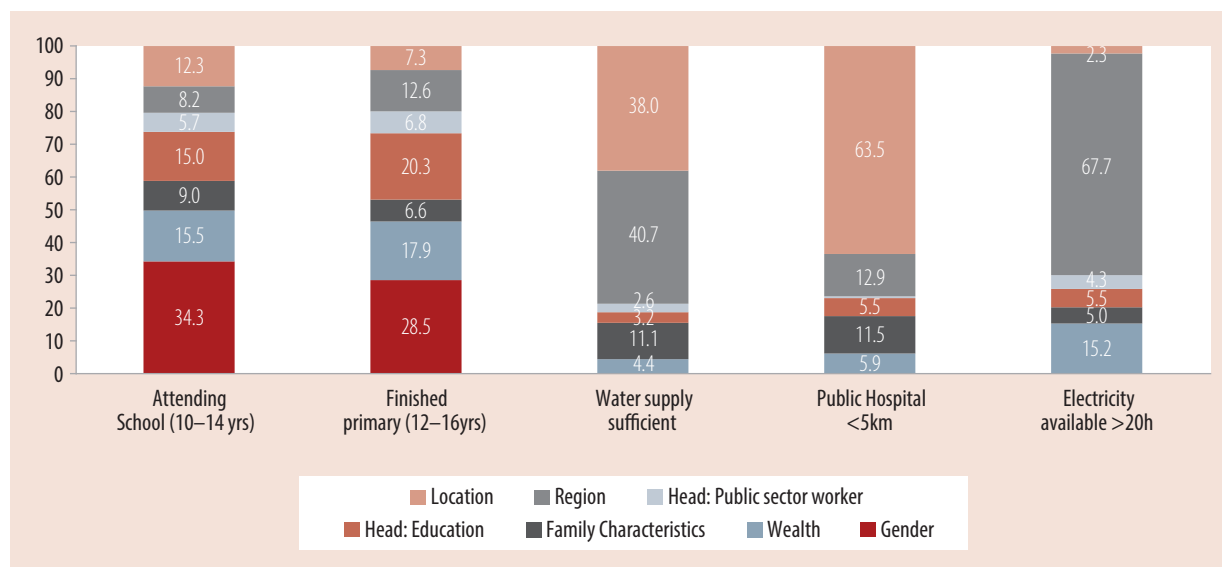
In terms of education, we find that among 10–14 year olds almost 1 in every 5 children is missing school, and among those between 12–16 years old there is 1 in every 5 who has not completed primary school. Also, we find moderate levels of inequality in access to these opportunities. The D-Index is estimated to be 6.5 % in both cases. A third of that inequality is due to the gender of the child. The coverage and estimated HOI among housing-related opportunities are the worst. Around 58% of children have access to sufficient water supply from the public network, and about 57% have a public hospital within 5 km of their household. Moreover, the level of inequality of having access to these opportunities is high: water registers a D-Index of 17.6%, whereas public hospitals register an index 23.4%. This last result reflects that almost a quarter of public hospitals should be reallocated so that all children have the same probability of being near a hospital. The most worrisome opportunity is that less than 10 percent of the population has continuous access (i.e. at least 20 hours a day) to electricity. Moreover, this access is large unequally distributed.

We next look at the circumstances that help explain the estimated inequality among the opportunities analyzed (Figure 45). In line with previous results, the gender of the child seems to explain about a third of the inequality in the education-related opportunities. Next in relative importance, we find that household wealth and the father's educational attainment together explain slightly more than a third of the inequality. In terms of housing-related opportunities, we see that location (i.e. urban or rural) and divisional differences explain more than 70% of the estimated inequality.

These results highlights the significant differential access to opportunities experienced by children due to having born in a particular region of the country when it comes to accessing basic services. In addition, inequality in educational attainment is also explained by the gender of the child, in line with the significant gender gaps in enrollment noted later in this chapter. Next, we take up each of these separate aspects of human development—health, education, and basic services—in greater detail.

²² Specifically children from different groups of the population according to the circumstances we use in the estimation of the HOI: gender, household wealth, family demographics, education of the household head, economic sector where the household head works, region (aggregated in 5 divisions), and location (either urban or rural). Other characteristics missing from our analysis may affect the likelihood of having an opportunity.

²³ This result does not contradict the findings in Table 1 of the Annex, where stunting levels are statistically significant for households with certain characteristics. The reason is that the two methods offer answers to different and complementary questions. Regression estimates provide the expected differential likelihood of a determined group of the children population (i.e. those living in urban settings) to experience stunting with respect to a base group. The HOI methodology provides a summary measure of the differences in the likelihood of experiencing stunting across all groups of the children population (based on a set of circumstances).

FIGURE 45: Contribution of Circumstances to Inequality Index – Selected Opportunities

Source: Authors' calculations using IHSES – 2012.

Lagging Behind in Health and Nutrition

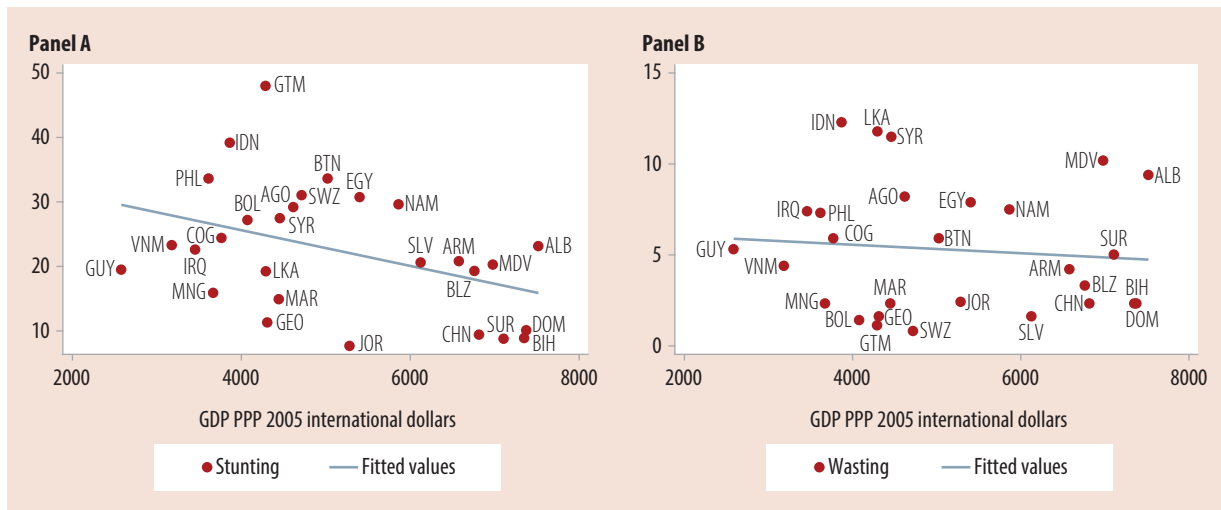
We begin by examining a set of indicators that measure long-term and short-term inadequacy in nutrition—stunting and wasting rates—among children. Panels A and B of Figure 46 plot these different anthropometric measures against GDP per capita (PPP 2005) for a sample of countries, including Iraq, with available WHO data between 2007 and 2012. While stunting (which measures height-for-age) refers to past inadequate malnutrition and is closely associated with socioeconomic conditions for the population as a whole, capturing mostly long run effects, wasting (weight-for-height) refers to short run effects, usually related to recent and severe weight loss, often associated with starvation or severe disease.

For both measures, stunting and wasting rates among children aged 0–60 months, the overall relationship with GDP is negative as expected: poorer countries with low levels of GDP per capita are more severely affected by adverse nutritional outcomes. While Iraq's stunting rates are slightly below the average rates commensurate with its GDP level, the country underperforms in terms of wasting when compared to the mean performance of the

sample of countries with similar GDP. For instance, wasting rates in Iraq are more than twice the rates in Mongolia, which has a similar level of per capita GDP, and substantially higher than in Vietnam, which has slightly lower per capita GDP. The fact that Iraq performs relatively worse on metrics of short term nutritional deprivation—wasting—may indicate that the health status of the Iraqi population has deteriorated in the recent past.

Iraq once had some of the best health indicators in the region. According to a WHO (2001) briefing, “the large investments in infrastructures and in human resources development carried out during the sixties and seventies had led to the development of an efficient health system that was considered one of the best in the Middle-East Region. Malnutrition was virtually not seen, as households had easy and affordable access to a balanced dietary intake.”²⁴ Today, Iraq underperforms compared to other MENA countries (Table 13). At 22.6 percent, stunting rates in Iraq are above the regional average of 21.1 percent. In both stunting and wasting, Iraq ranks 7th among a sample of 11 MENA countries. The effect

²⁴ Kreisel W: Health situation in Iraq. 2001. www.who.int/disasters/repo/6386.doc.

FIGURE 46: Stunting and Wasting (0–60 Months): Iraq Versus other Countries

Source: WHO Global Database on Child growth and Malnutrition and WDI, 2013.

of inadequate nutrition on early childhood can be devastating, with severe adverse long run effects, as shown in Box 2.

While the international comparisons for anthropometric measures were made using WHO's global database, the IHSES 2012 survey also collected data on anthropometric nutritional measures and was

designed to be representative for the governorates within Iraq. National estimates from both sources are fairly consistent (although stunting estimates are higher using IHSES 2012 data), and as IHSES data allows us to further disaggregate the analysis and link it to individual and household characteristics, the following section uses survey based estimates from IHSES (Table 14).

BOX 2: Long Term Implications of Malnutrition in Early Childhood

Health in the earliest years—actually beginning with the future mother's health before she becomes pregnant—lays the groundwork for a lifetime of well-being. Health is directly influenced by nutrition, beginning with the mother's pre-conception nutritional status, extending through pregnancy to early infant feeding, and continuing with diet and activity throughout childhood and into adult life. Adequate intake of both macronutrients and micronutrients is particularly important in the early months and years of life, when body growth and brain development are more rapid than during any other period. Malnourished children score poorer on tests of cognitive function, have poorer psychomotor development and fine motor skills, have lower activity levels, interact less frequently in their environments, and fail to acquire skills at normal rates.

The causal nature of such a relationship is indicated by several studies linking the improvement of diets to better motor and mental development for children. A randomized study of supplement distribution during pregnancy and early childhood in Guatemala showed that, not only were treated children observed to have improved cognitive development in preschool years (Martorell 1997), when the cohort was followed into adult years, the treatment group gained significantly higher schooling and wages (Maluccio et al. 2005). Glewwe, Jacoby, and King (2001) track children from birth through primary school and find that better nourished children start school earlier and repeat fewer grades, controlling for family characteristics. Alderman, Hoddinott, and Kinsey (2006) show that increased stunting of children younger than age 2 in Zimbabwe has a causal impact on years of schooling completed 15 years after the nutritional shock. In Colombia, infants born to families at risk of malnutrition that received nutritional supplementation performed better than those who did not, especially on subtests that were primarily motoric (Super et al, 1990).

Childhood nutrition not only reduces child mortality but has major economic returns coming from reduced cost of health care and increased productivity of the population over a lifetime. Nutrition impacts not only on survival, but on child development, school retention and achievement.

Source: Center on the Developing Child, Harvard University, The Lancet child development in developing countries series, World Bank's Early Childhood Care and Development in Sub-Saharan Africa.

TABLE 13: Nutritional Indicators in the MENA Region

Rank		Country	Year	Stunting	Wasting	GDP per capita (PPP 2005)
Stunting	Wasting					
1	5	IRAN	2011	6.8	4.0	
2	2	JORDAN	2012	7.7	2.4	5288.988
3	3	TUNISIA	2010	10.0	3.0	8441.619
4	4	PALESTINIAN TERRITORIES	2010	10.6	3.3	
5	1	MOROCCO	2011	14.9	2.3	4453.112
6	6	LIBYA	2007	21.0	6.5	15699.07
7	7	IRAQ	2011	22.6	7.4	3461.817
8	9	SYRIA	2009	27.5	11.5	4466.081
9	8	EGYPT	2008	30.7	7.9	5411.725
10	11	DJIBOUTI	2012	33.5	21.5	
11	10	YEMEN	2011	46.6	13.0	2192.513

Source: WHO and WDI.

TABLE 14: Nutrition Indicators in Iraq
According to Different Data Sources

	Year	Stunting	Wasting
IHSES	2012	27.35%	7.97%
WHO	2011	22.6%	7.4%

Nutritional Outcomes Within Iraq

Stunting is a primary manifestation of malnutrition in early childhood, including malnutrition during fetal development brought on by the malnourishment of the mother, both of which are likely correlated with the income level of the household. Stunting and child underweight rates vary in Iraq with consumption quintiles, with the highest prevalence rates among the poorest quintiles, as shown in Table 15. However, stunting rates are high even for the richest portion of the population, with more than a fifth of children having low height-for-age, suggesting widespread malnutrition in the past among all segments of the population.

Stunting is more prevalent among the children below 36 months, suggesting that perhaps malnourished mothers may be giving birth to malnourished

TABLE 15: Nutritional Outcomes by Wealth
Quintiles

Share of children 0–60 months	Stunted	Wasting	Underweight children
1 (poorest)	0.31	0.09	0.13
2	0.29	0.07	0.10
3	0.26	0.08	0.10
4	0.26	0.07	0.07
5 (richest)	0.22	0.08	0.08
Overall	0.27	0.08	0.10

Source: Authors' calculations, IHSES 2012.

children, with some of the nutritional deficit being bridged with time as infants move from breastfeeding to a food diet (Table 16). 35 percent of Iraqi children below the age of 1 are stunted, compared to a third of children aged 12 to 35 months, and approximately a fourth of children aged 26 to 60 months. A similar pattern is evident for wasting and low weight children, but there is a sharp decline for children ages 12 months and above relative to those less than a year old.

Household incomes are also correlated with the employment status of the head of household. While

TABLE 16: Nutritional Outcomes by Age Group

Share of children 0–60 months	Stunted	Wasting	Underweight children
0–11 months	0.35	0.13	0.22
12–23 months	0.31	0.07	0.08
24–35 months	0.30	0.06	0.08
36–47 months	0.22	0.06	0.06
48–60 months	0.18	0.08	0.07

Source: Authors' calculations, IHSES 2012.

there is little difference in wasting and child underweight rates by the employment status of the head of household, stunting rates are 4 to 5 percentage points higher in households with unemployed heads, perhaps because those actively seeking work have no other source of income and cannot afford to be out of the labor force (Table 17).

Just as poorer countries and poorer households within countries tend to have worse nutritional indicators, spatial disparities in welfare are also correlated with differences in nutritional markers. Figure 47, Figure 48 and Figure 49 plot stunting, wasting and child underweight rates in each governorate against their average per capita expenditures. The negative relationship between nutrition and consumption is, particularly pronounced for stunting and underweight rates, while it is weaker for wasting rates.

Three southern governorates, Muthanna, Thi-Qar and Missan, have the highest incidence of stunting, wasting and underweight children, and all three

TABLE 17: Stunting and Wasting by Employment of Head

	Stunted	Wasting	Underweight children
Employed	0.27	0.08	0.10
Unemployed	0.32	0.09	0.12
Out of force	0.28	0.09	0.11

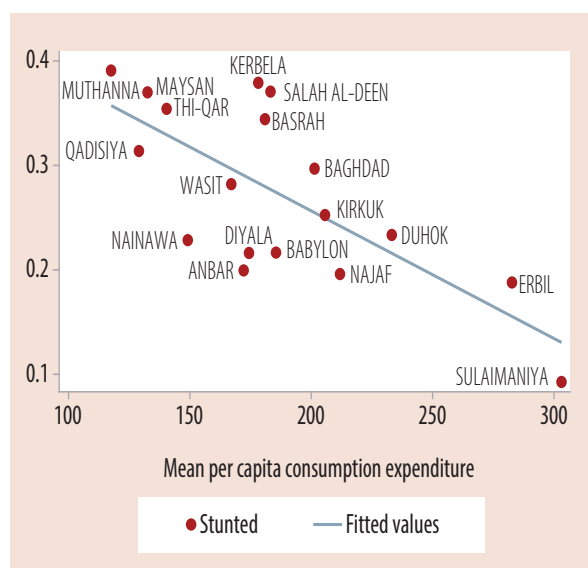
Source: Authors' calculations, IHSES 2012.

perform worse than would be expected even at their low levels of per capita consumption expenditure. These are among the governorates with highest poverty headcount rates (48.4, 36.8 and 38.2 percent respectively) in 2012 and also among the five governorates in which poverty increased between 2007 and 2012. In general, the Southern governorates experienced the highest rates of stunting, wasting and underweight children.

Kerbela, Salahadin, Basra and Baghdad also stand out, with higher stunting rates than would be predicted based on their mean consumption level. However, all except Basra perform better in terms of wasting and underweight children. This pattern is consistent with sharp poverty reduction in Kerbela and Salahadin between 2007 and 2012, of 23.1 and 24.3 percentage points respectively, which makes these two governorates the most successful in the country in terms of poverty reduction. Since stunting refers to past inadequate nutrition while wasting refers to more recent disease and starvation, governorates that have experienced recent welfare improvements perform relatively better in terms of more the short term indicators of wasting and underweight rates but continue to lag in terms of the longer term stunting measure. Basra however, remains somewhat of an exception to this pattern, with relatively high estimates of stunting and underweight rates despite significant poverty reduction.

On average, the Kurdistan region has the best performance in terms of nutritional measures, with the exception of the wasting measure for Erbil, which seems to be an outlier. The governorate of Sulaimaniya in Kurdistan, displays the lowest rates of stunting and underweight children, and the second lowest in terms of stunting in the country. Indeed, Sulaimaniya has had the lowest poverty headcount rates, both in 2007 and 2012, only 7.6 and 7.4 percent respectively. The relationship between underweight adult measures (not reported here) and per capita expenditure display a similar negative relationship with per capita consumption as underweight children, with the Southern division underperforming relative to the rest of the country.

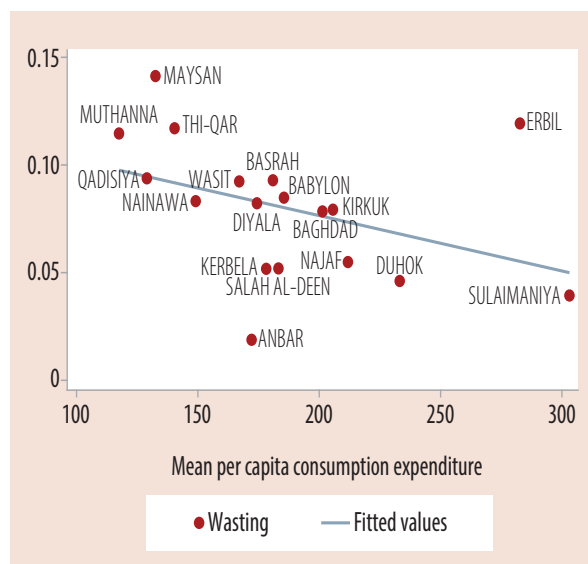
FIGURE 47: Stunting Rates and Governorate Consumption Expenditure



Source: Authors' calculations using IHSES 2012.

The negative relationship between mean consumption levels and nutrition is directly related to food expenditures and caloric intake. In Figure 50, we plot governorate level stunting rates against per capita expenditure, per capita caloric intake, per capita expenditure based on consumption of food rations

FIGURE 48: Wasting Rates and Governorate Consumption Expenditure



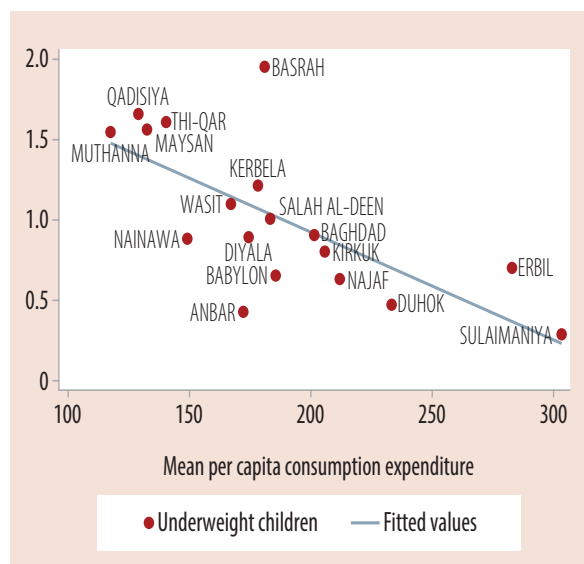
Source: Authors' calculations using IHSES 2012.

and per capita caloric intake from rations. The first plots, shown in panels A and B, display a negative relationship between stunting and expenditures and per capita caloric intake showing that, governorates with higher per capita expenditure and higher total caloric intake are the ones with lower rates of stunting. On the other hand, the last two plots (panels C and D) show a positive relationship between stunting and consumption based on food rations and caloric intake from rations. Thus, higher stunting rates appear to be correlated with lower levels of food expenditure per capita and potentially with a higher level of food insecurity, and a greater dependence on the Public Distribution System. Not coincidentally, the governorates highly dependent on consumption based on rations and displaying high stunting figures are the governorates on the South, in particular Muthanna, Thi-Qar, Qadisiya and Missan, where poverty increased the most between 2007 and 2012.

Early Motherhood and Child Nutrition

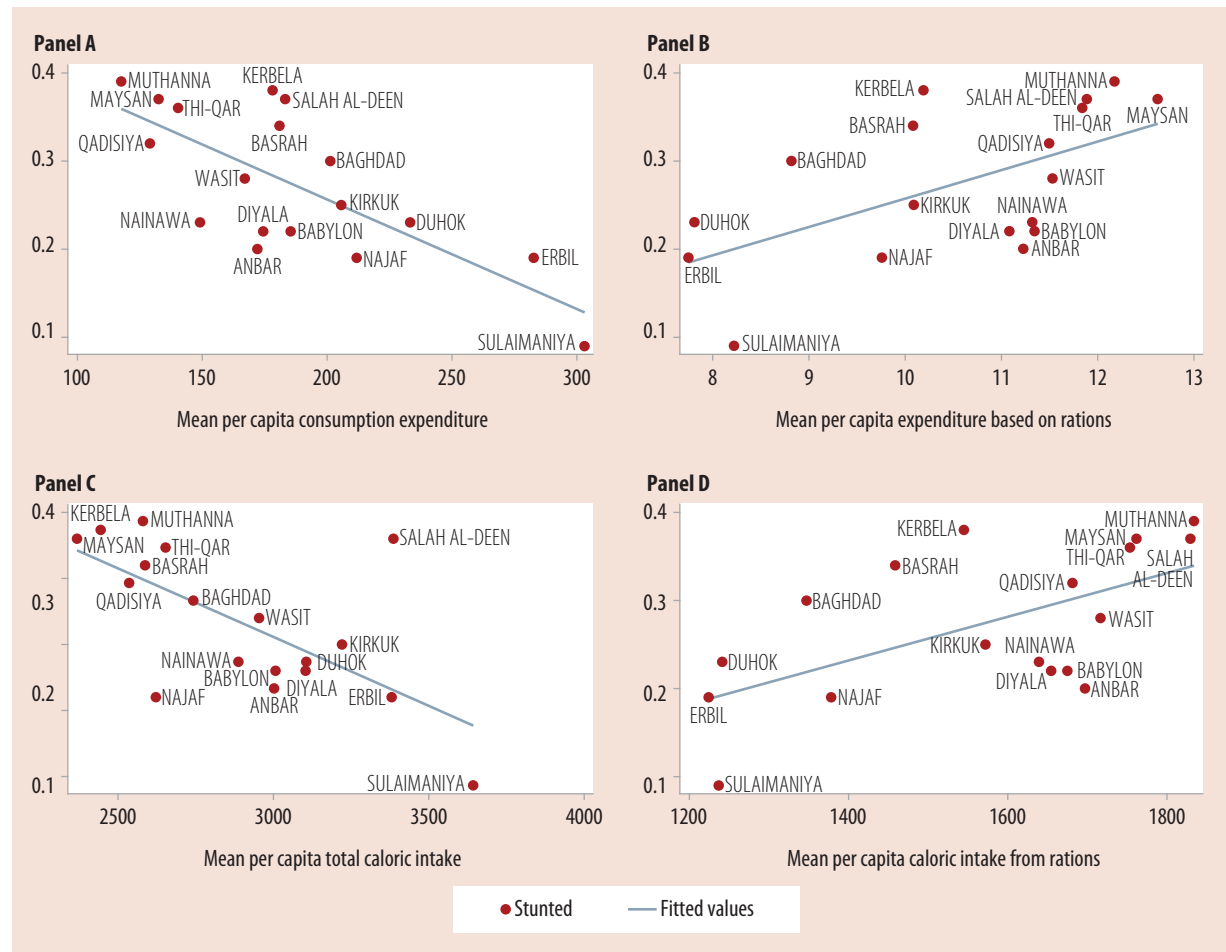
In this section, we explore the relationship between child nutrition and maternal health, and in particular the hypothesis that early motherhood is

FIGURE 49: Underweight Rates for Children and Governorate Consumption Expenditure



Source: Authors' calculations using IHSES 2012.

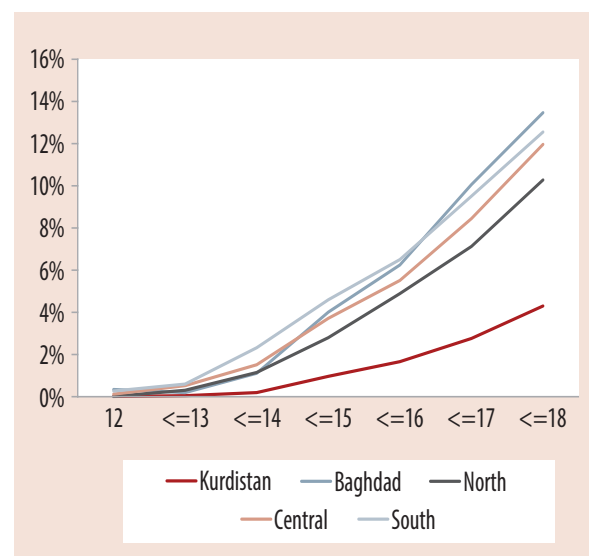
FIGURE 50: Stunting, Expenditures and Caloric Intake and the PDS



Source: Authors' calculations, IHSES 2012.

associated with poor nutritional outcomes for children. The legal minimum age of marriage in Iraq is 18 years for both men and women (Article 7 (1)), although a judge can allow marriage at the age of 15 years, if the person is deemed physically eligible. According to the National Strategy of Combating Domestic Violence in Iraq of 2013, 5% of girls get married before the age of 15 years old, and 23% of girls get married before the age of 18 years old. In both 2007 and 2012, around 12 percent of 16 year old girls and 30 percent of 18 year old girls report being married. In other words, by age 16, 5 percent of girls are married; and by age 18, 11 percent of all girls are married. When we look at early marriage across the five divisions in 2012 (Figure 51), a clear pattern emerges. In Kurdistan, where poverty

FIGURE 51: Ever Married Females by Division: Percentage by Age (12–18)

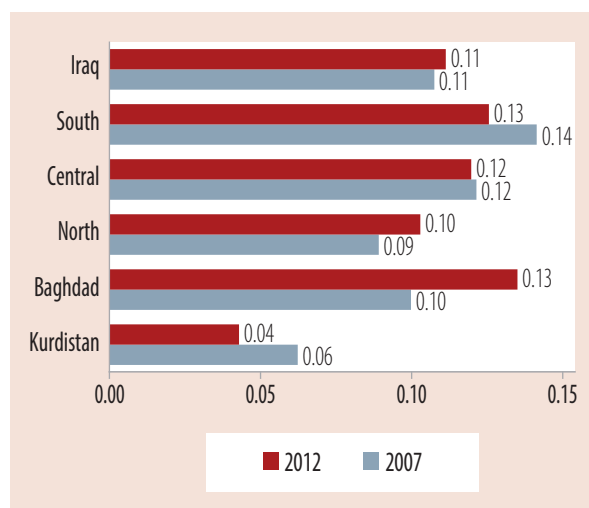


Source: Authors' calculations using IHSES 2012.

and stunting and wasting are lower, the incidence of early marriage is also the lowest, with 4 percent of girls being married by age 18 (and 12 percent of 18 year old girls being married married). Early marriage rates are higher in every other division, and especially in the South, which has the worst nutritional indicators, with 34 percent of 18 year old girls being married, and 13 percent of all girls being married by age 18.

Overall, 11 percent of all girls below the age of 18 in the 2007 and 2012 surveys report being married (Figure 52). While this share has decreased in the South, Centre and Kurdistan, it has increased in the North, and especially in Baghdad, from 10 percent in 2007 to 13 percent in 2012. In 2007, Baghdad had a lower share of underage girls married when compared to the national average, while in 2012 its share has substantially increased, surpassing the national rate. The North division had in 2007 also a smaller percentage of underage married girls than the average of the country, but in 2012 its share is coming closer to the country's mean. Figure 53 shows the share of girls married by the age of 18 in each governorate. In the North, the share of underage married girls has increased in every governorate, and in Anbar, has increased from 4 percent to 10 percent.

FIGURE 52: Ever Married Females Under 18 Across Time: Percentage by Division



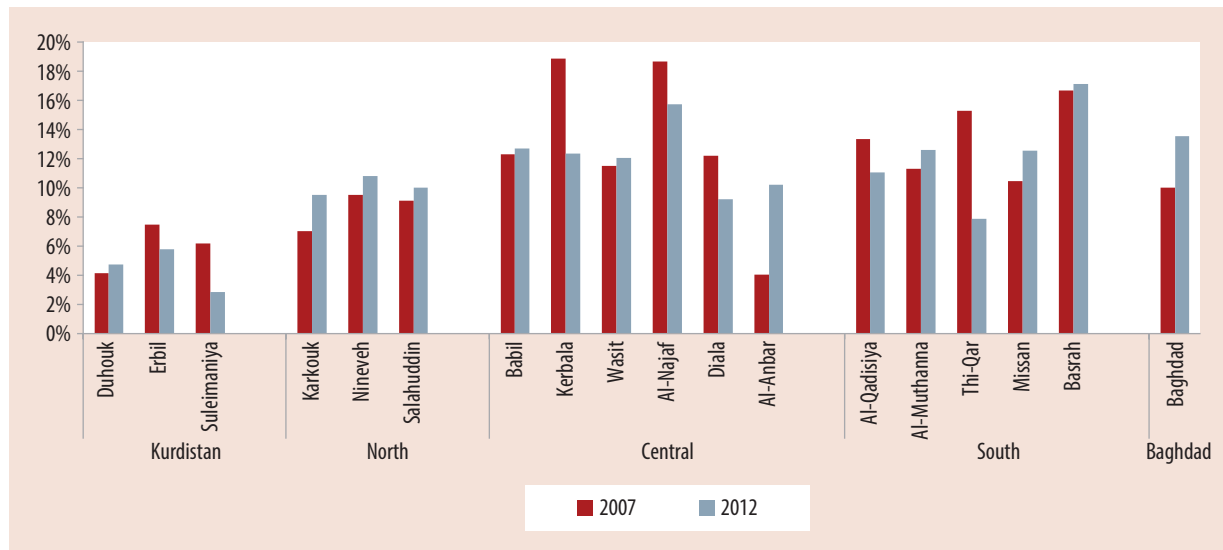
Surprisingly, the highest rates of underage marriage in 2012 are in relatively well-off Basra, where 16 percent of girls under the age of 18 are married.

Figure 54 shows the proportion of under-18 married girls who have ever given birth to a child in Iraq and in each division in 2007 and 2012. While there is some variation across divisions, on average, between 40 and 50% of those who get married before the age of 18 also bear a child by that age. Early childbirth is not only more risky for the mother and the child, childbirth at an early age can negatively affect the mother's nutrition; and in turn, poor nutrition of mothers can increase the likelihood of anthropometric failure (stunting, wasting and underweight) (Box 3).²⁵

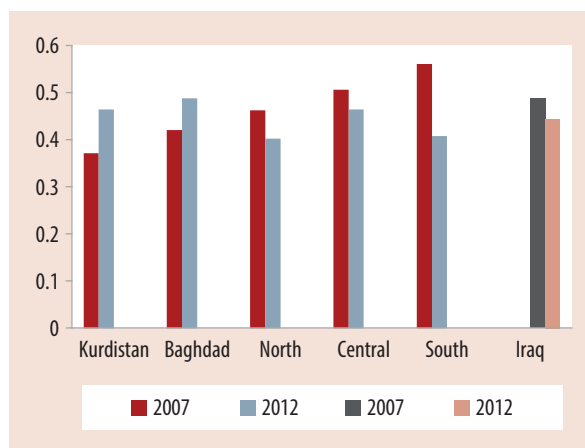
In fact, it appears that the relatively high stunting rates in some of the better off governorates, i.e., governorates where stunting was high despite relatively high per capital consumption and food expenditure, may be correlated with the relatively high rates of early marriage and correspondingly, early motherhood in those governorates. Figure 55 plots the share of girls below the age of 18 who have ever been married in each governorate with the stunting rates in that governorate. Many southern governorates, which have relatively low consumption, also have relatively high early marriage rates, and both factors are correlated with higher stunting rates. In other cases, such as Basra and Salahadin, high stunting is correlated not with lower consumption but with higher prevalence of early marriage.

Over and above poverty and its household (lower education, poorer health, and lower food intake and nutrition) and community level correlates (limited access to quality healthcare), early motherhood is associated with a higher likelihood of adverse anthropometric outcomes for children. When we consider the set of mothers aged 12–23 who have children at 18 or younger who would be covered in the anthropometrics module (children aged 0–60 months) of the 2012 IHSES, they make up

²⁵ <http://www.ncbi.nlm.nih.gov/pubmed/21628349>.

FIGURE 53: Ever Married Females Under 18: Percentage by Governorates

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 54: Ever Given Birth to a Child: Share of Married Females Under 18

Source: Authors' calculations, IHSES 2007 and 2012.

8.4% of their age group, but have a higher share of children who are stunted relative to older mothers (29 percent relative to 26 to 27 percent for older mothers).²⁶

We examine the role of these factors in a probit regression model in predicting the presence of a stunted child at the household level (Annex Table 3.1). The model includes location, household size, the age group of the mother, per capita expenditures

and caloric intake from PDS rations, education of the mother, work status of the head of household and per capita expenditure quintiles. The results show that living in an urban area reduced the likelihood of having a stunted child in the household by 5.2%. All division specific effects are significant and all of the divisions are more likely than Kurdistan to have a stunted child in the household. The effects are largest in Baghdad and the South, and households living there are 17.6 and 20.4 percent more likely to have stunted children. Children belonging to households at the bottom of the wealth distribution are more likely to be stunted. Households belonging to the top 4th and 5th quintiles are 5 and 10 percent less likely to have a stunted child. Neither per capita PDS expenditures on food nor the daily caloric intake per person from PDS rations is a significant correlate of stunting. This suggests that the governorate level correlations

²⁶ We consider the 12–23 age group category to cover 12 year olds who have just given birth and 23 year olds with 60 month old children who would have given birth when they were 18. The IHSES survey does not contain information on the mother's age at first birth, and so we use the group of 12–23 year old mothers with 0–60 month old children as a proxy for motherhood by age 18.

BOX 3: Early Motherhood and Child Outcomes

Early motherhood is often believed to cause adverse outcomes for children, such as lower birth weights, education, work experience and wages, more persistent poverty and welfare dependency, and higher rates of infant mortality. Evidence on this subject is, however, mixed. While on the one hand there are several studies arguing that the adverse effects of teenage childbearing primarily reflect unmeasured family background rather than the true consequences of a teen birth, other contributions show that controlling for family background does not fully eliminate the adverse consequences of early motherhood for children.

Levine et al (2001) find that early motherhood's strong negative correlation with children's test scores and positive correlation with children's grade repetition is almost entirely explained by pre-birth individual and family background factors of teen mothers themselves. However, controlling for maternal background, the authors show that children of teen mothers in the United States are more likely to initiate early sexual activity and to display problem behaviors such as truancy and fighting.

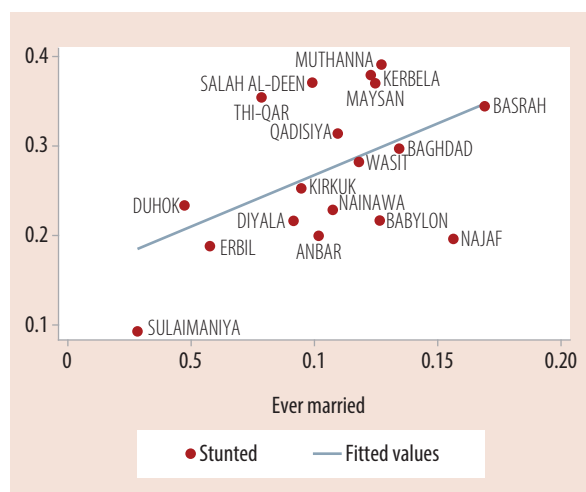
Based on 1991 and 1999 data for the UK, Francesconi (1997) finds that being born to a teenage mother is usually associated with worse outcomes as young adults: lower chances of higher educational attainment, greater risks of inactivity and teenage childbearing, smaller probability of being in the top decile of the income distribution and greater probability of being in the bottom decile of the earnings distribution. These results hold true even after controlling for common family or maternal background factors.

Geronimus et al (1992) estimates the relationship between maternal age and low birth weight, preterm birth, indicators of prenatal care utilization, smoking and alcohol use during pregnancy, breastfeeding, and well-child visits. The study controls for pre-pregnancy family background differences between teen and older mothers by comparing sisters who experienced their first births at different ages. The findings show evidence that maternal family background accounts for many of the health-related disadvantages of the firstborn infants of teenage mothers.

Raj et al (2010) find that, in a nationally representative sample for India, children born to women married as minors are significantly more vulnerable to malnutrition than those born to women married at 18. The authors show that these associations were not simply a consequence of socioeconomic vulnerabilities of mothers, or of maternal malnutrition as indicated by low BMI. They hypothesize that perhaps young mothers may be unable to ensure adequate nutrition for their children, and that combined with the limited nutritional reserves stored within the bodies of adolescent mothers probably places their offspring at substantial risk for low birth weight and inadequate access to breast milk. The findings suggest that the effects of inadequate fetal nutrition and reduced breastfeeding among neonates born to adolescent mothers extend into infancy and early childhood, maintaining their ongoing risk for malnutrition related health problems and suggesting that such vulnerabilities accumulate over the lifespan.

Source: Geronimus et al (1992), Levine et al (2001), Francesconi (1997), Raj et al (2010).

FIGURE 55: Stunting Rates and Early Marriage by Governorate, 2012



Source: Authors' calculations, IHSES 2012.

with dependence on PDS for food, and lower food expenditures with stunting rates reflect the role of location and stunting rather than that of the PDS.

Although the education of the mother and the employment status of the head of household head does not appear to have a significant effect, the coefficients for the mother age groups' variables are significant and confirm our hypothesis that younger mothers are more likely to have stunted children. A mother aged 12–23 is 12 percent more likely and a mother aged 24–30 is 7 percent more likely to have a stunted child relative to mothers aged 31 or above. These results suggest that low welfare levels (as measured by the consumption quintiles and the division dummies) for certain households and early motherhood both adversely impact nutritional outcomes for children in Iraq.

Evidence from the Multiple Indicator Cluster Surveys

The Multiple Indicator Cluster Survey is a survey program developed by the United Nations to provide internationally comparable data on the

situation of children and women. In Iraq, the survey was conducted in 2006 and 2011. Although there is some content overlap between MICS and IHSES surveys, the MICS covers women and child outcomes in greater detail. This section summarizes the highlights from the MICS findings based on UNICEF's 2012 report.

Over 55,000 women in their reproductive age were interviewed to collect MICS 2011 data. Survey estimates suggest a national population of 33.4 million, of which 16.6 million are children and adolescents. One in every five Iraqis in 2011 was a child under the age of 5. Around 800,000 children in Iraq have lost one or both parents. On the health dimension, the survey findings show that around 35,000 infants die every year, which is equivalent to approximately 37 deaths out of every 1000 live births for children under 5. Only 1 in 10 children are exclusively breastfed after three months of life, and 1 in 4 children experience stunted growth. Only 5 out of 10 children aged 18–29 months received all recommended immunizations at the correct time and acute respiratory infections and diarrhea remain two of the biggest killer diseases of children in Iraq. Taking a closer look at women, results show that early marriage is pronounced; with 1 in 5 young women aged 15–19 being married, with a fertility rate of 4.4 on average.

Compared to 2006, the MICS 2011 show that in some areas there has been progress in Iraq: birth registration, gender parity in primary school and registration and attendance in primary school have improved substantially. Slight progress was found in under 5 mortality rates, immunization coverage and child labor. On the other hand, other dimensions have experienced stalling or even regression. Not much has changed between 2006 and 2011 in terms of under nutrition, low weight rate at birth, primary school completion on time, iodized salt consumption and attitude towards domestic violence.²⁷ Worse outcomes were registered in 2011, when compared to 2006, in terms of breastfeeding, treatment of diarrhea, treatment of pneumonia and early marriage.

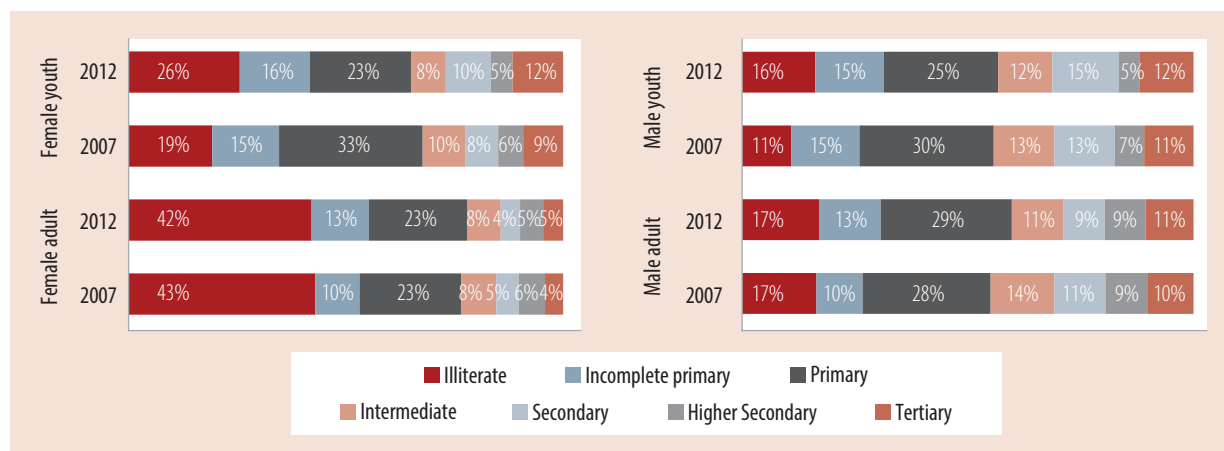
Stagnation in Education Among Men; Some Improvement for Young Women

Education, one of the strongest correlates of poverty, varies widely across Iraq, by division and by gender. While there are a few signs of improvement, on average, very little has changed in terms of educational outcomes between 2007 and 2012 in Iraq. The overall median educational level in Iraq is complete primary school, which is also the median level for adult and youth male cohorts as well as for young females. For the female adult population, the median education is incomplete primary.

This relative stagnancy in education overall and for men, and the pattern of limited improvement for young women is evident in Figure 56 which looks at the educational level for young (18–29) and adult (30–64) cohorts in the 2007 to 2012 period. While for the adult male population, illiteracy remained at 17%, for the younger male cohort, the distribution has worsened as there is a higher share of illiteracy between 2007 and 2012 and also a smaller share of young males are completing primary school. This pattern of little movement in education among younger male cohorts is repeated in almost every division, except for Kurdistan, where illiteracy rates are much smaller and the tertiary level rates are much higher for the younger cohorts, suggesting rapid improvements within the last five years (Figure 57).

For the female adult cohort, outcomes have not improved much over time. However there is a significant difference in educational attainment across the younger and older cohorts, with young women catching up with their male counterparts. Between 2007 and 2012, the share of the youth cohort continuing their studies after primary school has also registered a small increase. Unlike the stagnant picture among

²⁷ Overall, 51 percent of women in Iraq feel that a husband has the right to beat his wife for at least one of five reasons: (i) if she goes out without telling him; (ii) if she neglects her children; (iii) if she argues with him; (iv) if she refuses sex with him and (v) if she burns the food.

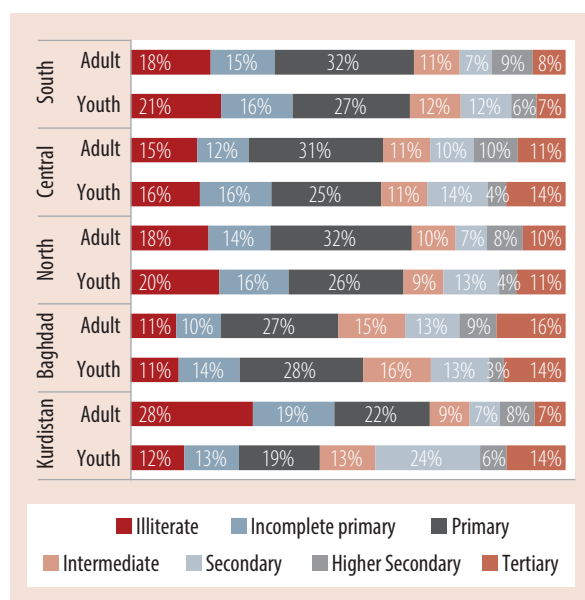
FIGURE 56: Educational Level by Generation Over Time: Female and Male Population in Iraq

Source: Authors' calculations, IHSES 2007 and 2012.

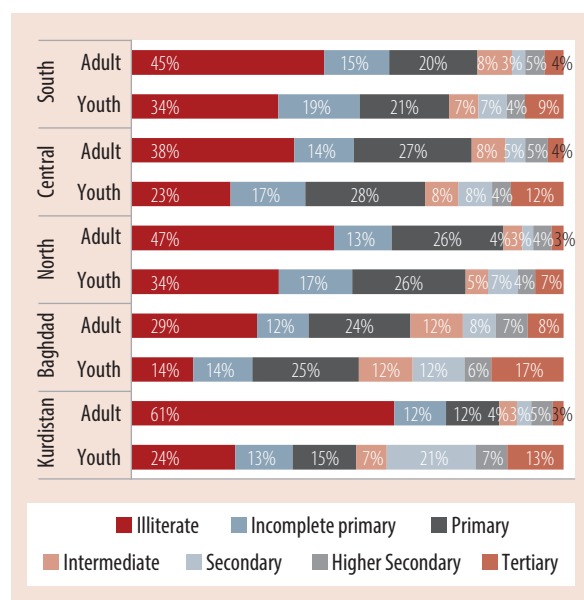
men, improvement in education among younger generations of women is evident in each division, but especially in Kurdistan (Figure 58). Illiteracy rates and incomplete primary schooling are much lower among young women and the percentage of young females with tertiary education is quite large, particularly in Baghdad, the Centre and Kurdistan (17 percent, 12 percent and 13 percent respectively).

Enrollments decline sharply after primary school

To better understand education dynamics and gender disparities across Iraq, in particular, to see why education does not go beyond primary schooling for the majority of the population, we now examine patterns and trends in enrollment. The net enrollment rate at any educational level is the share

FIGURE 57: Educational Level By Generation of Male Population and Divisions: 2012

Source: Authors' calculations, IHSES 2012.

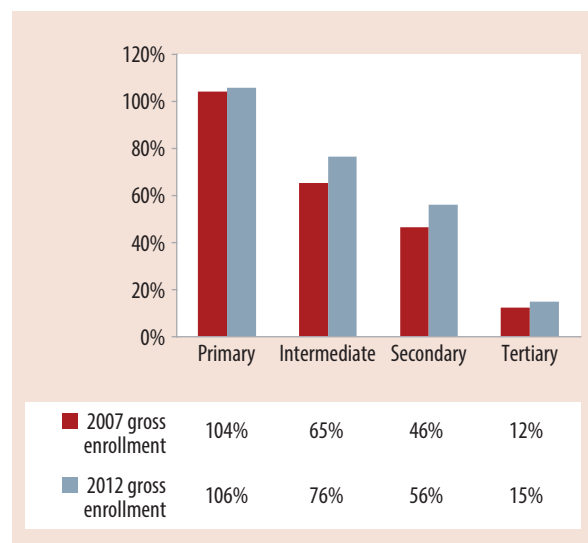
FIGURE 58: Educational Level By Generation of Female Population and Divisions: 2012

Source: Authors' calculations, IHSES 2012.

of children of official school-going age for that level who are enrolled in the level, while the gross enrollment ratio is the share of children of any age who are enrolled in that level. Thus, gross enrollment is always at least as large as (and typically larger than) net enrollment as the former measure also accounts for all the students outside the official age groups enrolled in a particular grade or level.

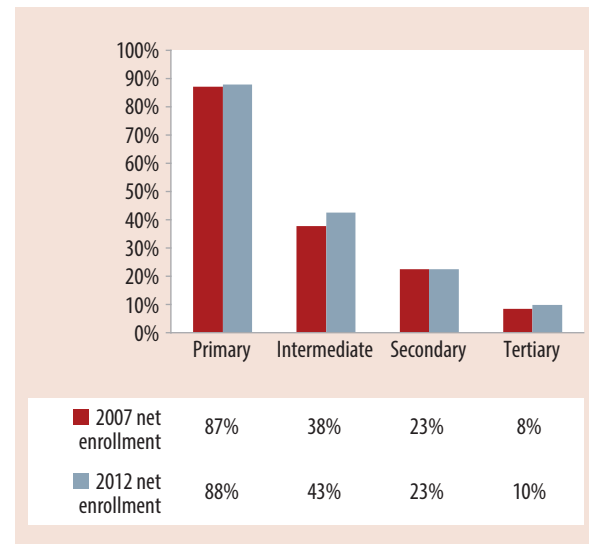
In Iraq, both gross and net enrollments display a sharp decline after primary school. In primary school, gross enrollment rates were 104 and 106 percent in 2007 and 2012 respectively, i.e., for every 100 students of primary school going age, 105 students were enrolled in primary school (Figure 59 and Figure 60). Net enrollment rates in primary school are also quite high: 88 percent of students of primary school age were in fact enrolled in primary school in 2012. However, at higher levels of education, gross enrollment rates decline rapidly, and net enrollment rates fall even more sharply. For every 100 students of intermediate-level school-going age, 76 students of any age were enrolled in intermediate school in 2012, but only 43 of them were of intermediate school going age. Similarly, while

FIGURE 59: Gross Enrollment by Educational Level in Iraq: Population Aged 6 and Above



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 60: Net Enrollment by Educational Level in Iraq: Population Aged 6 and Above

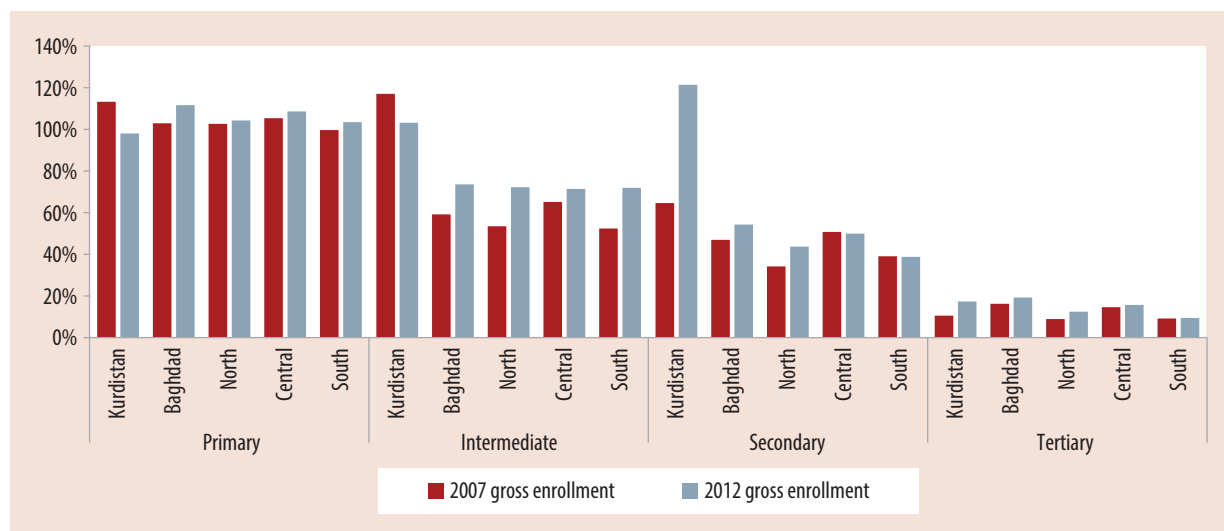


Source: Authors' calculations, IHSES 2007 and 2012.

secondary gross enrollment rates were 56 percent in 2012, this figure drops to 23% in terms of net enrollment. Between the 2007 and 2012 period, while there have been some increases in intermediate and secondary gross enrollment, there has been little change in net enrollment rates.

The same pattern holds in each division in Iraq, with gross and net enrollment rates decreasing sharply as the level of schooling goes up (Figure 61). The sole exception is Kurdistan, where gross enrollment rates are above 100 percent even at the intermediate and secondary levels, the highest in the country. Moreover, net enrollment rates for post-primary education have increased substantially in Kurdistan, from 48 to 61 percent at the intermediate level, and from 23 to 38 percent at the secondary level (Figure 62).

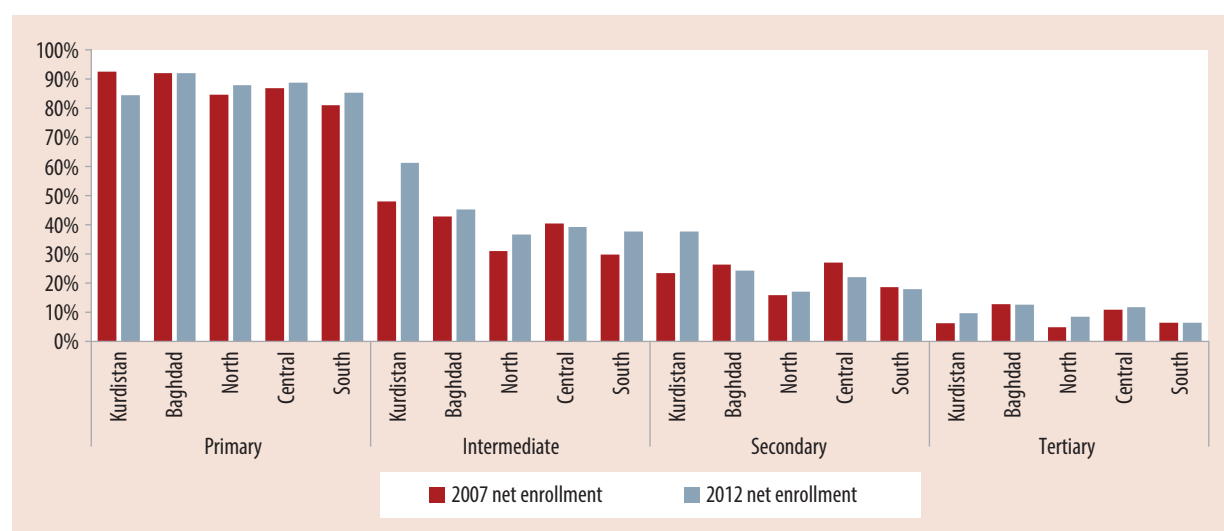
Typically, large differences between gross and net enrollment rates signify the presence of overage children at that education level, because of grade repetition or late entry into the level. While these differences typically appear in other countries at higher levels of education, these are evident even in primary school in Iraq. Figure 63 and Figure 64 show that, in

FIGURE 61: Gross Enrollment by Educational Level and Division: Population Aged 6 and Above

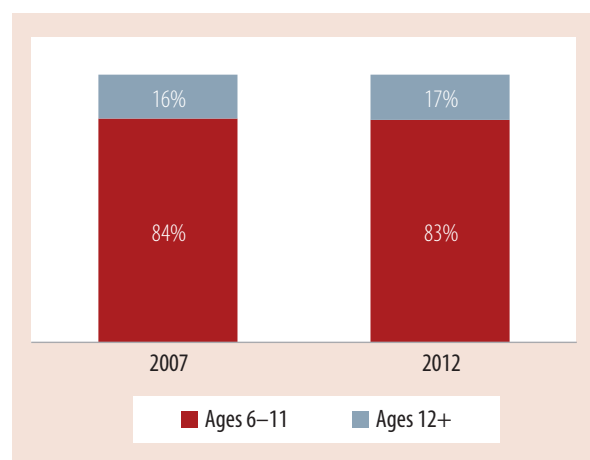
Source: Authors' calculations, IHSES 2007 and 2012.

2012, 17% of those enrolled in primary school were outside the official primary school age group (6–11 years) and, among these, 93 percent are under the age of 15. Thus, the large differences between primary school gross and net enrollment are primarily explained by the presence of a significant number of overage students in primary school (rather than for instance, adult remedial education). These gaps get larger with education until secondary education.

At the same time, there exist significant gender disparities in enrollment. Figure 65 plots the difference between male and female gross enrollment rates, which are expressed as the difference that is due to gender gaps in net enrollment rates and gender gaps in overage enrollment rates. Note that a negative net enrollment rate implies higher net enrollments among boys relative to girls while a negative overage rate implies a smaller share of overage girls at

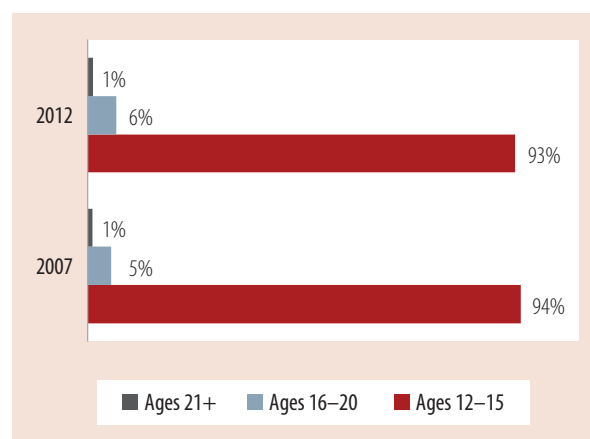
FIGURE 62: Net Enrollment by Educational Level and Division

Source: Authors' calculations, IHSES 2007 and 2012.

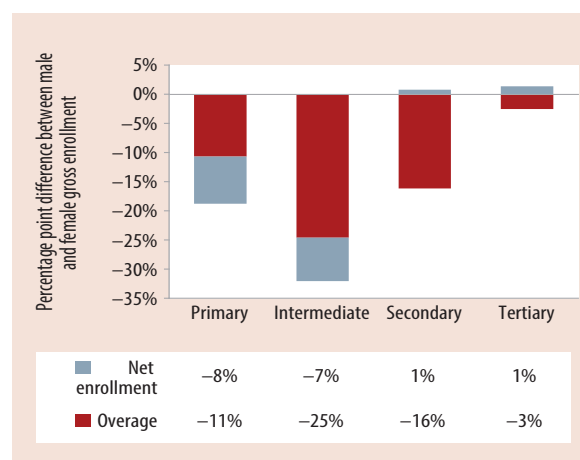
FIGURE 63: Age Distribution of Those Enrolled in Primary School

Source: Authors' calculations, IHSES 2007 and 2012.

that level relative to overage boys. For the country as a whole, in primary, intermediate and secondary school, gross enrollment rates are much lower for girls than for boys: by 19, 32 and 15 percentage points respectively. Disparities between boys and girls in net enrollment are pronounced on the primary and intermediate level; lower female net enrollment by 7–8 percentage points. However, the difference between gross and net enrollments, of 11 and 25 percentage points respectively, represents the significantly higher rate at which overage boys are enrolled in primary and intermediate education grades relative to girls.

FIGURE 64: Overage Students Enrolled in Primary School by Age Group

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 65: Gender Gaps in Enrollment in Iraq: Female Relative to Male Gross Enrollment – 2012

Source: Authors' calculations, IHSES 2012.

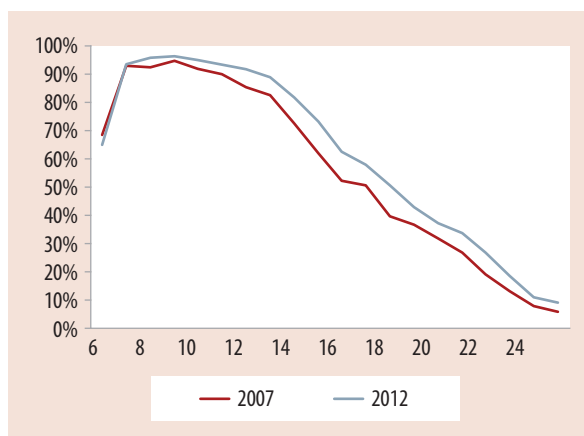
Despite these odds, among the few who make it to secondary and tertiary level, net enrollment rates are slightly higher among girls than among boys. This suggests that while girls are less likely than boys to make it to higher education (because of gender gaps that begin early in the education process), once they reach a higher level, girls are slightly better in completing each level on time and tend to lag behind less.

Looking across divisions, females outperform males in terms of secondary and tertiary net enrollment except in the North, meaning that a higher share of girls of the correct age group are enrolled on secondary and tertiary school, particularly in Kurdistan and Baghdad. However, for intermediate and primary levels, female enrollment is lower than male enrollment in all divisions, particularly in the North and South. This indicates that a lower share of the girls enter school and continue on to higher education, but among those few who enter, a larger share of them achieve higher levels of education.

Why does education end with primary school for so many?

Median education levels among Iraqis are low because some children never enroll in school, and few

FIGURE 66: Enrollment by Age: Male

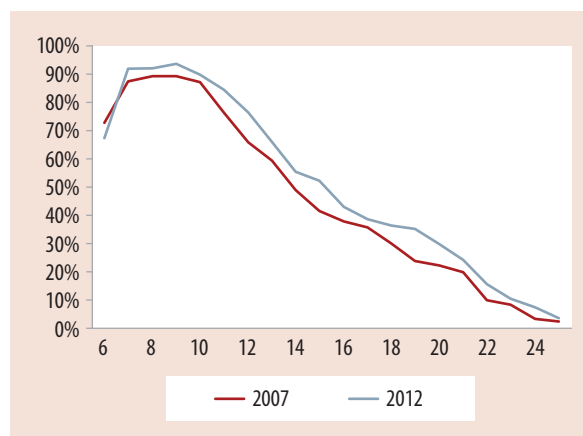


Source: Authors' calculations, IHSES 2007 and 2012.

children continue on beyond primary school, for a range of economic and social reasons. Figure 66 and Figure 67 plot the share of boys and girls ages 6–24 who are currently enrolled in school. While enrollment rates have increased at all ages between 2007 and 2012, dropouts begin as early as 12 years for boys and 9 years for girls. Enrollments begin to fall sharply below 90 percent by age 13 for boys and by age 10 for girls. Only 60 percent of 16 year old boys are enrolled in school, and only 43 percent of girls. In addition, among those who stay enrolled, absenteeism increases at the age of 11 for boys and again from age 15 as they start to miss school systematically more than girls, although absenteeism among girls begins to increase from age 16 (Figure 68).

13 percent of the Iraqi population aged 7–79 have never attended school. The reasons vary substantially across gender and generation. Although the majority of the adult males who never attended school state that it was because there was no easily accessible school (43%), and because they had to work to support their families (25%), the younger generation that has never attended school declare mostly they are not interested (23%), or because of sickness or disability (20%). Worryingly, issues of physical access and the affordability of education remain relevant for the younger cohorts. More than 50 percent of 7 to 25 year old males who never attended school did so

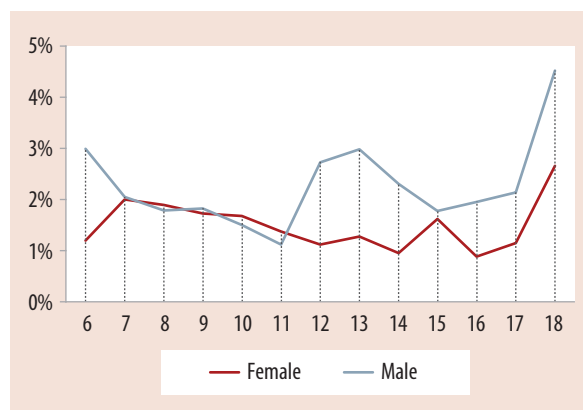
FIGURE 67: Enrollment by Age: Female



Source: Authors' calculations, IHSES 2007 and 2012.

because there was no easily accessible school (19%); they had to work to support their family (13%) or because the household could not afford school expenses. The need to work to support the family and the unaffordability of education expenses are also important in explaining male dropouts, accounting for 63 percent of male dropouts above the age of 25 and 41 percent of male dropouts ages 7–25 (Figure 69 and Figure 70). However, the single largest reason for boys dropping out of school is that they no longer want to attend, which makes up more than 40 percent of dropouts of boys ages 7–25.

FIGURE 68: Percentage of Students Missing at Least 4 School Days in the Previous Month by Gender and Age, 2012

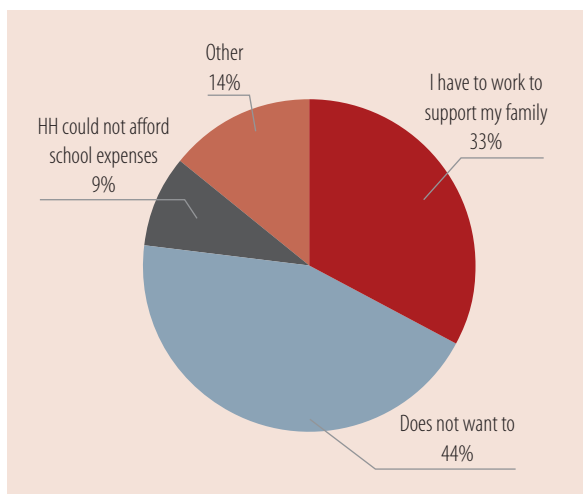


Source: Authors' calculations, IHSES 2012.

For women, social reasons are the most important factor in never attending school and dropping out, accounting for almost half the adult female population that never attended school or dropped out, and for around 40 percent of the younger cohort (Figure 71 and Figure 72). While there is some improvement in access to schools, with 18 percent of females ages 7–25 who never attended school reporting the lack of access as the main reason, compared to 29 percent of females aged 25 and above, 11 percent of the younger cohort report that their households could not afford the costs of schooling. Almost a quarter of young women who drop out of school state that they did not want to continue their education; early marriage and having to help with household chores account for a further 13 percent; and unaffordability and the lack of access for an additional 12 percent.

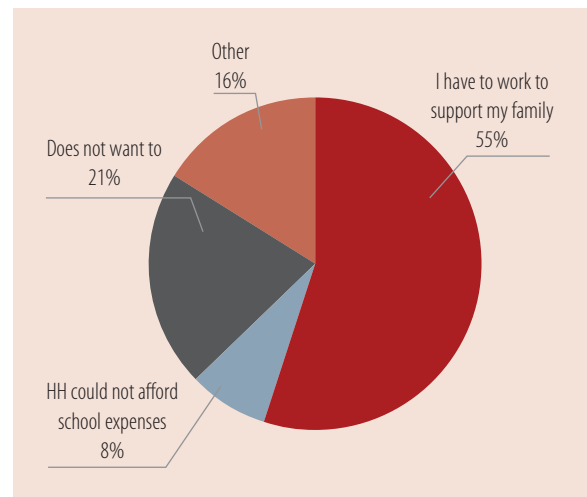
When we look at across the different divisions, the main reason for female school dropout is “social reasons”, which are cited by more than 44 percent of respondents, with the exception of Kurdistan, where most women drop out of school because they do not have the desire to continue studying. For men, in every division boys drop out of school mainly because they have to work to support their family, which varies from 39 percent in Kurdistan to 57 percent in Baghdad.

FIGURE 69: Reasons for Dropping Out of School: Male Ages 7–25



Source: Authors' calculations, IHSES 2012.

FIGURE 70: Reasons for Dropping Out of School: Male Above the Age of 25

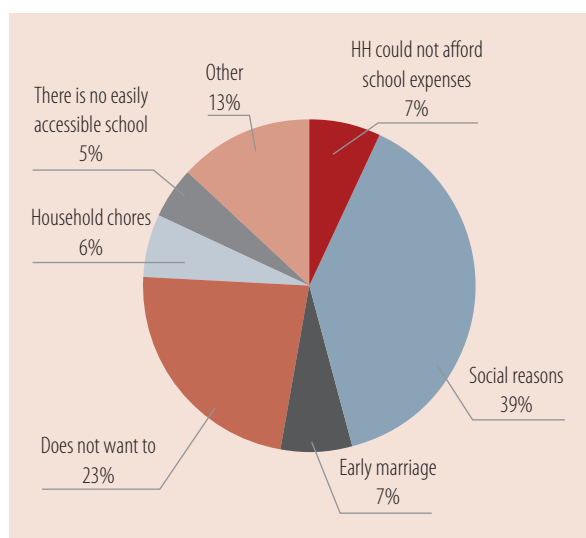


Source: Authors' calculations, IHSES 2012.

Broadly speaking, these self-reported reasons for non-attendance and drop-out point to significant differences for boys and girls, with girls being subject to social pressures and the unwillingness of the family to continue their education, and boys succumbing to economic pressures faced by the household that require them to look for work or to quit school because of the unaffordability of expenses. While the presence of an accessible school has improved between older and younger cohorts, it still remains an issue. Not wanting to go to school or to continue education also accounts for a substantial share of responses, which could imply poor quality of schooling or little perceived value and returns to education.

To understand the influence of these different factors in determining whether an individual completes primary school on time or not, we estimate a model that quantifies the marginal effects of wealth (as proxied by consumption quintiles), parents' education, place of residence, and the gender of the individual. We restrict the analysis to young people between the ages of 12 and 25, who are above the age by which primary education should be completed; and we also include terms to capture gender specific differences in the role of household wealth and place of residence in determining primary school

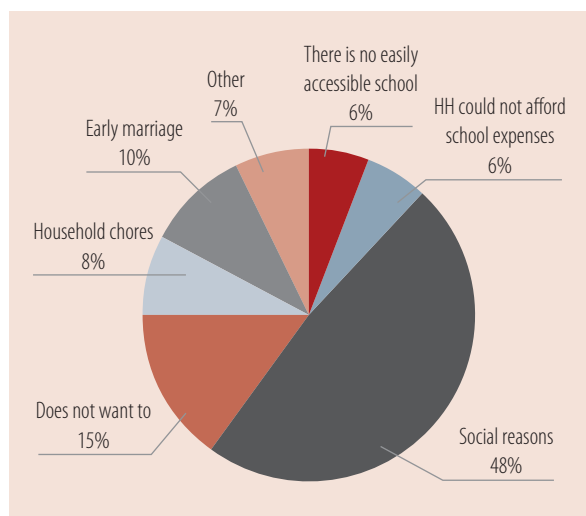
FIGURE 71: Reasons for Dropping Out of School: Female Ages 7–25



Source: Authors' calculations, IHSES 2012.

completion (Annex Table 3.2). Parental education is strongly correlated with primary school completion. An individual whose mother has completed intermediate or secondary school is 20 percent more likely to complete primary school by the age of 12 relative to one whose mother has primary or lower education. Children from wealthier households are also more likely to complete primary school on time:

FIGURE 72: Reasons for Dropping Out of School: Female Above the Age of 25

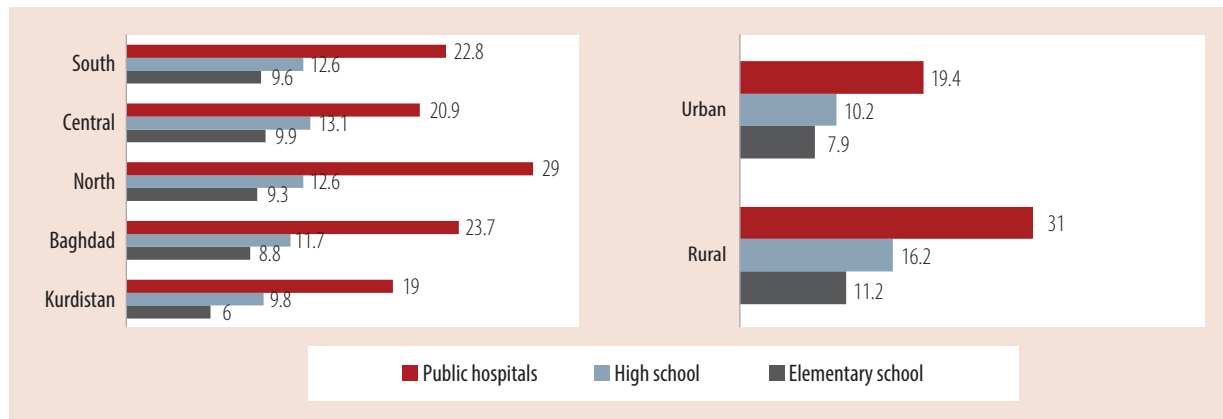


for instance, children belonging to households in the top consumption quintile are 14 percent more likely relative to those belonging to the bottom consumption quintile. Place of residence also matters: Living in an urban area increases the odds of on-time primary school completion by 8.5 percent; while living in any division lowers the odds relative to living in Kurdistan. Girls are 14 percent less likely to achieve this outcome relative to boys, except girls in the top quintile and those who live in Baghdad.

Thus, while poverty is higher among less educated households, poorer households are also less likely to have completed the median level of education. Self-reported reasons for dropping out and non-attendance are also consistent with this finding. Over and above the affordability of education expenses, certain geographic areas—urban Iraq and Kurdistan—are more favorable towards primary school completion, either because of relatively better accessibility or better quality schooling. After controlling for household wealth, parents' education, and location, girls are still less likely to complete primary school than boys, unless they belong to the wealthiest households or live in Baghdad.

Widespread Access to Basic Services, but Little Improvement in Quality

Basic health and education services appear to be easily accessible for the households and reachable within minutes in every division of Iraq (Figure 73). The average Iraqi household takes 23 minutes to reach a public hospital (using the usual means of transport available to them). Public hospitals are closer on average in Kurdistan (19 minutes away) than in the North (29 minutes away). In terms of education services, both elementary and high schools are within easy reach everywhere, particularly in Kurdistan, where elementary and high schools are reachable within 6 and 10 minutes respectively. These distances are more pronounced in rural than in urban areas, but rural areas do not appear to be completely isolated from health and education services.

FIGURE 73: Distance in Minutes to the Nearest Establishment – 2012

Source: Authors' calculations, IHSES 2012.

However, access to water continues to be significantly lower in rural areas. Figure 74 plots the share of households with access to piped water through the public grid: while access is above 90 percent in urban areas, in Kurdistan and Baghdad, it falls to 63 percent in rural areas. Although there is relatively broad access, and there have been improvements in access since 2007, a substantial portion of households who use the public network as the main source of water consider it to be insufficient (Figure 75). In the

Central division, the water access has increased but a larger share of those that have the public network as the main source of water state that it is insufficient (62% in 2012 against 49% in 2007). In every other division, access has increased and the share of users considering it insufficient has declined. However, in Kurdistan, North and Central divisions the percentage of households experiencing interruptions in public water supply more than once a week has increased to more than 70 percent (Figure 76). The increased frequency of interruptions appears to be

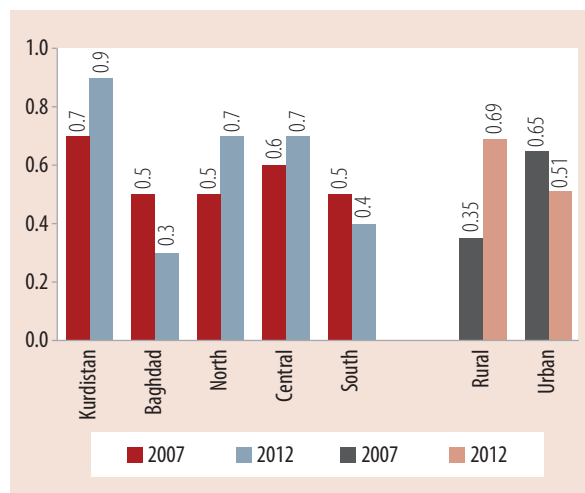
FIGURE 74: Access to Publicly Provided Water (Share of Households Connected to the Public Grid)

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 75: Percentage of Population That have Public Network as the Main Source of Water and Consider it Insufficient

Source: Authors' calculations, IHSES 2012.

FIGURE 76: Percentage of Households Declaring Public Supply of Water Is Interrupted More Than Once a Week



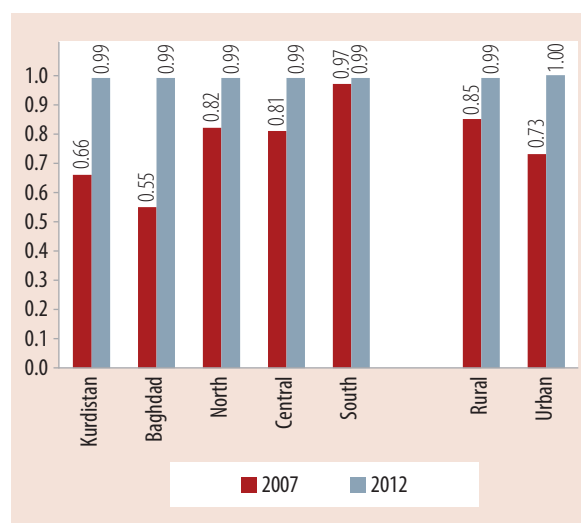
Source: Authors' calculations, IHSES 2012.

driven by rural areas, where the corresponding indicator has doubled.

Turning to electricity, there appears to have been a significant expansion in connecting households to the public grid: in each division and in rural and urban areas, almost all households report being connected to the public electricity grid (Figure 77). This would be a commendable achievement but connection to the grid is no guarantee of electricity supply in Iraq. In fact, on average, electricity supply is rarely higher than 12 hours, with the exception of Kurdistan (Figure 78), where 93 percent of households receive electricity for more than 12 hours. In sharp contrast, only 3 percent of households in Baghdad, and around a tenth of households in the Centre and the South receive power for more than 12 hours. Baghdad is by far the worst hit in terms of electricity, with more than three-quarters of all households in the capital receiving less than 8 hours of electricity a day.

Variation in electricity supply across space seems to be the relevant metric of unequal access. Irrespective of household wealth, few receive more than 12 hours of electricity on average per day (Table

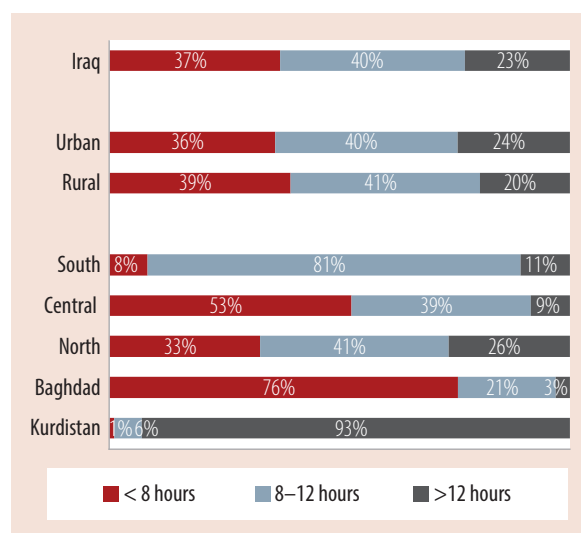
FIGURE 77: Access to Electricity Grid (Publicly Provided)



Source: Authors' calculations, IHSES 2007 and 2012.

18). While only 15 percent of the poorest quintile manages to get more than half a day of power, even among the richest quintile, less than 40 percent receive the same. Similarly, around a third of all households receive less than 8 hours of electricity per day.

FIGURE 78: Share of Households by Average Hours of Electricity from the Public Network Per Day in the Past Week



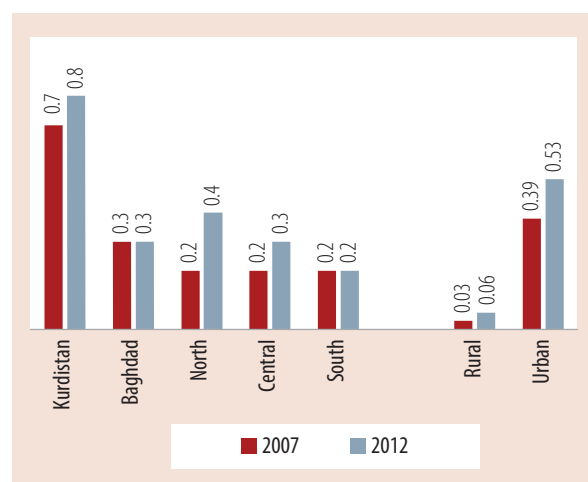
Source: Authors' calculations, IHSES 2012.

TABLE 18: Average Hours of Power Supply by Consumption Quintile

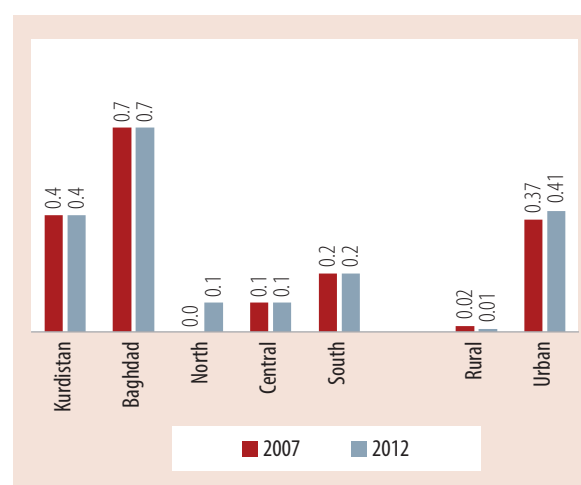
	<8	8 to 12	>12
1(poorest)	34%	52%	15%
2	39%	45%	16%
3	40%	41%	20%
4	39%	33%	28%
5(richest)	33%	28%	39%

Source: Authors' calculations, IHSES 2012.

Garbage collection and the availability of sewage services have increased over time, but are still very limited overall, reaching less than 50% of the population in both years (Figure 79 and Figure 80). The exception is garbage collection in Kurdistan, that reached 80% of households in 2012, and sewage in Baghdad, that reached 70% of households. In particular, rural areas seem to have almost no garbage collection and sewage services, and the North, Centre and the South are also underserved. Similar to the other services, the quality of sanitation does not appear to be satisfactory (Figure 81). Across all divisions, households highlight being adversely affected by issues related to inadequate sanitation, such as stagnant water and outlets of sanitary systems,

FIGURE 79: Access to Garbage Collection (Collected by Municipality or put in Designated Container)

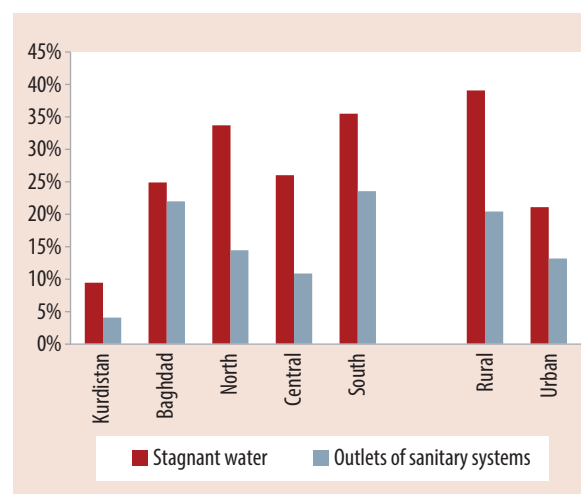
Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 80: Access to Sewage (Public Network Disposal System)

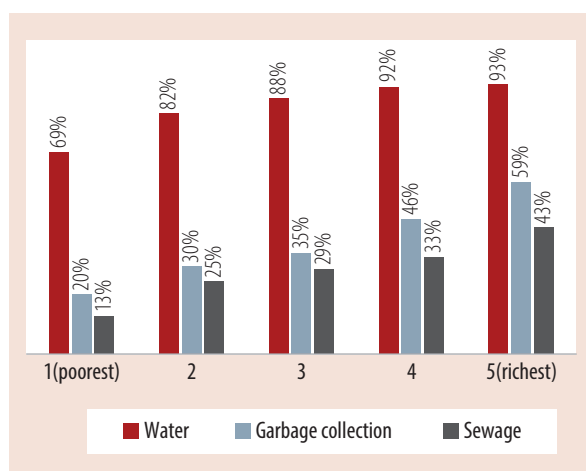
Source: Authors' calculations, IHSES 2007 and 2012.

although these complaints are much less prevalent in Kurdistan.

The access to some services varies significantly by wealth quintile (Figure 82). For instance, less than 70 percent of the poorest 20 percent has access to publicly supplied water, while 90 percent of the top 60 percent is connected to public water supply.

FIGURE 81: Percentage of Households Declaring Being Adversely Affected by Sanitation Related Issues

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 82: Access to Services by Consumption Quintile

Source: Authors' calculations, IHSES 2007 and 2012.

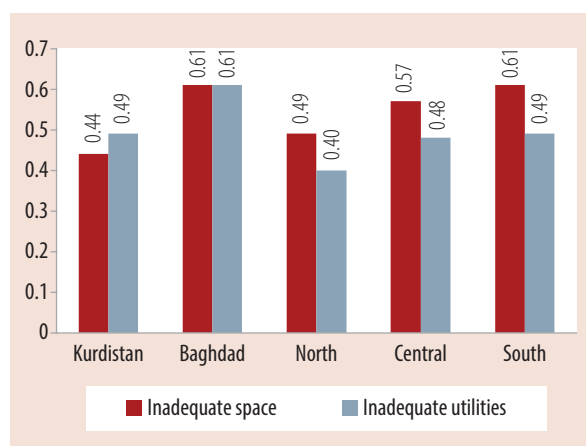
Irrespective of wealth, 70 percent of households find that the supply of water is insufficient. Access to garbage collection by the municipality does not go above 60 percent even for the top quintile, but for the lowest quintile, only a fifth have access to public garbage collection. Similarly, connection to the public sewage network is only 43 percent among the top 20 percent, but falls even further, to only 13 percent, among the poorest 20 percent.

Housing quality is also perceived to be low, with a large share of Iraqi households reporting inadequate

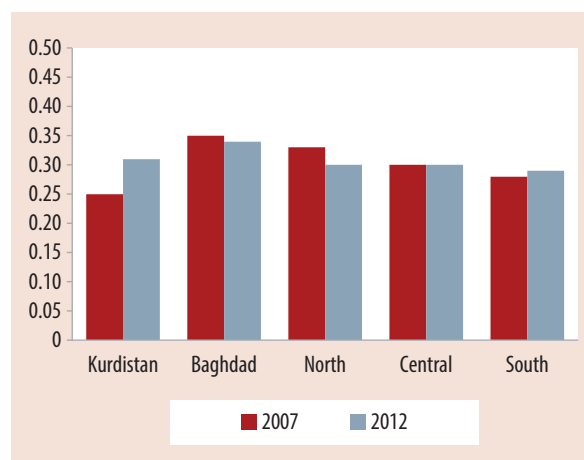
space and inadequate utilities. Dissatisfaction is expressed by more than 40 percent of households in all divisions, although it is a little more pronounced in Baghdad, South and Central divisions (Figure 83). These perceptions are borne out in objective measures of space per capita displayed in Figure 84. Households have, on average, between 0.25 and 0.35 bedrooms per capita, or alternately 1 bedroom for every 3 to 4 household members, evidence that on average families live in very compact spaces across the country, with no improvement over time.

Perceptions of housing quality in terms of inadequate space and inadequate utilities deteriorate significantly as per capita consumption declines, but especially among the bottom 60 percent (Figure 85). More than six-tenths of households in the bottom 60 percent report an inadequate number of rooms; and around 55 percent inadequate utilities, as compared to less than 40 percent of the top quintile (Figure 86).

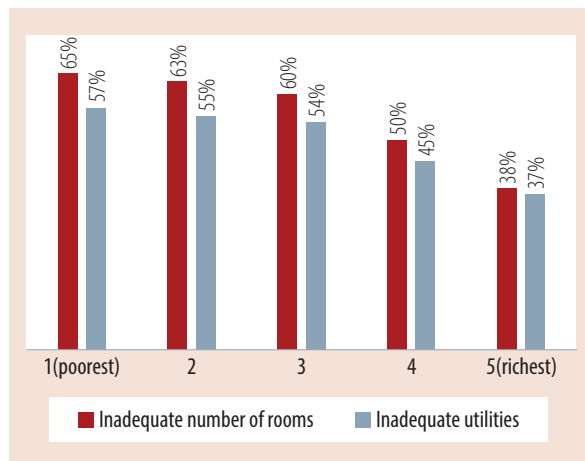
Thus, while education is one of the strongest and most direct correlates of poverty in Iraq, it is but one dimension of a significant deficit in human capital and in access to quality services. Moreover, much of this deficit, a legacy of the past, has been long-standing in nature, and few measurable improvements are evident in the 2007 to 2012 period. An exception is in the expanded access to certain services, but

FIGURE 83: Housing Quality Perception – 2012

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 84: Number of Bedrooms Per Capita

Source: Authors' calculations, IHSES 2007 and 2012.

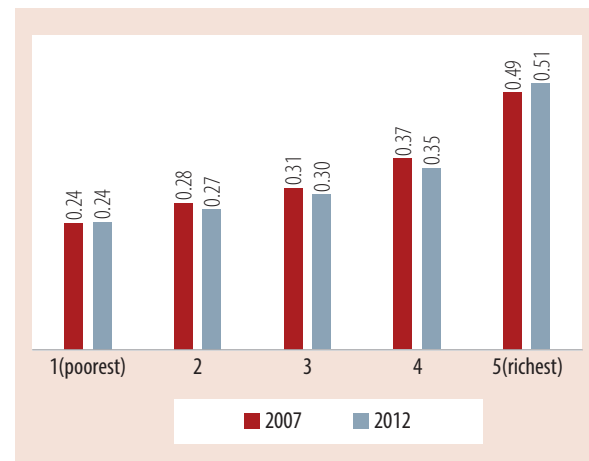
FIGURE 85: Perceptions of Housing Quality by Quintile

Source: Authors' calculations, IHSES 2012.

these have not been accompanied by improvements in quality, measured either through perceptions or objective measures. Poor outcomes in health and service delivery, like education, are correlated with welfare and with inequality across space.

Early childhood nutrition outcomes, the lack of which can have irreversible long term consequences, are correlated not only with the household's ability to consume adequate food, but also vary across space, reflecting differential access to essential services, and with maternal nutrition. An important finding in this regard is the positive relationship between early motherhood and child stunting, even among otherwise similar households.

Education in Iraq stalls at primary school, as many children drop out or do not attend for a variety of reasons—the lack of access to schools, the pressure to support the family by working and the unaffordability of schooling, social norms about the value and appropriateness of girls' education, and a significant lack of interest. The latter may reflect poor education quality, but these education outcomes are more broadly also likely reflecting limited returns to education on the labor market. Over and above these challenges, girls face a significant

FIGURE 86: Per Capita Number of Bedrooms by Quintile

Source: Authors' calculations, IHSES 2012.

disadvantage in terms of primary school completion, except a lucky few in certain parts of the country and from relatively well-off households, who continue further.

More aggregate indices reflect these findings as well. Inequality in access to basic child achievements is explained by gender for education outcomes and by spatial inequities for housing and services related indicators. A multidimensional index of human development deprivations follows the same pattern across space as consumption poverty. But there are important differences. While the high level of consumption deprivation in the South is correlated with multidimensional poverty, and the low consumption poverty rates in Kurdistan are accompanied by limited deprivation in human development, in the Centre, welfare as measured by consumption has rebounded faster, but significant deprivations in human capital remain. Overall, the analysis in this chapter suggests that human capital and service delivery are important determinants of welfare; and go well beyond the relationship with consumption poverty. In Iraq, three decades of violence and insecurity have stalled progress, and the nation faces a significant deficit, with far-reaching consequences for the economy and for future generations.

Conflict, Revival and Neglect: Understanding Spatial Disparities in Welfare

4

*I*n Iraq, the legacy of violent conflict has no doubt had a pervasive influence on welfare and related outcomes through multiple channels—directly through the loss of life and livelihoods and the displacement of people, and indirectly, through the destruction of infrastructure and markets, by limiting the access and quality of health, education and basic services, by adversely affecting rule of law and governance, and by severely constraining economic activity.

Relative peace and stability alone, where experienced, has not been sufficient for economic revival. Displacement and civilian deaths during the 2007 to 2012 period have been concentrated in Baghdad, the North, and in some of the Central governorates. The absence of peace and security has implied little change in welfare in Baghdad and the North, where the post-2003 violence was concentrated. It is only in the Centre where peace and stability have to some extent combined with an improvement in economic activity, and where job growth has outpaced the growth in the male working age population. While the South and Kurdistan were both subject to severe prosecution under the Saddam regime, they have remained relatively untouched by the post 2003-violence; yet, they appear to be on opposite trajectories.

Spatial disparities in welfare may be driven by differences in human capital endowments across different parts of Iraq. Iraq's historical endowment and comparative advantage in human capital has been steadily eroded as a consequence of 30 years of violence, and some of these trends are evident across age cohorts.

While Kurdistan and the South were both lagging behind the rest of the nation in terms of the educational attainment of working age adults in 2007, they are now on opposite trajectories. In Kurdistan, outcomes are improving significantly for the young, and they are catching up to the rest of the country. On the other hand, while there is some improvement in educational attainment over cohorts within the South, the gap with the nation is widening.

There is also evidence of long-term deterioration in health outcomes. Until the mid-1970s, Iraqi males enjoyed higher life expectancy than their counterparts in the Middle East and North Africa (MENA) region. Since 1980, the beginning of the Iran-Iraq war, they have lagged behind. In 2011, Iraq's Infant Mortality Rate was the highest in the region, barring Yemen.

Perhaps the most direct correlate of poverty is employment and the associated ability to earn income and finance consumption. Iraq has one of the lowest employment—to-adult population ratios in the region, and male and female rates of employment and labor force participation are low and stagnant. Male labor force participation was around 74 percent and female labor force participation around 11.5 percent in 2012. Male employment has not kept up with the growth in working age male population in the South, and both have actually declined in Baghdad. In contrast, employment growth outpaced growth in the working age population for men in Kurdistan, the North and the Centre, with the gap closing the fastest in the Centre. In the southern governorates, and with the exception

of Basra, the last five years appear to have compounded the neglect of the past, with declining male employment and labor force participation, declining female employment in agriculture, and with young people falling further behind in human capital.

Household size and composition, education and labor market outcomes all play a role in determining consumption expenditure, the basis for measuring poverty, as do other location-specific factors that can imply access to (or lack of) services, employment opportunities, and markets. By far the most consistent and striking correlate of poverty is the education of the head of the household. Further, there is evidence that the labor market is fragmented as a result of continuing violence and insecurity. While individuals are able to move between rural and urban areas within nearby governorates so as to equalize returns to their characteristics; moving across the country is much harder. As a result, similar people have different welfare levels depending on where they live. The lack of internal integration has severely limited the potential for development and sustained welfare improvements.

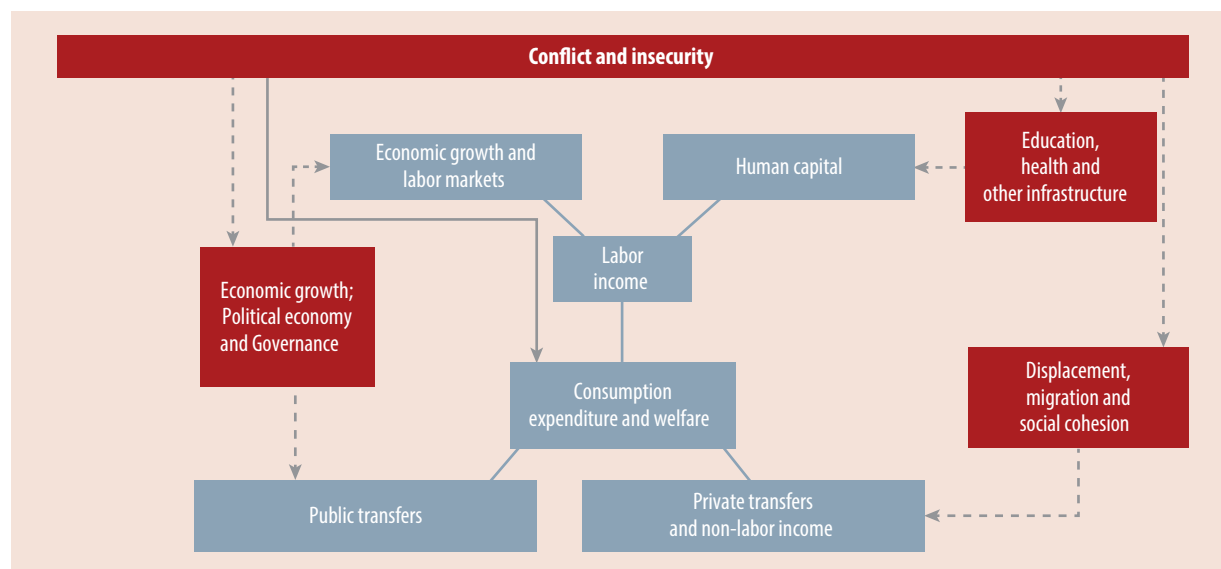
This chapter attempts to explain the observed spatial disparities in welfare, and in particular, to examine the direct and indirect implications of three decades of violence, conflict and insecurity on welfare. By construction, poverty is determined by the level of consumption expenditures and therefore, unequal growth in consumption across space and time can directly influence poverty rates, trends and spatial patterns in welfare. In much of the developing world, the poor also tend to have limited access to health, education and other basic services, or to those of relatively lower quality, which in turn imply lower human capital and a limited ability to take advantage of economic opportunities. Access to jobs and earnings also directly determine the ability to consume, acquire assets and invest, as do transfers, from the government or from private citizens.

In Iraq, the legacy (and continuation) of violent conflict have no doubt had a pervasive influence on welfare and related outcomes through multiple channels—the direct influence through the loss of

life and livelihoods and the displacement of people, and indirect channels, through the destruction of infrastructure and markets, by limiting the access and quality of health, education and basic services, by adversely affecting rule of law and governance, and by severely constraining economic activity (Figure 87). In this chapter, we examine some of these channels, insofar as data allows.

Given the focus on the period from 2007 to 2012, on the face of it, one may expect that the recent decade of violence and insecurity has been the most proximate factor at work in explaining the spatial dimensions of welfare in Iraq. In other words, that welfare stalled in areas which were particularly affected by the post-2003 violence, and that outcomes improved in places where security conditions improved as normalcy returned. Below we show that in addition, long term neglect of some parts of the country and a recent revival in economic activity concentrated in other parts of the country may also have an important role in explaining the spatial differences in welfare observed today.

Displacement and civilian deaths during the 2007 to 2012 period have been concentrated in Baghdad, the North, and in some of the Central governorates (Anbar and Diyala). While the revival of economic activity in Baghdad and the North has been relatively sluggish, in the Centre, employment among men, who make up a huge majority of the workforce, has grown significantly faster than their working age population, suggesting a significant improvement in economic activity during the 2007 to 2012 period. Starting from a common legacy of neglect and persecution during the previous regime under Saddam Hussein, Kurdistan and the southern governorates, which were relatively untouched by the post-2003 violence, now appear to be on opposite trajectories. While the limited improvement in head count rates in Kurdistan is masking significant improvements in health and education, and in economic activity, in the South, which has long been a lagging region, with the exception of Basra, continued neglect has led to deteriorating welfare for an already vulnerable population. Consumption and labor incomes

FIGURE 87: Understanding Spatial Disparities in Poverty in Iraq

for the poorest 10 percent have actually declined and the share of working age men who are not employed in the South has increased by 15 percent.

Violence and Insecurity

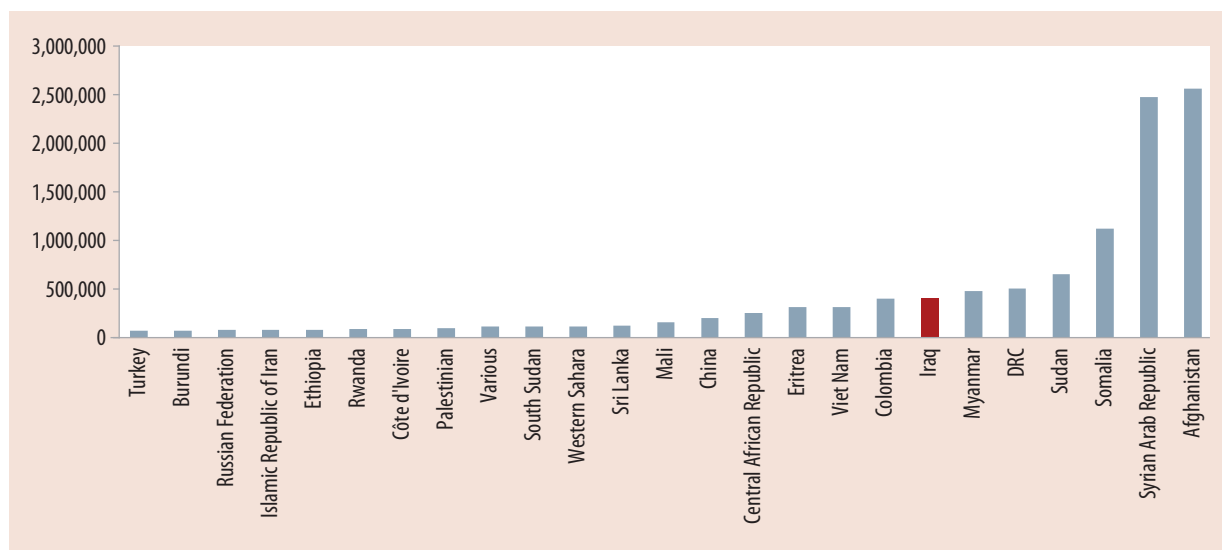
Conflict, insecurity and civilian displacement in Iraq predates the 2003 US-led invasion. The almost decade long First Gulf War between Iran and Iraq in the 1980s resulted in thousands of civilian casualties, a slowdown in per capita GDP, stalling the development process. In July 1990, Saddam Hussein invaded Kuwait, sparking the Second Gulf War and then the abortive anti-Saddam uprisings in southern Iraq and the Kurdish region. This formed the beginning of autonomy for the Kurdish region, resulting in major economic divergence between this region and the rest of the country. Iraq became subject to a series of stringent United Nations resolutions which included economically crippling sanctions and direct UN involvement in the provision of food and health services. Importantly, other than the use of air power, the Saddam regime was free to use its remaining military power within Iraq outside the Kurdish region—to the detriment of southern Iraq in particular. Between 1990 and 1998, per capita

GDP fell from \$2836 to \$466 or to one-sixth of its level. In the intervening years, no estimates of GDP per capita were available until recently.

The 2003 invasion toppled the Saddam Hussein government and sealed autonomy for the Kurdish region, but was also the beginning of a protracted violent conflict among different power-seeking groups. This internal strife has taken an immense toll: since 2003, more than 110,000 civilians have died as a result of violent attacks and millions of Iraqis became internally displaced or left for other countries (predominantly Jordan and Syria).²⁸ The peak of civilian deaths in 2006–07 coincides with the period covered by the first Iraq Household Socio-Economic Survey (IHSES-I). During the time of the second IHSES survey in 2012, violence still accounted for more than 4000 civilian deaths a year.

The scale of violence over the last decade has been among the worst in recent times and civilians have paid a huge price in terms of dislocation and loss of life. Iraqi refugees are among the most numerous in

²⁸ Iraq Body Count (www.iraqbodycount.org); estimates as of May 2013.

FIGURE 88: Number of Refugees, Selected Countries (>50,000 Persons)

Source: UNHCR Population Statistics Reference Database, United Nations High Commissioner for Refugees, year 2013; retrieved 29 July 2014.

the world, ranking only behind a handful of countries (Figure 88 plots the number of refugees and their country of origin in 2012 for selected countries with more than 50,000 refugees, of more than 200 countries in UNHCR's Statistical Online Population Database in 2014). Similarly, the scale of internal displacement has been massive. By June 2014, the number internally displaced people (IDPs) in Iraq was estimated at 2.3 million or roughly 6 percent of the population—less only than those in Syria, Nigeria, Columbia, Sudan, and the Democratic Republic of Congo (Figure 89).²⁹ The militant insurgency in the northern governorates at the time of writing this report has displaced populations further. IDMC estimates that since late December 2013, more than 1.2 million persons have fled their homes in the governorates of Anbar, Nineveh, Salahaddin and Diyala.

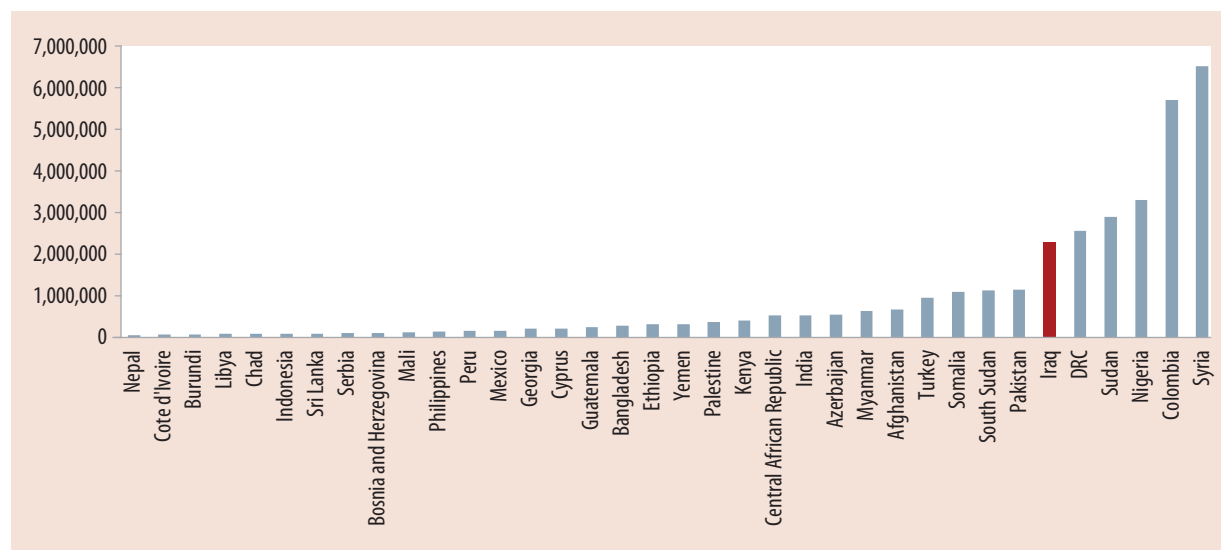
In 2012 IHSES data, 6 percent of individuals reported having lived elsewhere for at least six months because they were forcibly displaced or were returning from forcible displacement, or had moved for security reasons, because of conventional armed conflict or civil conflict.³⁰ This estimate implies a scale of internal displacement very similar to those implied by IDMC or UNHCR estimates, and refers to movements spanning many decades. These

'displaced' people make up 35 percent of all people who had lived elsewhere for a period of 6 months or more. In Kurdistan, more than a third of the population had lived elsewhere for at least 6 months (henceforth *migrants*), and of these, more than a third or almost 15 percent of the population reported themselves as being displaced or returning from forcible displacement (Figure 90). In contrast, Baghdad and the Northern division had the lowest rates of migrant population, but almost 45 percent of these individuals were either forcibly displaced or were returning from forcible displacement.

These estimates mask significant variation within divisions. For example, within the North, 12 percent of the population of Kirkuk reported being displaced forcibly or having returned from forced displacement, and these individuals accounted for more than 60 percent of the migrant population (Figure 91). While the overall rates of displacement in the Centre are relatively low, almost 10 percent of the population of Diyala was displaced, accounting for

²⁹ Restricted to countries with more than 50,000 IDPs in 2012, of the 60 countries listed in the database.

³⁰ Overall, 17 percent of Iraqis reported having lived elsewhere for a period of 6 months or more.

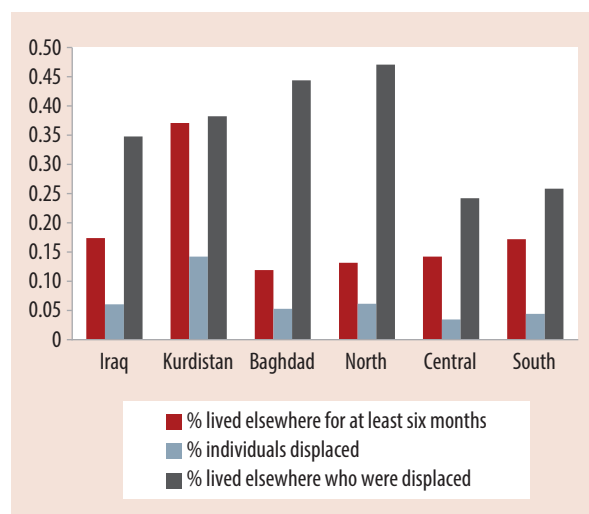
FIGURE 89: Internally Displaced People, Selected Countries (>50,000 Persons)

Source: International Displacement Monitoring Center (IDMC), Global Database, retrieved July 29 2014, [http://www.internal-displacement.org/8025708F004CE90B/\(httpPages\)/22FB1D4E2B196DAA802570BB005E787C?OpenDocument](http://www.internal-displacement.org/8025708F004CE90B/(httpPages)/22FB1D4E2B196DAA802570BB005E787C?OpenDocument).

more than 60 percent of migrants. The lowest rates of displacement—2 percent of the population—were in Najaf, Babylon, Qadisiya and Salahadin.

These estimates of displacement are concentrated in two distinct time periods: around the early 1990s and in the 2003 to 2007 period (Figure 92). More

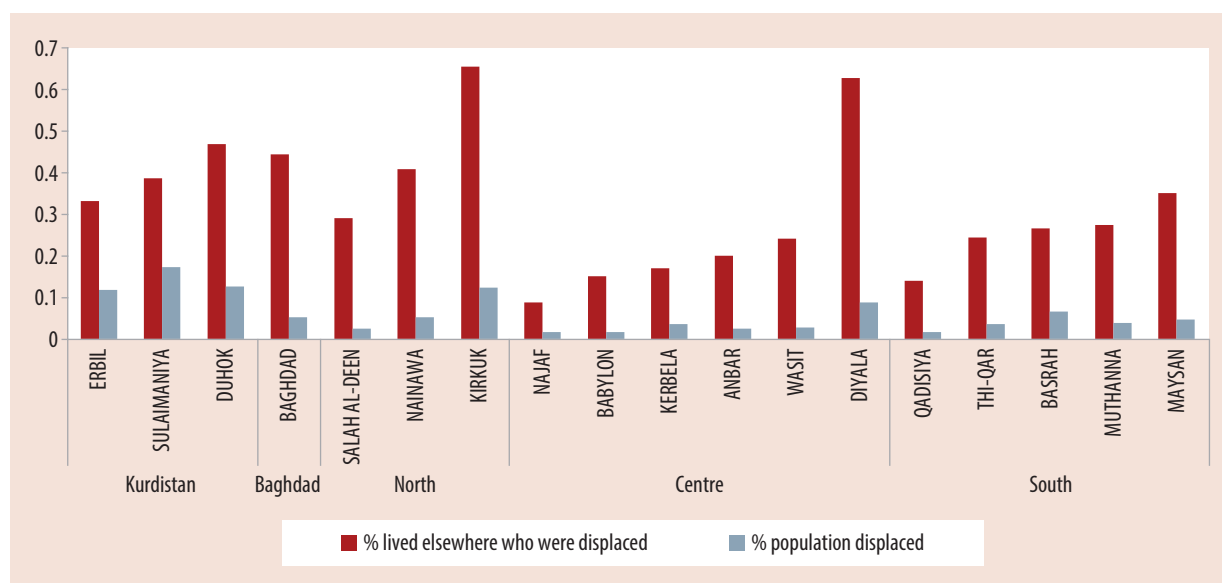
than 20 percent of all reported displacement occurred in 1991–92; 10 percent in 2003, and 14 percent in 2006. These time periods coincide with Saddam Hussein's invasion of Kuwait in 1990, the US-led coalition invasion of Iraq in 2003 and the peak in internal violence in 2006–07.

FIGURE 90: Estimates of Migration and Displacement, IHSES 2012

Source: Authors' calculations, IHSES 2012.

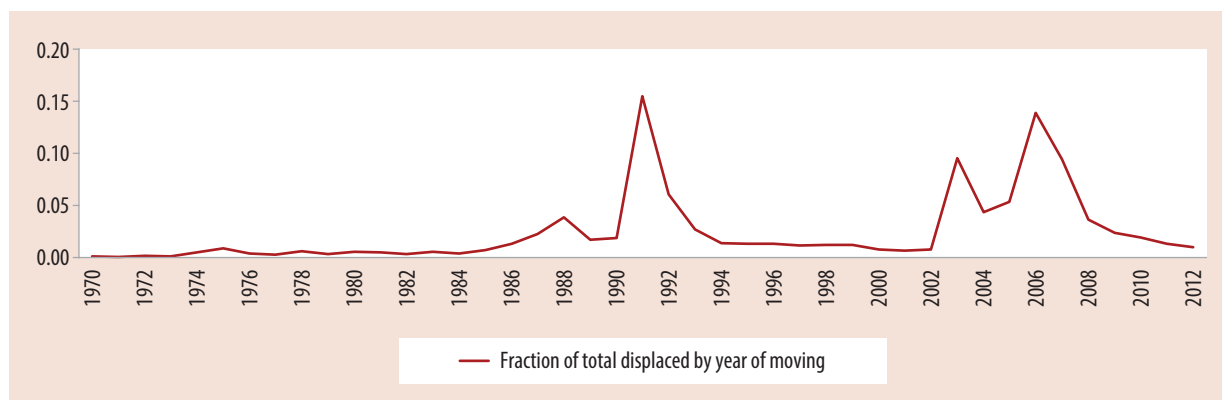
These different periods of displacement disproportionately affected certain parts of the country. Figure 93 shows the fraction of the displaced population within each division by the year of having moved. The scale of movement also varied significantly over time. The number of displaced individuals peaked in 1991, and then in 2006, accompanied by significant displacement in 2003 and 2007 (Figure 94). In Kurdistan, the bulk of the displaced had moved prior to the 2003 US led invasion of Iraq while on the South, 60 percent of the displaced moved prior to 2003, mostly in the 1980s and early 90s. These movements coincided with the Kurdish and Shi'a uprisings of 1991. The uprisings were followed in the South by an intensification of the draining of the Tigris-Euphrates marshes and the forced relocation of Marsh Arabs; and following the establishment of no-fly zones over the northern and southern parts of Iraq, by the establishment of the Kurdistan

FIGURE 91: Governorate Level Estimates of Displacement as a Share of Those Who Lived Elsewhere for More Than 6 Months



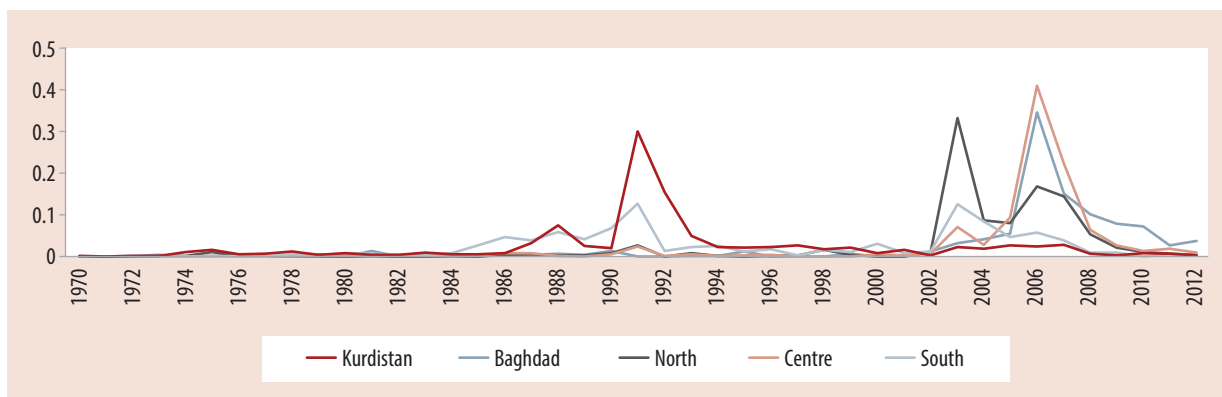
Source: Authors' calculations, IHSES 2012.

FIGURE 92: Spells of Displacement, 1970–2012

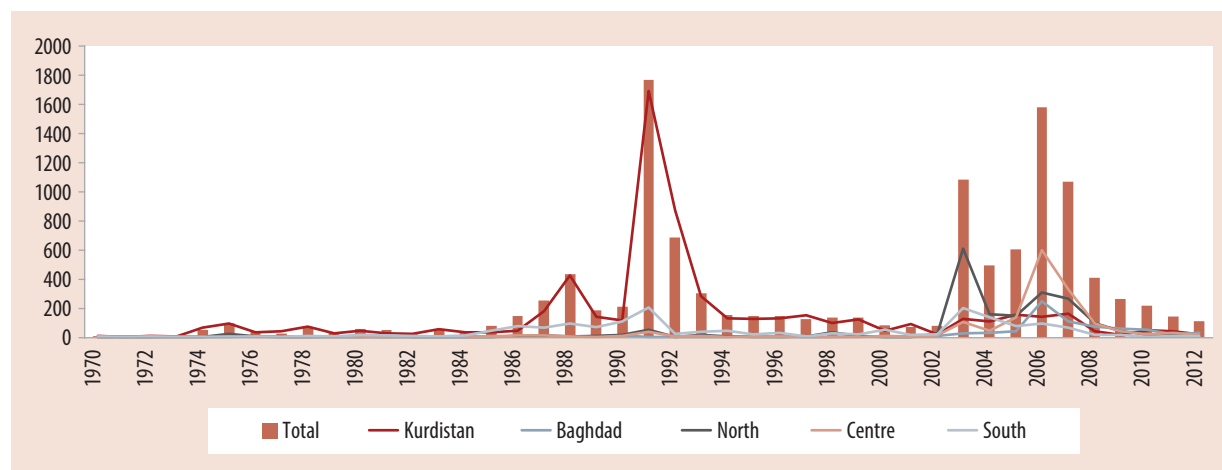


Source: Authors' calculations, IHSES 2012.

FIGURE 93: Fraction of Displaced in Each Division, by Year of Moving, 1970–2012



Source: Authors' calculations, IHSES 2012.

FIGURE 94: Estimates of Displacement, by Year of Moving, 1970–2012

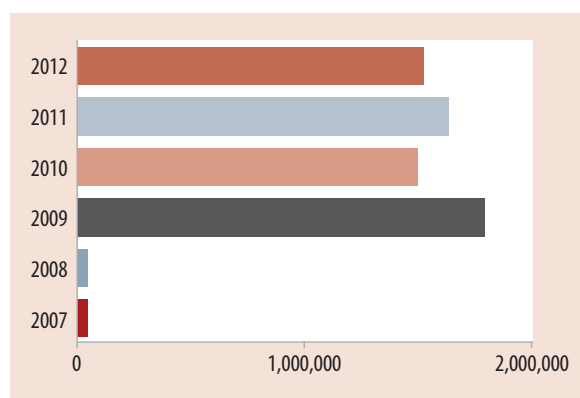
Source: Authors' calculations, IHSES 2012.

regional government. As we will try and show, since then, while the Kurdistan region has witnessed steady improvement across a range of indicators, relative peace and stability in the South has, on the other hand, not been accompanied by any visible improvement in outcomes.

In contrast, in the other three divisions,—the North, Centre and Baghdad—, almost 95 percent of those displaced moved after 2003, and these movements spiked in 2003 and 2006–07, coinciding with the US-led invasion and the subsequent surge in violence within Iraq.

Within the period covered by this report, UNHCR estimates on *persons of concern* within Iraq have steadily increased since 2007, and have remained high since the 2009 peak of almost 1.8 million persons (Figure 95).³¹ The bulk of these populations, primarily comprising internally displaced people, are concentrated in Baghdad and the governorates of Nineveh and Diyala (Figure 96). In each of the years between 2007 and 2012, two of these three provinces together accounted for more than 40 percent of all persons of concern in Iraq.

Data on civilian casualties for the same period from Iraq Body Count finds an identical concentration of violence and insecurity in Baghdad, Diyala and

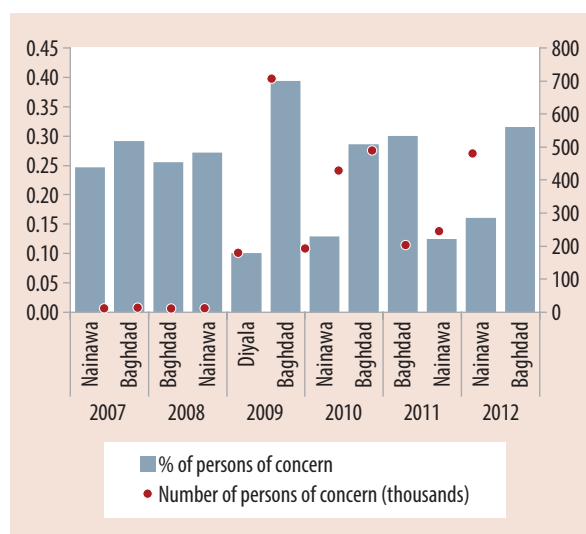
FIGURE 95: 'Persons of Concern', 2007–2012

Source: UNHCR Population Statistics Reference Database, United Nations High Commissioner for Refugees.

Nineveh, which together accounted for 70 percent of deaths (Figure 97). Aggregating to the division level, over the 2007–2012 period covered by the two IHSES surveys, Baghdad, the Centre and the North together accounted for 95 percent of civilian deaths (Figure 98). Within the Central division, the more than three-quarters of the casualties were in two governorates, Anbar and Diyala. While internal

³¹ "Persons of Concern to UNHCR" is a general term used to describe all people whose protection and assistance needs are of interest to UNHCR, including asylum seekers, stateless people, internally displaced people and return refugees.

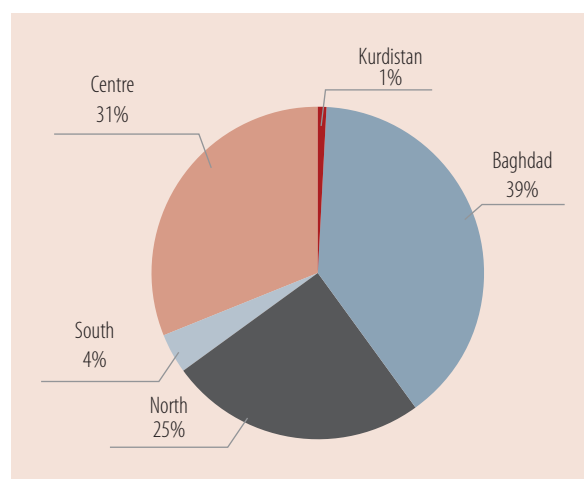
FIGURE 96: 'Persons of Concern' Concentrated in Baghdad, Nineveh and Diyala



Source: UNHCR Population Statistics Reference Database, United Nations High Commissioner for Refugees.

violence has indeed declined since 2007, the pattern of spatial concentration of violence has remained an enduring feature (Figure 99). In the 2011 Arab Barometer survey in Iraq, while 40 percent of respondents expressed insecurity about their own and their family's safety, 60 percent of those living in Baghdad expressed the same concern, reflecting these relatively higher risks.

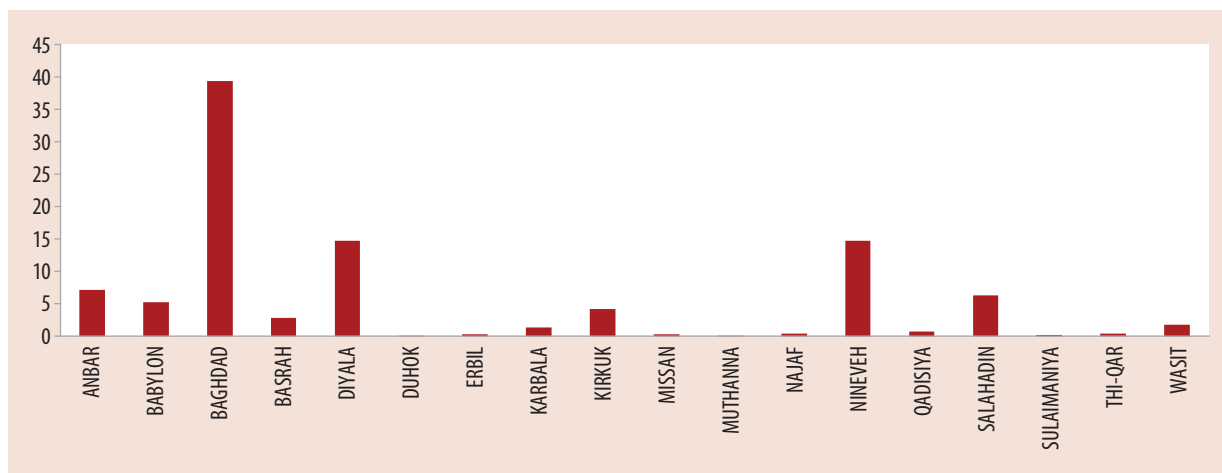
FIGURE 98: Casualties by Division (%): 2007–2012



Source: Iraq Body Count, 2013.

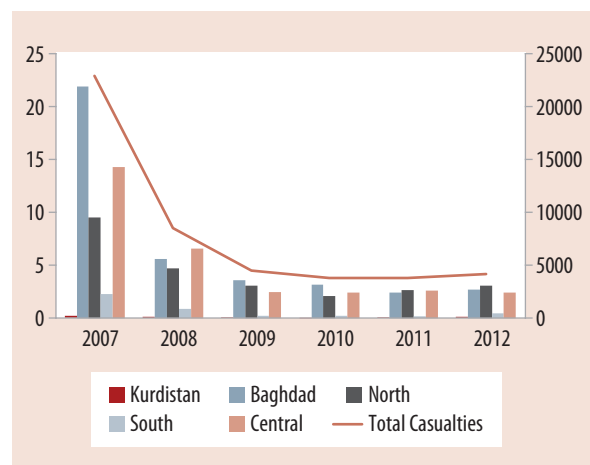
Undoubtedly war, sanctions and violent insecurity in Iraq have had far-reaching and significant impacts on the nation as a whole. However, the spatial distribution of violence and insecurity during the period covered by the surveys suggests that Kurdistan and the South were relatively unaffected, at least according to these measures. While the immediate explanation for the levels and trends in poverty in the South may lie in more structural factors rather than in the violence of the recent decade, the latter may explain the limited improvement in welfare in Baghdad and

FIGURE 97: Civilian Casualties by Governorate (percent), 2007 to 2012



Source: Iraq Body Count, 2013.

FIGURE 99: Share of Divisions in Total Civilian Deaths and Number of Deaths, 2007–2012



Source: Iraq Body Count, 2013.

the North over the 2007 to 2012 period, and the increase in poverty in Nineveh in particular.

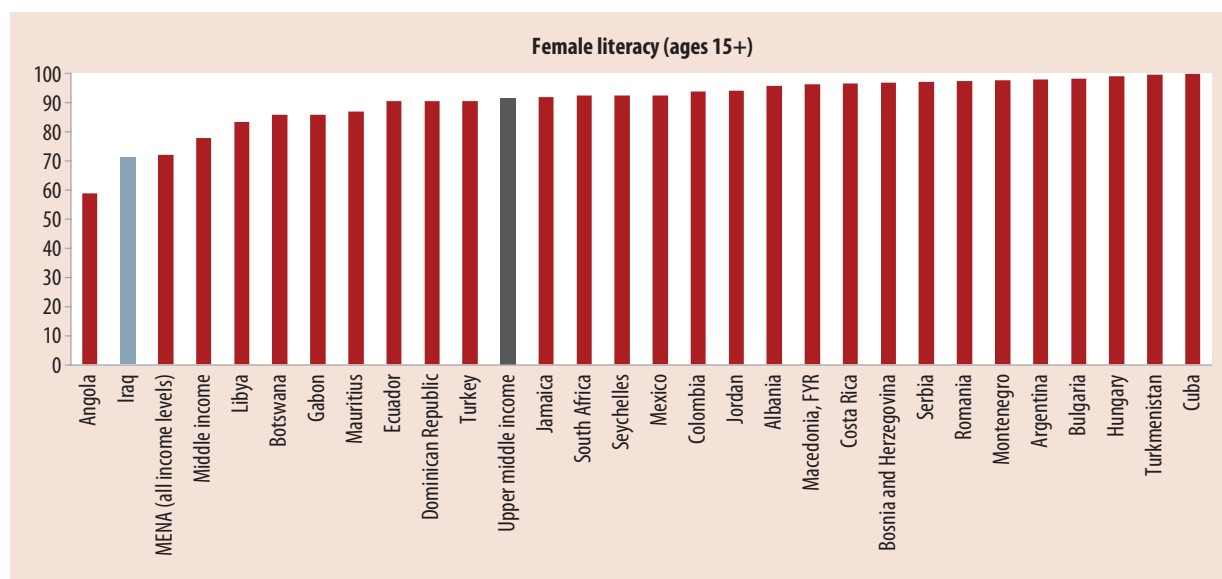
Human Development and Access to Basic Services

Spatial disparities in welfare may also be driven by differences in human capital endowments across

different parts of Iraq. It is widely acknowledged that in the 1980s, Iraq had one of the best educational systems in the region. Iraq's 1970 Provisional Constitution guaranteed the right to free education at all levels for all its citizens and stated that education was compulsory. In 1978, the state launched a mandatory campaign for combating illiteracy, in which it was obligatory for all Iraqi citizens between the ages of 15 and 45 to join. The program supported participants until they achieved fourth-grade level of reading, writing and mathematics. The Iran-Iraq war, the first Gulf war and the subsequent sanctions, as well as the decades of violence that followed led to large scale destruction and deterioration in infrastructure and severe shortages of qualified teachers. Today, adult male and female literacy rates in Iraq are below the MENA average and well below the average for similar upper middle income countries (Figure 100 and Figure 101).

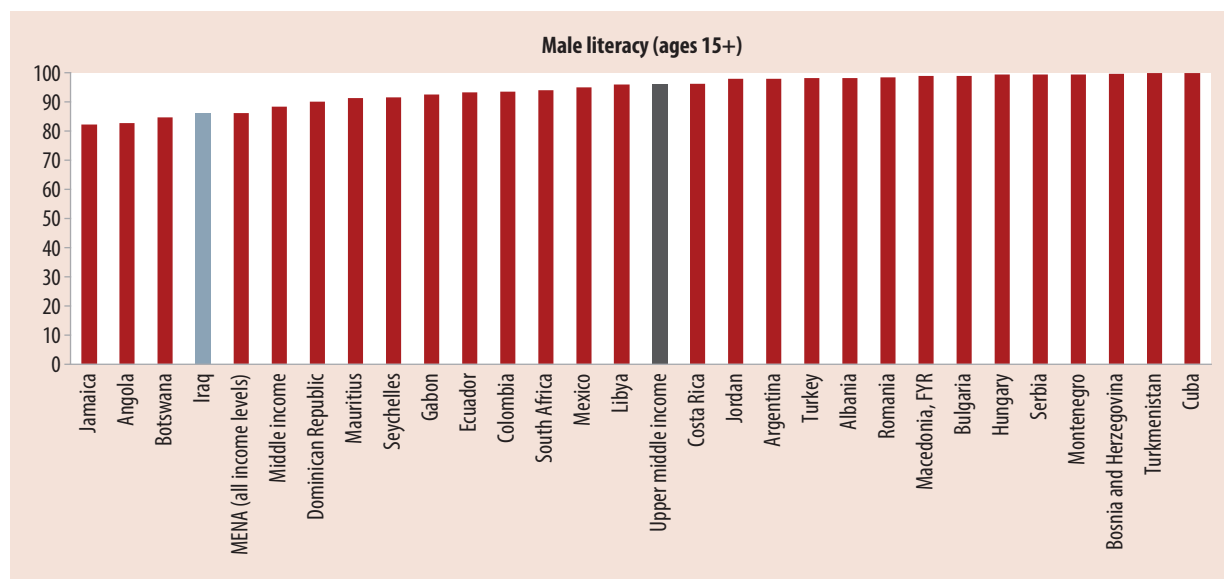
While long term trends on educational outcomes are not available for Iraq, data from IHSES provides some evidence of the long term impact of conflict. Figure 102 plots the fraction of people in 5-year age cohorts in 2012 (birth years below age in 2012) with a certain educational attainment. Overall, the incidence of illiteracy declines as we move to younger

FIGURE 100: Adult Female Literacy, Iraq and other Countries



Source: World Development Indicators, 2012.

FIGURE 101: Adult Male Literacy, Iraq and other Countries



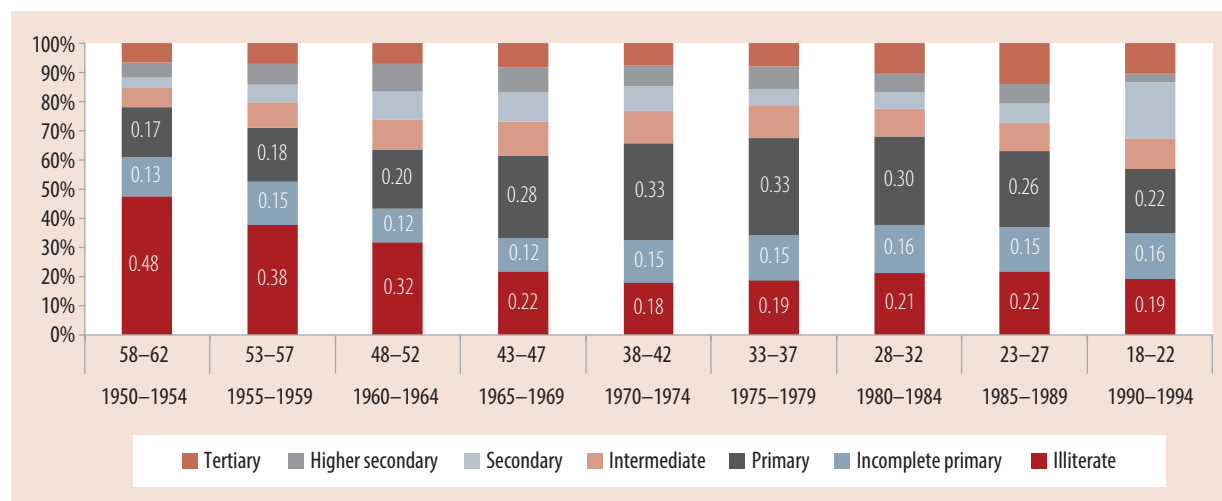
Source: World Development Indicators, 2012.

cohorts, but for those in their mid-30s or younger in the 2012, it has increased relative to those in their late 30s. These cohorts were born after 1975, were of school-going age during the Iran-Iraq war and thereafter, when the mandatory literacy campaign became harder to implement. 12 percent of those born in the 1980s, who might have been in primary school at the time of the first Gulf war, are illiterate in 2012. For Iraqis of all ages, the most prevalent level of education is primary schooling or less: among 18–27 year olds, about 60 percent of have no more than primary education. Over time, one may expect that while illiteracy and incomplete primary schooling decline, primary school completion increases. In Iraq, the trend is somewhat in the opposite direction, with a relative increase in incomplete primary schooling compared to primary completion with age. 18 year olds in Iraq today are as likely to have completed primary school as those 30 years older.

The incidence of intermediate, secondary and higher secondary school taken together is around 30 percent for young Iraqis ages 18–22, the same as for Iraqis in their 40s. While this in itself is worrying, within this group, over time, the share of higher secondary graduates has remained stagnant with some

improvements in tertiary education only evident among the youngest cohorts. Overall these trends suggest a stalling of progress in education and a possible worsening of outcomes for some cohorts.

Are spatial differences in education correlated with patterns of poverty across Iraq? Table 19 shows the share of the working age population of Iraq in each education level in 2007 and 2012, followed by the percentage point difference in education levels across the working age population in each division in 2007 and 2012, relative the Iraqi average. Overall, more than 80 percent of Iraqis of working age have secondary education or less; and there has been an increase in the share with less than primary education from 34 to 40 percent in 2012. Only two regions lag behind the national average. People in the working age (15–64 years) living in the South, where poverty rates increased, were 3 to 4 percentage points more likely to have less than primary education relative to the national average and less likely to have primary or higher education. In 2007, Kurdistan's working age population was much more likely than that of the South to be illiterate or have less than primary education. In 2007, for instance, the share of working age adults

FIGURE 102: Current Educational Outcomes by Age in 2012 and Year of Birth, Ages 18–62*

Source: Authors' calculations, IHSES 2012.

Note: * As younger cohorts may not have completed tertiary schooling, the results on tertiary education may not be comparable across ages and should be interpreted with caution.

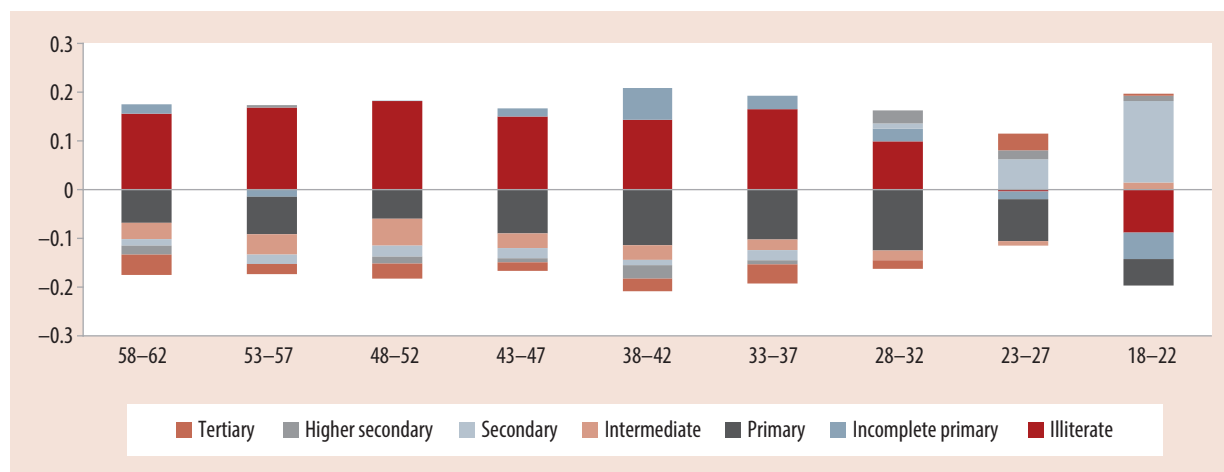
in Kurdistan with less than primary education was 23 percentage points higher than the national average of 34 percent. However, outcomes have been improving over time and the deficit is being gradually bridged. In the North and the Centre, the gap with the average appears to be closing. Despite no change in headcount rates, working age adults in Baghdad have the highest educational attainment relative to the nation, but appear to be slowly losing their relative advantage except at the highest levels of education.

While Kurdistan and the South were both lagging behind the rest of the nation in terms of the educational attainment of working age adults in 2007, they are in fact on opposite trajectories. In Kurdistan, outcomes are improving significantly for the young, and they are catching up to the rest of the country. On the other hand, while there is some improvement in educational attainment over cohorts within the South, the gap with the nation is widening. Figure 103 and Figure 104 plot, for each 5-year age cohort in Kurdistan and

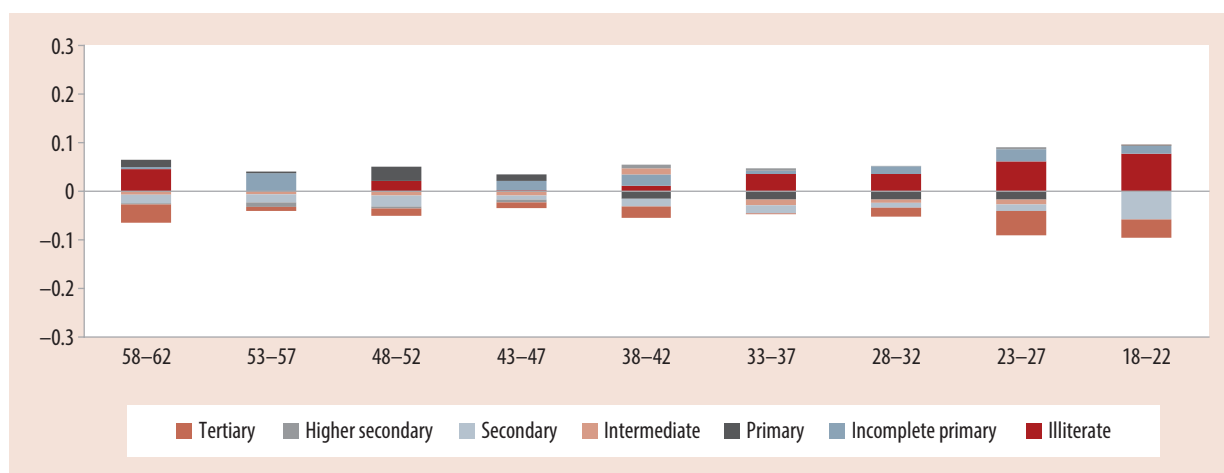
TABLE 19: Completed Level of Education, Share of Iraqis Aged 15–64: Division Relative to National, 2007–2012

Education level (Share of working age population), All Iraq									2007	2012
Illiterate or incomplete primary									0.34	0.40
Complete primary to secondary school									0.47	0.45
Higher secondary and higher									0.16	0.15
	Kurdistan relative to Iraq		Baghdad relative to Iraq		North relative to Iraq		Centre relative to Iraq		South relative to Iraq	
	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Illiterate or incomplete primary	23.01	17.81	−13.01	−12.51	4.85	3.60	−3.51	−4.07	4.27	3.35
Complete primary to secondary school	−19.03	−14.26	12.62	7.29	−2.18	−1.18	0.11	3.91	−4.17	−1.75
Higher secondary and tertiary	−5.92	−3.56	1.75	5.24	−2.13	−2.40	2.62	0.12	−0.27	−1.59

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 103: Educational Attainment by Age Cohort in 2012, Kurdistan Relative to Iraq

Source: Authors' calculations, IHSES 2012.

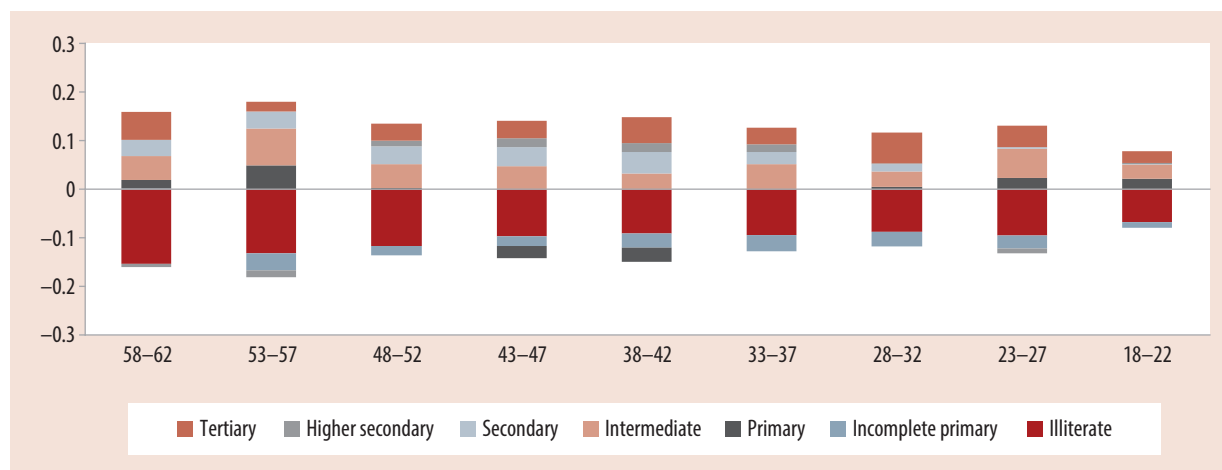
FIGURE 104: Educational Attainment by Age Cohort in 2012, South Relative to Iraq

Source: Authors' calculations, IHSES 2012.

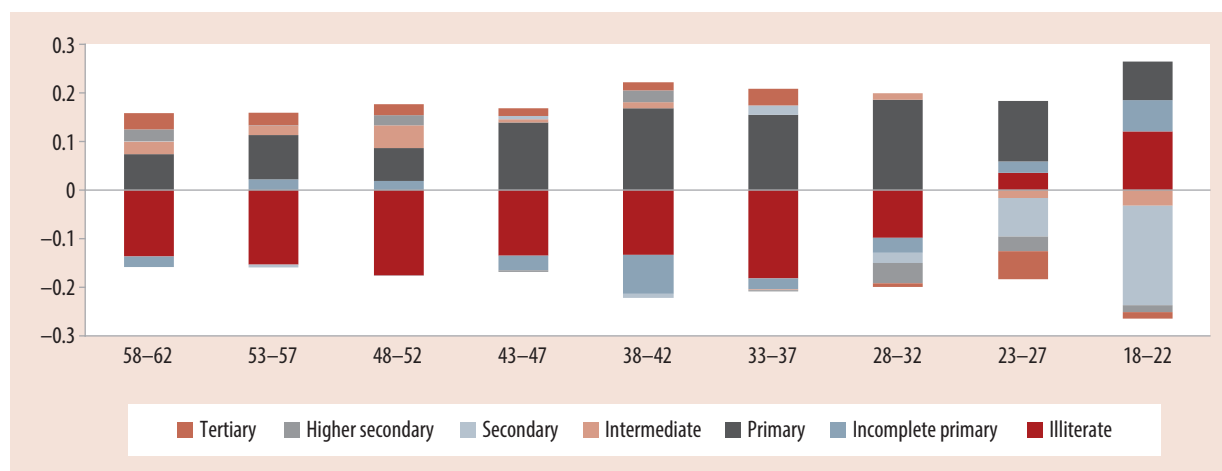
in the South, by how much education levels are higher or lower relative to the national level. Older generations in Kurdistan (those 30 and above in 2012) started out with much higher levels of illiteracy and incomplete primary education relative to Iraq and lower levels of complete primary education and higher education. In contrast, the pattern is reversed for those in their 20s. These young people are much more likely than their counterparts to have secondary and higher levels of education. In the South, in contrast, young people in their 20s are further behind their peers than their

fathers were. A 60 year old in the South was 5 percent more likely to be illiterate and 2 percent less likely to have secondary education than an average 60 year old Iraqi while a 20 year old person is 8 percent more likely to be illiterate and 6 percent less likely to have secondary education.³²

³² Some age groups in the South appear to have bridged the gap with the rest of Iraq, but this is likely a result of the overall stalling of progress in education than improvements in the South.

FIGURE 105: Educational Attainment by Age Cohort in 2012, Baghdad Relative to Iraq

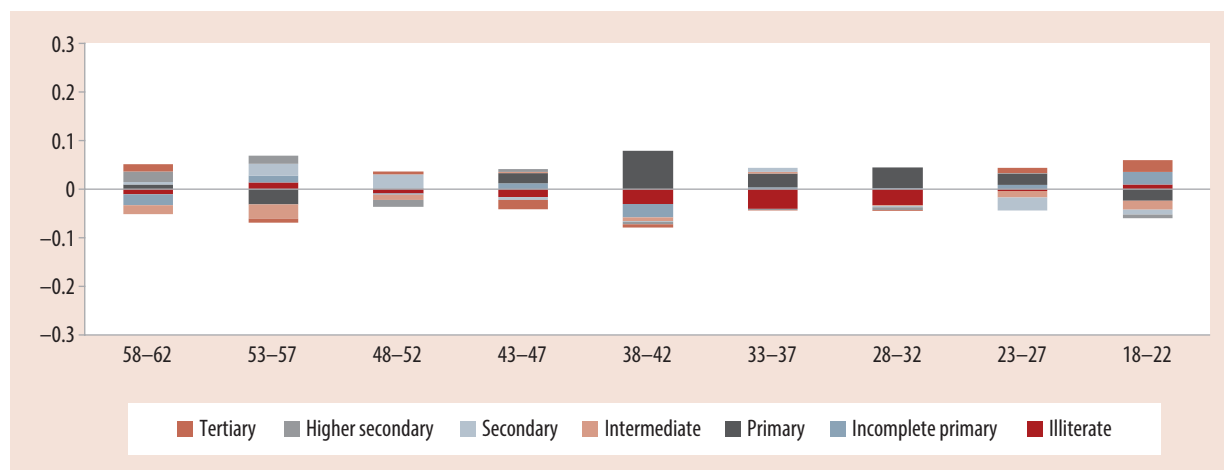
Source: Authors' calculations, IHSES 2012.

FIGURE 106: Educational Attainment by Age Cohort in 2012, North Relative to Iraq

Source: Authors' calculations, IHSES 2012.

In Baghdad, starting from a position of significant advantage, where 50 year olds were less likely to be illiterate and more likely to have completed tertiary education relative to the average, younger cohorts are moving closer to the national average (Figure 105). A 58–62 year old in Baghdad was 15 percent less likely than the average to be illiterate, compared to an 18–22 year old, who is only 7 percent less likely. While individuals living in Baghdad continue to be more educated than those in other parts of the country, the erosion of this advantage over time may be related to the continuing violence and insecurity.

In the North, which was also affected by the post-2003 violence, deterioration in education over generations is starker (Figure 106). The cohorts in their 30s and older in 2012, were more likely than their counterparts to have completed primary and higher education, and less likely to be illiterate. But for those below the age of 30, the situation has worsened considerably. An 18–22 year old in the North was 20 percentage points less likely to have completed secondary school and 26 percentage points more likely to have primary education or less compared to their Iraqi counterparts. In the Central division, there is no clear trend of improvement or

FIGURE 107: Educational Attainment by Age Cohort in 2012, Centre Relative to Iraq

Source: Authors' calculations, IHSES 2012.

deterioration across time, although it appears that for all age groups, education levels have been fairly similar to the national average (Figure 107).

There is also evidence of long term deterioration in health outcomes. Until the mid-1970s, Iraqi males enjoyed higher life expectancy than their counterparts in the Middle East and North Africa (MENA) region. Since 1980, the beginning of the Iran-Iraq war, they have lagged behind (Figure 108). As may be expected in periods of violent conflict, this trend is linked to the increased rates of adult male mortality since 1980 (since when data is available, Figure 109). Despite the Iran-Iraq war, adult male mortality fell slightly between 1980 and 1990. This trend appears to continue until the mid-1990s. However, since 2002, Iraq has witnessed a sharp increase in male mortality: from 167 per 1000 to 295 per 1000 in 2011. A WFP survey reports that in 2007, 4 percent of household members below the age of 18 were orphans, with 4 in 5 having lost their father.³³

Worryingly, the adverse impacts of the protracted insecurity on health and basic services infrastructure is also reflected in rising adult female mortality since the 1980s, and a deterioration in infant mortality relative to the rest of the region. In 1960, Iraq's ranking by infant mortality rate within the region was roughly in the middle (World Development Indicators, 2012).

While across the region, these rates have come down sharply, Iraq has not brought down IMR at the same pace. In 2011, Iraq's IMR was the highest in the region, barring Yemen (and possibly Djibouti).

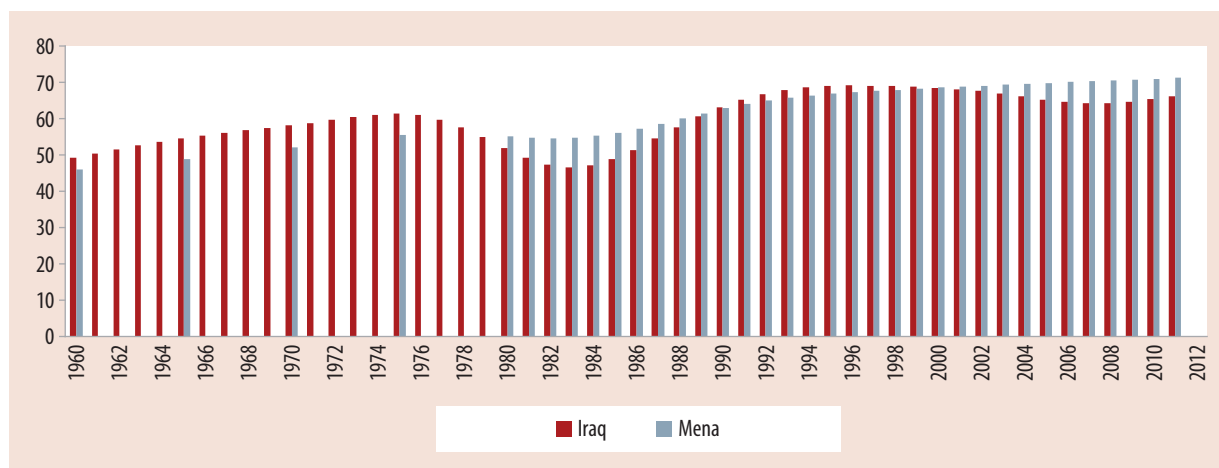
There is also evidence of deteriorating nutritional outcomes for young children: according to a 2007 World Food Program report, 22% of children aged 0–5 were stunted; and almost 10 percent of children were underweight.³⁴ As noted in chapter 2, more recent analysis of IHSES 2012 not only reveals high rates of stunting (low height for age, and indicator of chronic malnourishment) and wasting (low weight for height), but also important spatial disparities in these outcomes (Table 20). 35 percent of children aged 0–5 are stunted in the South, double the rate in Kurdistan and significantly higher than that in other divisions. The prevalence of wasting and underweight children is also significantly higher in the South than in the other divisions.

Stagnation and deterioration in human capital matter especially because they are currently affecting

³³ Orphans are defined here as children who have lost at least one parent. World Food Program, 2007. Comprehensive Food Security and Vulnerability Analysis: Iraq.

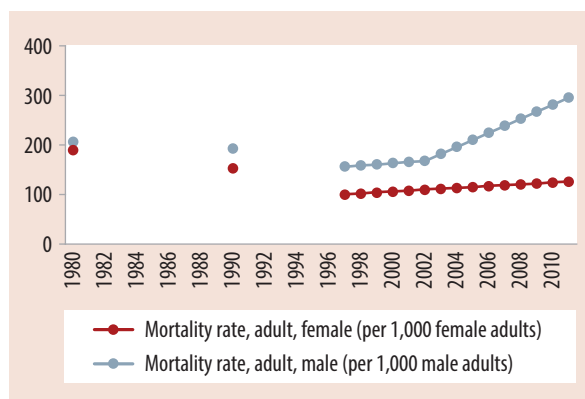
³⁴ World Food Program, 2007. Comprehensive Food Security and Vulnerability Analysis: Iraq.

FIGURE 108: Male Life Expectancy, Iraq Versus MENA, 1960–2011



Source: World Development Indicators (2012).

FIGURE 109: Mortality Rate, Adult (per 1,000 Adults), Iraq, 1980–2010



Source: World Development Indicators (2012).

the younger cohorts of Iraq's working age population. Almost half of the population of Iraq is below the age of 30, and the generational deficit in human capital will have significant implications for the future (Figure 110 and Figure 111). Young Iraqis are entering the labor market with much the same education as their fathers and mothers. In the South in particular, which accounts for a fifth of the national population, there is little evidence of improvement, even for younger cohorts, who continue to fall behind their peers in the rest of the country.

TABLE 20: Anthropometrics, Children Aged 0–60 Months (share)

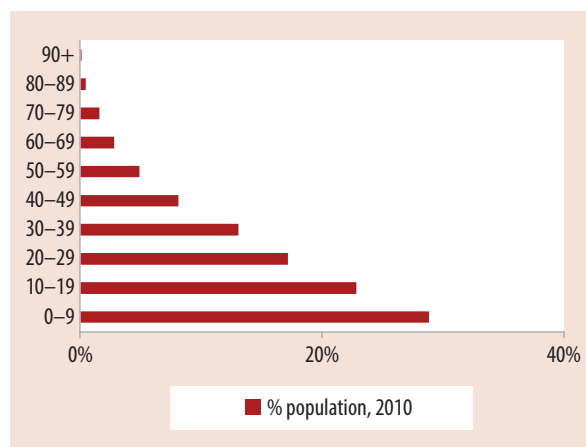
	Stunted	Wasting	Underweight children
Kurdistan	0.17	0.07	0.05
Baghdad	0.30	0.08	0.09
North	0.25	0.07	0.08
Central	0.26	0.07	0.09
South	0.35	0.11	0.17

FIGURE 110: Population by Age Group, 2005–2010



Source: UN DESA.

FIGURE 111: Population Share, 2010



Source: UN DESA.

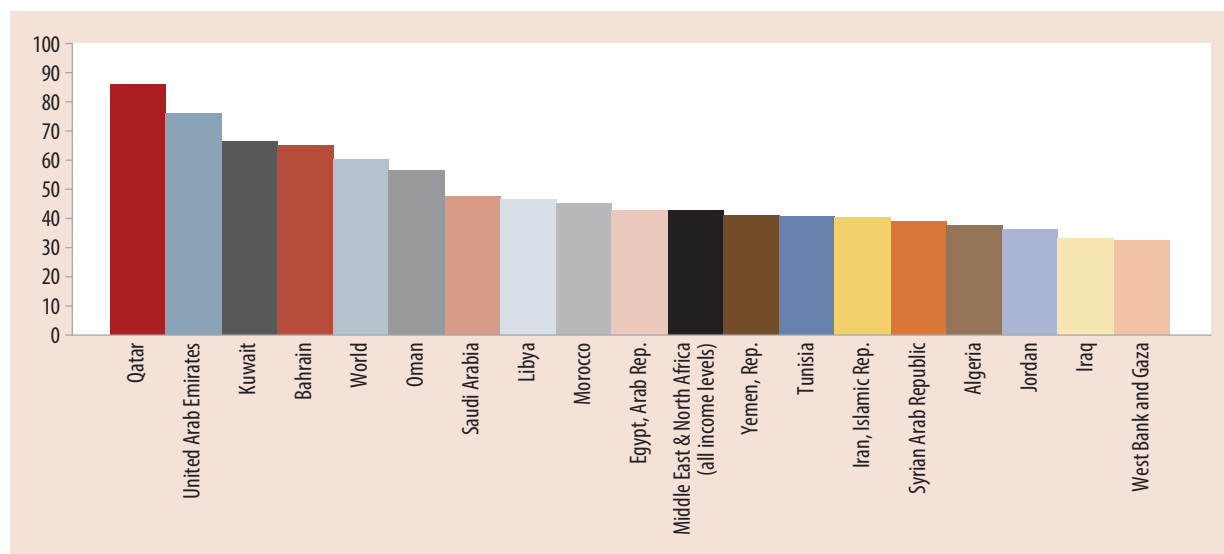
Labor Market Outcomes

Perhaps the most direct correlate of poverty is employment (or the lack thereof) and the associated ability to earn income and finance consumption. Iraq has one of the lowest employment—to-adult population ratios in the region; only the Palestinian Territories have a lower rate (Figure 112). This is also in contrast to many of the other oil-rich countries in the region. Moreover, in the last two

decades, the adult male employment-to-population ratio has remained stagnant at 58 percent, and at the same time, male labor force participation (LFP) has declined, especially among the youth (Figure 113). While the latter could suggest increasing years of education, it is also likely that the ten percentage point decline in male youth LFP is because the decades of insecurity, violence and limited job opportunities have left young people frustrated and discouraged. As in the rest of the MENA region, gender differences in labor market participation are striking in Iraq. Contrary to men, data from the World Development Indicators suggest that adult female labor force participation has been slowly increasing over time, albeit from much lower levels.

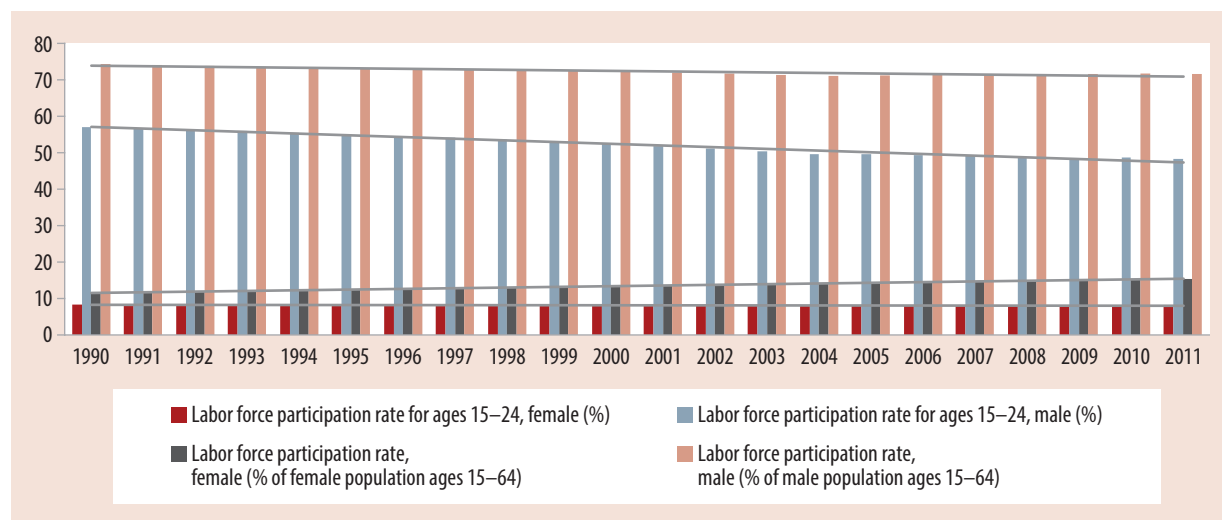
Two rounds of IHSES data reveal a more detailed picture of labor market outcomes for men and women in the working age population (aged 15–64) in Iraq (Figure 114). Based on a seven day recall period, a staggering 90 percent of Iraqi women of working age are not in the labor force, and only 10 percent are employed, with the bulk of them employed in part-time jobs. For men as well, labor force participation has been stagnant around

FIGURE 112: Employment to Population Ratio (ages 15+), 2011



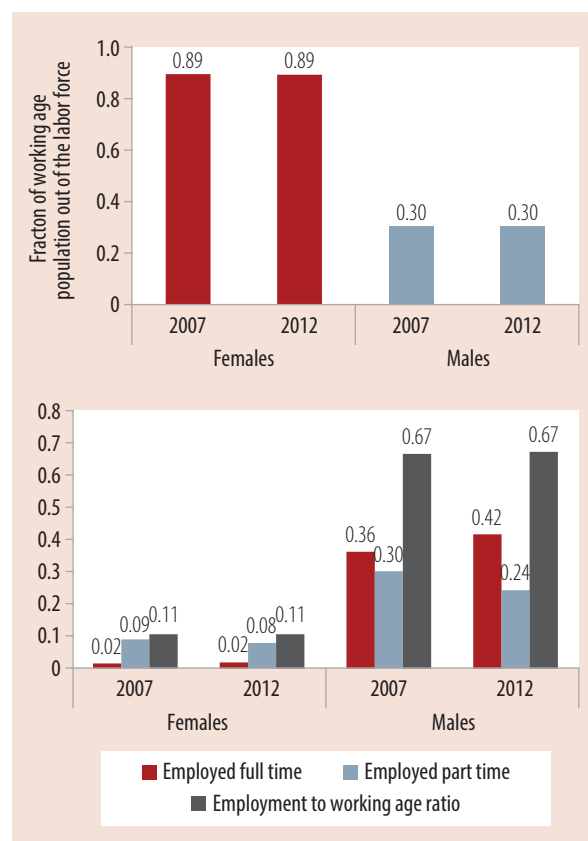
Source: World Development Indicators (2012).

FIGURE 113: Labor Force Participation, by Age and Gender, 1990–2011



Source: World Development Indicators (2012).

FIGURE 114: Labor Market Outcomes, Share of Working Age Population (ages 15–64), 2007–2012*



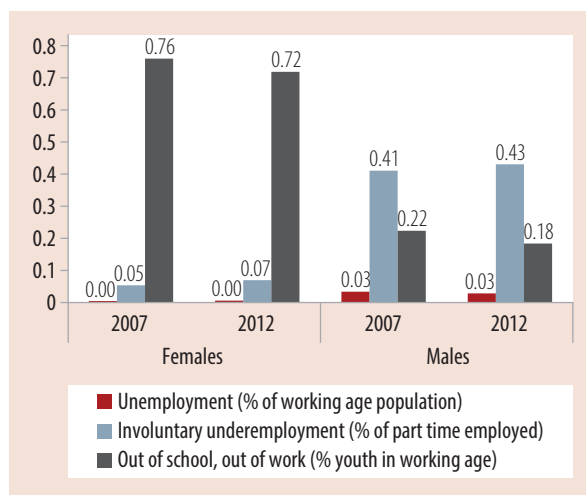
Note: * ILO definition, 7 day recall.

70 percent.³⁵ The only positive sign has been a shift from part-time work to full-time work for men: in 2007, 54 percent of employed Iraqi men were in full-time jobs; by 2012, this rate had increased to 63 percent.

Other labor market indicators suggest a worsening of outcomes. While unemployment rates for men have not changed much and remain low (similarly, very few women who are not employed and of working age report that they are looking for work), more than 40 percent of men and 15 percent of women in part-time jobs stated that they were looking for more work (Figure 115). This measure of involuntary underemployment has increased over time, especially for women. And among the youth aged 15–29, 72 percent of women and 18 percent of men were neither in school nor employed in 2012. At the same time, unemployment rates for young men and women in this age group were only 5 and 1 percent respectively. Combined with the rates of low labor force participation, this suggests significant labor market discouragement among young Iraqis.

³⁵ Students are not included in the labor force.

FIGURE 115: Unemployment, Underemployment and Joblessness*



Source: Authors' calculations, IHSES 2007 and 2012.

Note: * ILO definition, 7 day recall.

Across Iraq, one may expect that areas where employment rates are higher than average and growing and where labor force participation is relatively high and increasing, will also be areas where poverty headcount rates are declining. This is true to some extent. Male labor force participation is the highest in the Central division, and increased between 2007 and 2012 in Kurdistan and the North, to reach the national average of 70 percent (Table 21). In the South, in contrast, the share of men out of the labor force has actually increased. Excluding Basra, and focusing on the four southern governorates where

poverty increased, it is apparent that not only is male participation in the workforce the lowest in the country, it has been declining: in 2012, 35 percent of men of working age in these governorates were out of the labor force, an increase of 5 percentage points since 2007.

Increasing male labor force participation in Kurdistan and the North has been accompanied by an increase in male employment rates, and a relative shift towards full time work, especially in the North, where 46 percent of men of working age were working in full time jobs in 2012 (Table 21). In Baghdad, there was a significant drop in part time male employment, by 13 percentage points and a large increase in full time employment by ten percentage points. On the other hand, in the South, while male employment has declined, so has the unemployment rate, suggesting that the increase in men out of the labor force is due to discouragement. These southern governorates also had the lowest rates of full time employment in 2012, and among the lowest rates of part-time employment. Male underemployment is significant across Iraq: even in Kurdistan, which has the lowest rates of involuntary underemployment, a quarter of those in part-time jobs would like to work more and cannot find work. In the Centre and the South, over half of part-time workers are involuntarily underemployed by this measure.

For women, labor force participation has remained very low and has not changed much over the 2007

TABLE 21: Employment Status, Men in the Working Age (aged 15–64), by Division, 7 Day Recall

	Kurdistan		Baghdad		North		Centre		South		South excl Basra	
	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Full time employed	0.37	0.40	0.31	0.41	0.34	0.46	0.44	0.41	0.40	0.39	0.37	0.36
Part time employed	0.27	0.27	0.37	0.24	0.30	0.21	0.26	0.26	0.26	0.24	0.27	0.25
Employment to working age ratio	0.64	0.69	0.68	0.66	0.64	0.68	0.70	0.69	0.66	0.64	0.64	0.62
Out of the labor force	0.33	0.30	0.28	0.30	0.33	0.30	0.27	0.29	0.29	0.33	0.30	0.35
Unemployment	0.02	0.01	0.04	0.04	0.03	0.03	0.02	0.03	0.04	0.03	0.06	0.03
Involuntary underemployment	0.35	0.24	0.33	0.41	0.37	0.38	0.53	0.52	0.54	0.53	0.54	0.52

Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 22: Employment Status, Women in the Working Age (aged 15–64), by Division, 7 Day Recall

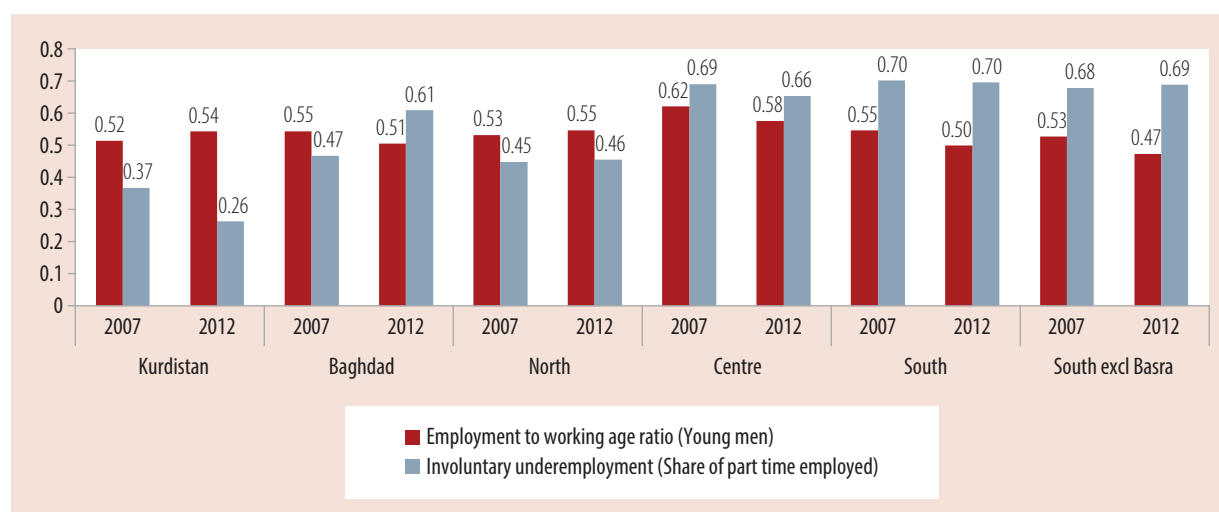
	Kurdistan		Baghdad		North		Centre		South		South excl Basra	
	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Full time employed	0.02	0.02	0.02	0.03	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.01
Part time employed	0.09	0.10	0.09	0.08	0.09	0.07	0.11	0.09	0.08	0.07	0.09	0.08
Employment to working age ratio	0.11	0.13	0.10	0.11	0.10	0.09	0.13	0.11	0.09	0.09	0.10	0.09
Out of the labor force	0.89	0.87	0.89	0.88	0.89	0.90	0.86	0.89	0.90	0.91	0.89	0.90
Unemployment	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00
Involuntary underemployment	0.14	0.08	0.04	0.06	0.03	0.03	0.06	0.07	0.03	0.09	0.03	0.11

Source: Authors' calculations, IHSES 2007 and 2012.

to 2012 period. Of the few women who participate in the labor force, the majority are engaged in part-time work in each of the divisions (Table 22). Employment rates among women of working age vary from 13 percent in Kurdistan to 9 percent in the North and the South. Among women who are employed part-time, the incidence of involuntary underemployment—those who work less than 40 hours a week and are looking for more work—has declined from 14 percent to 8 percent of part-time employment in Kurdistan, which is in line with other evidence that this labor market has been performing relatively well. In all other divisions, the opposite is true, especially in the four

southern governorates except Basra, where involuntary underemployment increased from 3 percent of part-time female workers in 2007 to 11 percent in 2012.

Young men in general appear to have worse labor market outcomes than their older counterparts. Among men aged 15–29, full time employment varies from 39 percent in the North to 30 percent in the South in 2012, compared to 50 percent for adults aged 20–64 (Figure 116). On average, 19 percent of young men have part-time jobs, and among these men, rates of involuntary underemployment are high. With the exception of Kurdistan,

FIGURE 116: Employment Status, Young Men (aged 15–29) in the Working Age, by Division

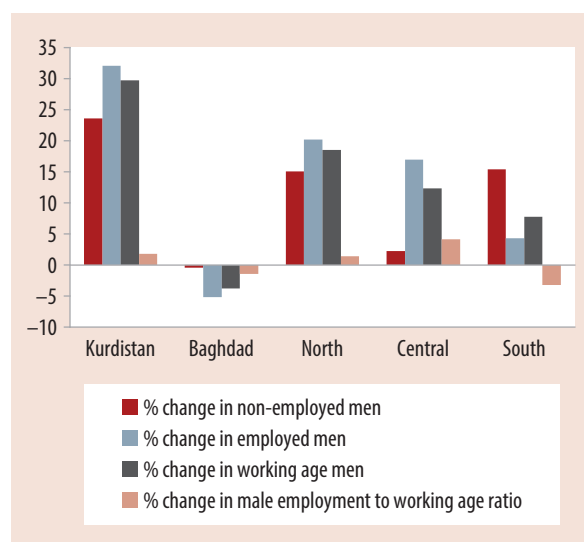
Source: Authors' calculations, IHSES 2007 and 2012.

more than 40 percent of young men in part-time jobs work fewer hours than they would like to. In the South, involuntary underemployment is as high as 70 percent among young men.

In 2012, 42 percent of young Iraqi men and 93 percent of young women were out of the labor force (neither employed nor looking for work). As is typical, this measure counts students as being out of the labor force, and as many young people tend to still be in school, it may overestimate inactivity among the young. A useful measure of inactivity in this context is the proportion of young men and women who are neither in school nor at work. This then includes young people who are actively seeking employment, as well as those who are not, for various reasons including discouragement. Overall, 72 percent of women and 18 percent of men in the 15 to 29 age group fall in this category, with lower rates for Kurdistan and relatively higher rates in the other divisions. For young women, the main reason cited for not looking for work is social reasons and being a housewife. In contrast, for young men, the bulk those who fall in this category say they are not actively looking for a job because they cannot find a job, and this is another indicator of labor market discouragement among young men.

These estimates of labor market outcomes are based on the standard ILO definition and use a 7 day recall period. The IHSES surveys also ask respondents to report on any work for pay over a 12 month period, which allows us to estimate measures of long-term or 'usual employment'. These estimates are broadly consistent with the ILO measure, with male labor force participation of 74 percent and female labor force participation of 11.5 percent in 2012. They do reveal starker disparities across the five divisions, and seem to be in line with the trends in poverty rates across space and time. In what follows, we focus on men who make up an overwhelming majority of the labor force. Male employment has not kept up with the growth in working age men in the South, and both have actually declined in Baghdad (Figure 117). Between 2007 and 2012, the male working

FIGURE 117: Percentage Change in Non-Employment, Employment, Working Age Population and Employment to Working Age Ratio between 2007 and 2012, by Division, for Men (15–64) Based on One Year Recall



Source: Authors' calculations, IHSES 2007 and 2012.

age population in the South grew by 8 percent, but the share of employed men increased by only 4 percent. As a result, the proportion of men of working age who were unemployed or out of the labor force increased by 15 percent, and the male employment to working age ratio fell. In Baghdad, there was a 4 percent decline in the male working age population and a 5 percent decline in male employment.

In contrast, employment growth outpaced growth in the working age population for men in Kurdistan, the North and the Centre, with the gap closing the fastest in the Centre. In the Centre, there was in fact, a 4 percent increase in the male employment rate, as a result of faster job growth relative to working age population growth. In Kurdistan, which witnessed the largest increase in the working age male population of 30 percent between 2007 and 2012, male employment also increased at a slightly higher rate, leading to a small increase in the employment to working age ratio for men.

The bulk of this increased employment for men in the Centre and in Kurdistan was concentrated in the financial, insurance and professional services sector, which now accounts for 16 percent of male employment, where 140,000 jobs were added in each division (Figure 118). This sector accounts for a fifth of all male employment in Kurdistan. While male employment declined in agriculture and in public administration in the Centre and the North, jobs were added in manufacturing, construction, commerce and retail and in transport, storage and communication. The net increase in male employment was largest in magnitude in Kurdistan, but it was in the Centre where it significantly outpaced the working age male population, and as a result, the Centre was the only division where the increase in non employed men was very small.

On the contrary, in the South, the increase in non employment (almost all men dropping out of the labor force) was accompanied by declining male employment in agriculture, a sector which accounted for 10 percent of jobs for men in the South in 2007 (Figure 119). In the two largest employment sectors, construction and public administration,

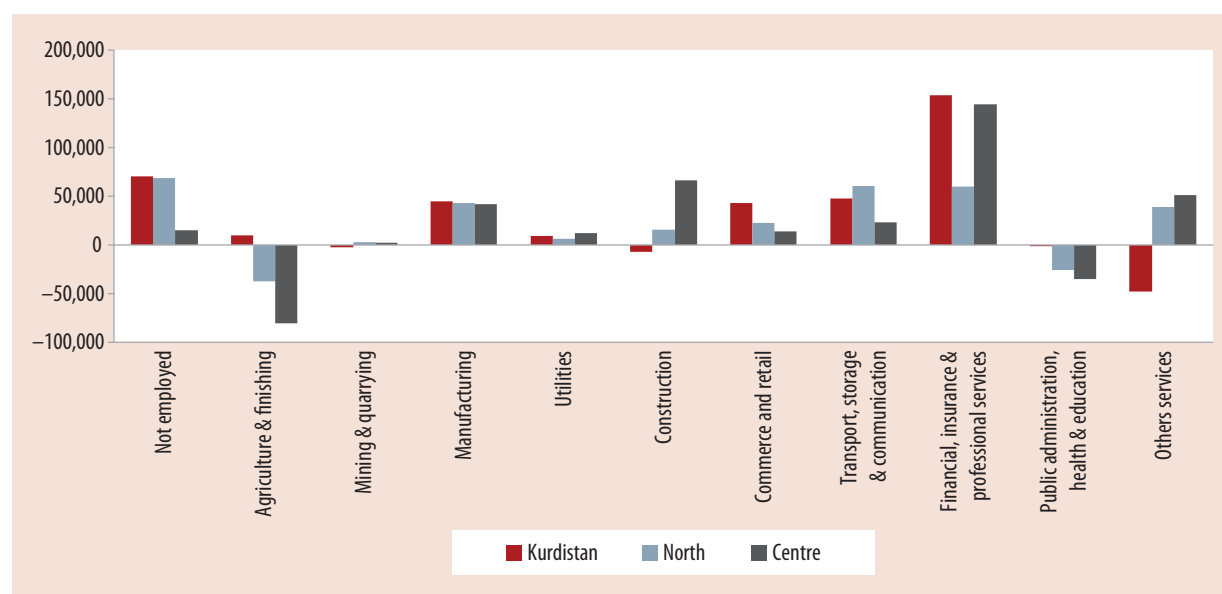
accounting for almost a fifth of male employment each, very few jobs were added. Consequently, in the South, more than 80,000 additional men were not employed in 2012 relative to 2007. In Baghdad, male employment in the public administration, health and education and commerce and retail sectors declined sharply, while male employment in construction and financial services increased. In total however, male employment fell in Baghdad, and it is only because of the slightly larger decline in male working age population that the number of non-employed men in Baghdad also decreased.

Consumption, Income and Transfers

Inequality in Consumption Growth

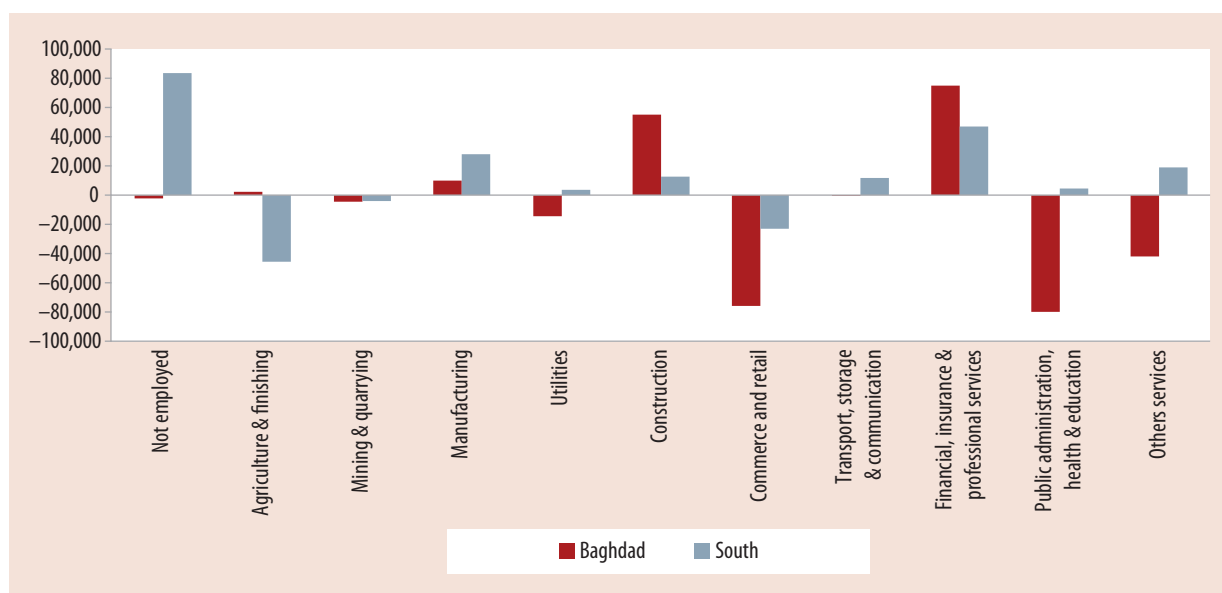
The spatially uneven pattern of poverty reduction is also in part, a story of unequal growth in consumption: across quintiles and across space. Between 2007 and 2012, consumption grew faster for Iraq's relatively better off, amongst the highest quintiles. But it also grew where consumption levels were lower to start with: in rural Iraq and in the RoI. Among the governorates where poverty rates increased, Nineveh,

FIGURE 118: Changes in the Number of Jobs for Men by Sector of Employment between 2007 and 2012 in Kurdistan, the North and the Centre (One Year Recall)



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 119: Changes in the Number of Jobs for Men by Sector of Employment between 2007 and 2012 in Baghdad and the South (One Year Recall)



Source: Authors' calculations, IHSES 2007 and 2012.

Thi-Qar and Missan also experienced increases in inequality as measured by the Gini coefficients.

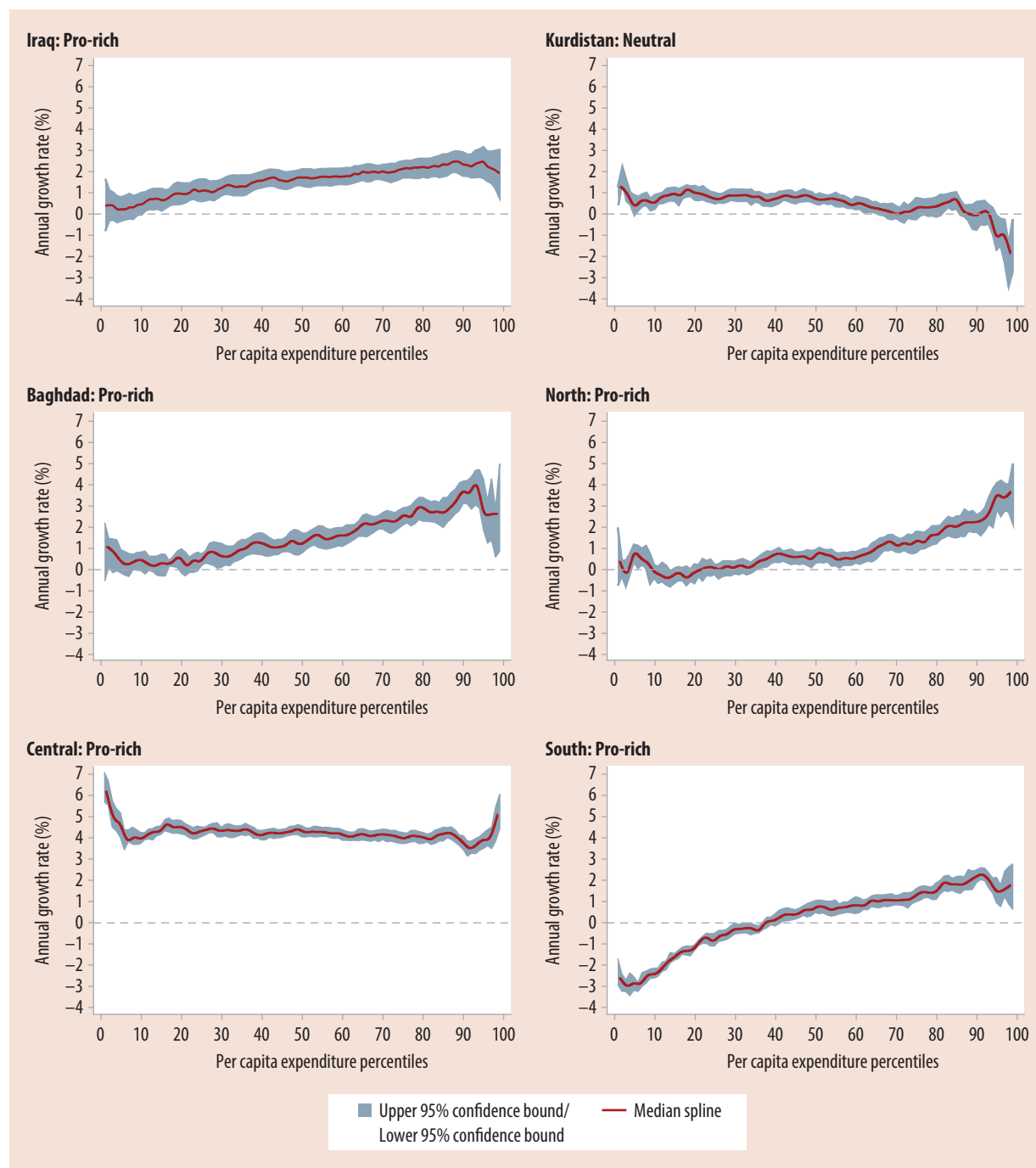
With the exception of Kurdistan and the Central division, consumption per capita grew faster for the well-off than for the less- well off, as is evident in the growth-incidence curves for Iraq as a whole and for the five divisions (Figure 120). In contrast, the growth-incidence curves for Kurdistan and the Centre are relatively flat, indicating that consumption grew evenly across the distribution. The major difference between Kurdistan and the Centre is the higher rate of consumption growth in the latter: almost entirely throughout the consumption distribution, growth was around 4 percent in the Centre, compared to 1 percent or less in Kurdistan. This is reflected in the significant decline in headcount rates in the Central governorates and the limited improvements in poverty in Kurdistan. In Baghdad and the North, while overall consumption growth was positive, there was almost no change in consumption among the lower deciles of the distribution, and this is in turn, captured in the trends in poverty. In the South, consumption growth was actually negative

between 2007 and 2012 for the lowest deciles, while growth in consumption among the top deciles is on par with the Centre. This declining consumption among the bottom 40 percent of the distribution is directly reflected in the increase in headcount poverty rates.

Incomes and Transfers

The trends in male employment and labor force participation across divisions appear to be reflected in changes in per capita labor income, especially among the lower deciles of the consumption distribution. Figure 121 shows the changes in per capita labor income for the bottom three deciles of the consumption distribution for Iraq as a whole, and for each of the divisions. In Iraq as a whole, per capita labor income increased for the bottom three deciles, although the increase was smallest for the bottom 10 percent of the consumption distribution. In the Centre and in Kurdistan, the bottom 3 deciles experienced significant increases in per capita labor income, exceeding the national average; whereas in the North, labor incomes appear to have increased on par with the national average. In

FIGURE 120: Growth Incidence Curves – National, Divisional

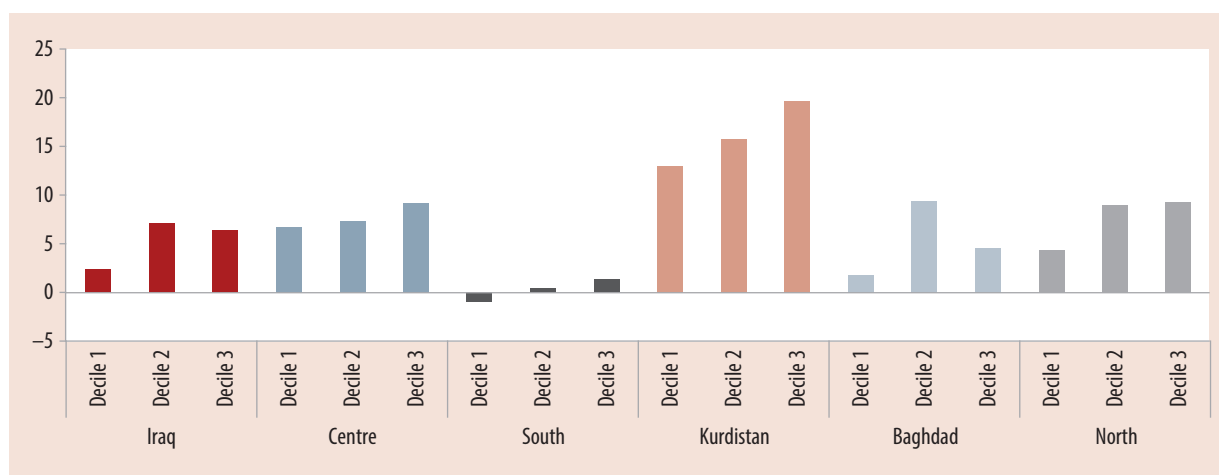


Source: Authors' calculations, IHSES 2007 and 2012.

Baghdad, the increase in per capita labor income among the poorest decile was quite low. In line with the declining male employment to working age ratio in the South, the bottom three deciles in the South either experienced declining per capita

income and per capita labor income or negligible increases, and these may in turn be related to the declining consumption observed at the lower end of the consumption distribution in the southern governorates.

FIGURE 121: Changes in Per Capita Labor Income between 2007 and 2012 ('000s of Iraqi Dinar) for the Bottom 3 Deciles of the Consumption Distribution, National and by Division



Source: Authors' calculations, IHSES 2007 and 2012.

Consumption expenditures may be financed not only through labor income but also through non-labor income and transfers. In 2012, for the average Iraqi, 68 percent of income came from labor, with some variation across divisions: non-labor income shares were the highest in Baghdad, 37 percent, and the lowest in the North, 28 percent (Table 23). However, for the lowest deciles, the dependence on non-labor income and transfers is significantly higher. On average, only 49 percent of the income of an Iraqi belonging to the lowest decile stems from labor income. This is likely

because the incidence of poverty is higher among the non-employed, and because among the employed poor, earnings are lower relative to the non-poor. The dependence on non-labor income and transfers is highest in the South, where these sources constitute 60 percent of total income among the poorest decile, and the least in Kurdistan, where 42 percent of total income derives from non-labor income and transfers. This is in line with other indicators of a relatively well functioning labor market in the latter and poor labor market outcomes in the former.

TABLE 23: Share of Labor Income in Total Income, and Shares of Major Sources of Non-Labor Incomes and Transfers in Total Non-Labor Income, Overall and Lowest Consumption Decile, 2012

			Iraq	Kurdistan	Baghdad	North	Centre	South
Share in total income, 2012	Labor income	Overall	68.00	69.16	63.02	71.81	68.02	68.71
		Lowest decile	49.24	58.18	52.80	49.82	49.21	41.70
Share of non-labor income, 2012	Rations	Overall	38.92	19.72	41.45	42.20	38.69	48.21
		Lowest decile	59.96	42.04	53.72	64.09	59.53	62.10
	Pensions	Overall	26.25	30.40	33.33	23.87	24.39	21.78
		Lowest decile	13.27	19.40	18.10	9.72	16.86	11.43
	Domestic remittances	Overall	14.45	12.09	16.18	13.30	17.10	12.24
		Lowest decile	11.43	13.39	18.36	9.11	8.61	12.72
	Capital income	Overall	8.27	14.41	3.84	8.13	11.14	3.89
		Lowest decile	3.39	6.31	1.81	5.66	4.30	1.62

Source: Authors' calculations, IHSES 2007 and 2012.

In Iraq, there are four major sources of non-labor income and transfers—income from capital (including income from assets and property ownership), public transfers (primarily implicit incomes from subsidized food rations and pension income), and private transfers, especially domestic remittances. In 2012, for the average Iraqi, 8 percent of non-labor income was comprised of capital income, 39 percent from rations, 26 percent from pensions and 14 percent from domestic remittances. Among the lowest consumption deciles, while the share of domestic remittances declines somewhat to 11 percent, the share of capital and pension income declines sharply (halves in the case of pension income), but the dependence on subsidized rations as an implicit income source increases to 60 percent on non-labor income and transfers.

While a larger share of labor income and of capital income in non-labor income is a sign of income earning opportunities, a greater dependence on private and public transfers is likely a sign of greater vulnerability. The share of capital income in non-labor income is correlated with the importance of labor income across divisions. In Kurdistan, almost 15 percent of all non-labor income on average stems from income from capital, while in Baghdad and the South it is only 3.8 percent. But amongst the bottom 10 percent of the per capita consumption distribution, the share of capital as a source of non-labor income declines significantly, falling to less than 2 percent in Baghdad and the South. Thus, both income from labor and from capital are significantly lower amongst the poor, but especially so in the South.

It is no surprise then that the lowest deciles are heavily dependent on transfers, which make up more than 95 percent of their non-labor income. In 2012, rations from the Public Distribution System made up 60 percent of non-labor income for the lowest deciles, with domestic remittances making up another 11 percent, and pensions accounting for a further 13 percent. However, while pension income comprises a lower share of non-labor income for the poorest 10 percent relative to the average, the transfers associated with rations are much more

important for the lowest deciles, with more than half of all non-labor income coming from rations everywhere except in Baghdad. Dependence on rations is lower on average and for the bottom decile in Kurdistan, where it accounts for only 20 percent of non-labor income on average and 42 percent of non-labor income for the bottom decile. It is highest in the South, where the corresponding shares are 48 and 62 percent respectively. While domestic remittances are on average, the largest (in terms of their share in non-labor income) in the Centre, they constitute a relatively larger share of non-labor income for the poorest 10 percent in Baghdad.

Between 2007 and 2012, while labor incomes for the lower consumption deciles in Iraq have been increasing on average, non-labor income has been falling, primarily due to a decline in the implicit income transfer through rations owing to a reduction in the number of items covered by the PDS (Table 24). To some extent, the latter was compensated by an increase in domestic remittances, and in some divisions, by an increase in pensions. In all divisions except the South and the lowest decile in Baghdad, labor incomes increased relatively substantially for the lowest 20 and lowest 30 percent of the population. For these groups, little change in non-labor income was also accompanied by stagnation and even declining labor incomes. While incomes do not one to one translate with consumption, the higher dependence of the poor on transfer income rather than income from labor or capital as well as declining income from labor in the South are very likely related to the increase in poverty headcount rates in four of the five southern governorates.

Determinants of Consumption and Poverty Across Iraq

Household size and composition, education and labor market outcomes all play a role in determining consumption expenditure, the basis for measuring poverty, as do other location-specific factors that can imply access to (or the lack of) services, employment opportunities, and markets. In this section, we

TABLE 24: Changes in Labor Income and Main Non-Labor Income Sources between 2007 and 2012 for the Bottom 3 Consumption Deciles, National and Divisions
Absolute Change ('000s of Iraqi Dinars), 2012 Relative to 2007

	Deciles	Capital	Pensions	Domestic remittances	Rations	Main Non Labor Income components	Labor income
Iraq	1	0.32	0.34	1.09	-2.64	-0.90	4.02
	2	-0.12	0.46	0.32	-2.91	-2.24	7.93
	3	0.10	1.13	1.31	-3.08	-0.54	8.00
Kurdistan	1	0.33	1.53	0.87	-3.82	-1.09	14.08
	2	-0.03	1.81	0.13	-3.37	-1.46	23.33
	3	0.19	3.15	2.25	-3.42	2.17	23.30
Baghdad	1	0.40	-0.45	1.62	-3.13	-1.56	-2.73
	2	0.08	-4.28	0.32	-3.54	-7.42	7.24
	3	0.11	-2.84	2.54	-3.26	-3.45	10.27
North	1	0.45	0.25	1.06	-2.80	-1.04	4.60
	2	0.02	-0.54	0.91	-1.99	-1.59	10.00
	3	0.23	3.30	-0.13	-2.54	0.86	11.15
Centre	1	0.21	0.70	-0.36	-3.97	-3.42	9.08
	2	-0.27	0.92	0.62	-3.96	-2.69	10.77
	3	0.30	1.36	0.80	-3.61	-1.16	9.04
South	1	0.04	0.42	2.27	-1.71	1.02	-0.93
	2	0.06	1.44	1.01	-2.12	0.38	0.05
	3	-0.73	1.63	0.54	-2.21	-0.77	3.20

Source: Authors' calculations, IHSES 2007 and 2012.

attempt to estimate the influences of these factors in determining consumption expenditures, poverty (whether consumption falls below the threshold poverty line) and relative poverty (defined as belonging to the bottom 40 percent of the national consumption distribution). This analysis examines each division in the two survey years so as to identify common and division-specific factors that may explain spatial differences in welfare outcomes.

There are some important factors that are consistently correlated with per capita consumption expenditures across all the divisions of Iraq. Controlling for other household characteristics that may also be correlated with per capita consumption, households living in urban areas have on average, higher consumption than those living in rural areas, with the exception of Baghdad in 2007 where there was no difference

(Table 25 and Tables A 4.1–A 4.5 in the Annex). Similarly, among otherwise similar households, larger households and those with more children systematically tend to have lower consumption, when compared with smaller households and households with fewer children. The presence of elderly persons in the household is associated with higher consumption, especially in the North and the Centre, and is probably reflecting the role of pensions in increasing household incomes. The education of the head of the household is strongly correlated with per capita consumption expenditures. In all divisions, and in both survey years, each education level above primary schooling is positively and significantly correlated with higher levels of per capita consumption expenditures.

In 2012, similar households with more employed working age males had higher consumption than

TABLE 25: Significant Correlates of Per Capita Expenditure in 2007 and 2012 in Each Division*

Correlates of per capita consumption expenditure		Kurdistan		Baghdad		North		Centre		South	
		2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Living in an urban area		+	+		+	+	+	+	+	+	+
Household size and dependency	Number of household members	—	—	—	—	—	—	—	—	—	—
	Number of children 0–6	—	—	+	—	—	—	—	—	—	—
	Number of children 7–17	—	—	—	—	—	—	—	—	—	—
	Number of elderly			+	+	+	+	+	+	—	
Number of employed working age males			+		+		+	+	+	+	+
Sector of employment of the head of household (relative to non-employed head of household)	Agriculture and fishing			+	+		+	+	—		
	Mining and Quarrying						+				+
	Manufacturing		—		+			+	+		+
	Utilities		—								+
	Construction	—	—			—	—		—		—
	Commerce and retail	+	+	+	+	+		+	+	+	+
	Transport, storage and communication	+		+				+	+		+
	Finance, insurance and professional services			+		+	+	+	+	+	+
	Public administration, health and education	—	—	+			+	+	+	+	+
	Other	—	—	+							
Education level of the head of household (relative to illiterate head of household)	Incomplete primary	+	+		+			+	+	+	+
	Complete primary	+	+	+	+	+	+	+	+	+	+
	Intermediate	+	+	+	+	+	+	+	+	+	+
	Secondary	+	+	+	+	+	+	+	+	+	+
	Higher secondary	+	+	+	+	+	+	+	+	+	+
	Tertiary	+	+	+	+	+	+	+	+	+	+

Source: Authors' calculations, IHSES 2007 and 2012.

Note: * This table reports the signs of the coefficients of multivariate analysis of the significant correlates of per capita log real consumption, reported in Tables A 4.1 to A 4.5 in the Annex.

those with fewer. The role of the head of household's sector of employment appears to be more nuanced. Certain sectors have a strong and consistent relationship with consumption whereas others do not. In 2012, employment of the head of household in commerce and retail (all divisions) and finance, insurance and professional services (except in Kurdistan and Baghdad) is correlated with higher consumption, while employment in construction is correlated with lower consumption (except in Baghdad). Jobs in public administration are associated with higher consumption in the Centre and

the South but with lower per capita consumption in Kurdistan. In places where the few oil-related jobs are concentrated (the North and the South), households with heads employed in the sector are likely to have higher consumption compared to otherwise similar households.

The important correlates of consumption identified above also broadly predict the likelihood of being poor, i.e., of a household having consumption below a certain level. Table 26 summarizes the partial effects or marginal probabilities of various characteristics on

TABLE 26: Probability of Being Poor: Marginal Effects of Characteristics*

Marginal probability effects: Partial effects of each explanatory variable (evaluated at mean values) on the probability that a household is poor		Kurdistan		Baghdad		North		Centre		South	
		2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Living in an urban area		-12.8	-4.7			-0.06	-0.06	-0.19		-0.14	-0.12
Household size and dependency	Number of household members	2.0		0.12	0.06	0.07	0.05	0.08	0.02	0.08	0.07
	Number of children 0–6	3.6	2.7		2.8	3.9	2.7	4.5	2.8	3.1	4.9
	Number of children 7–17	2.5	2.7		2.5		2.6	3.8	2.9	2.9	6.2
	Number of elderly							-5.3			4.3
Male headed household					7.4				3.5		6.6
Head of household lived elsewhere for at least 6 months							-12.9	-13.2			-8.3
Number of employed working age males					-2.6		-3.9	-6.5	-2.1		
Sector of employment of the head of household (relative to non-employed head of household)	Agriculture and fishing									9.9	
	Mining and Quarrying										-12.9
	Manufacturing										-8.4
	Utilities	-5.0									-10.9
	Construction		6.4			15.8				11.4	10.2
	Commerce and retail	-5.5			-8.2			-11.3	-5.4		-10.7
	Transport, storage and communication	-4.1									
	Finance, insurance and professional services				-4.9			-14.6		-15.0	-7.1
	Public administration, health and education				-6.0			-10.3	-5.8		-9.3
	Other	-3.8				17.2					
Education level of the head of household (relative to illiterate head of household)	Incomplete primary	-2.8	-3.5		-7.7				-4.6		-9.4
	Complete primary	-4.5	-5.0		-9.0		-6.2		-7.2	-9.3	-15.2
	Intermediate	-6.3	-5.1		-10.2	-7.8	-9.4	-15.2	-8.9	-15.1	-15.9
	Secondary	-5.1	-7.2		-12.5	-12.3		-14.5	-9.0	-14.1	-16.1
	Higher secondary	-6.1	-7.9		-9.2	-13.2	-9.3	-14.3	-9.7	-15.0	-18.8
	Tertiary	-7.6	-8.0	-12.1	-12.4	-10.2	-13.5	-16.1	-10.1	-15.2	-24.0

Source: Authors' calculations, IHSES 2007 and 2012.

Note: * This table and the following figures summarize results of probit regressions (marginal effects) reported in Tables A 4.6 to A 4.10 in the Annex.

the likelihood of a household being poor. In other words, the coefficients of the regression indicate the change in probability of a household being poor with a unit increase in the independent variable.

The advantage of this type of multivariate analysis relative to the consumption regressions above is that it allows us to quantify and compare the marginal effects of each factor (holding all other factors constant) as well as to isolate characteristics that are correlated with poverty in particular rather than with

consumption as a whole. For instance, in 2012, an increase in the number of employed working age males in a household was correlated with higher consumption in each division, but it did not significantly alter the odds of a household being poor in the South. Similarly, per capita real consumption was lower among households with heads employed in construction in each division in 2012, but in the Centre, such households were no more likely to be poor than similar households with non-employed heads. In the other divisions, the relationship between employment in

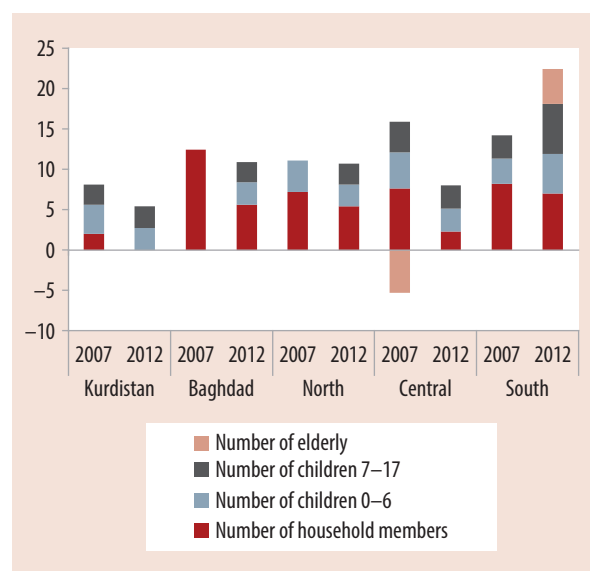
construction and consumption translates into sufficiently low consumption as to increase the likelihood that such households were poor.

Household size and dependency are significant predictors of poverty in Iraq, and in general, increase the probability of being poor. In Kurdistan, it is the presence of children below the age of 18 that significantly increases the odds of being poor along with household size (Figure 122). In 2012, each additional child increased the odds of being poor by 3 percent on average. In Baghdad, while the overall effect of household demographics has remained stable, in 2012, the presence of dependent children has become important compared to 2007. In the North and in the Centre, an increase in the number of household members and in the number of children significantly increases the likelihood that a household is poor. In 2007, the presence of an additional elderly household member reduced the likelihood that a household was below the poverty line by 5 percent in the Centre. In the South, household size and composition were important predictors of poverty in 2007, but their role seems to have become even more important in 2012. This primarily stems from dependency: in 2007, an

additional aged 7 to 17 years increased the likelihood of poverty by 3 percent while in 2012, this effect has doubled. Moreover, an additional elderly person further increases the odds of being poor by 4 percent in 2012, implying that pension receipts may not have been sufficient to overcome the effect of increased dependency within the household.

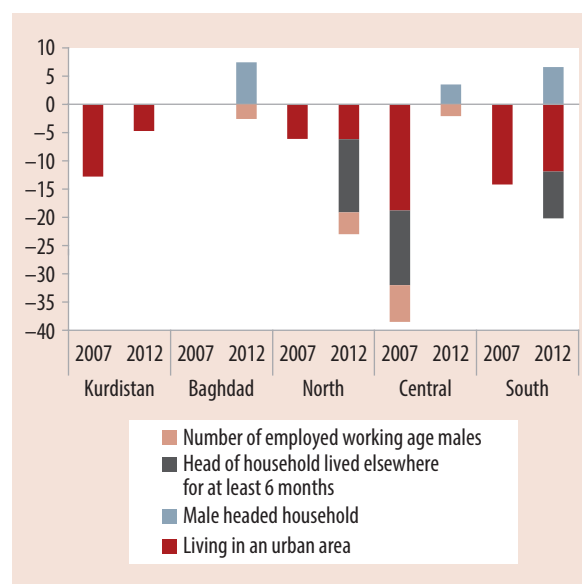
Living in a rural area generally increases the odds of poverty compared to otherwise similar households except in Baghdad and in the Central division in 2012, where there is no difference (Figure 123). While the rural disadvantage has remained stable in the North and in the South, where it increases the marginal likelihood of being poor by 6 and 12 percent respectively, it has fallen sharply in Kurdistan (from 13 to 5 percent between 2007 and 2012) and has disappeared entirely in the Centre. In 2012, households whose heads had been migrants (lived elsewhere for 6 months or more) were significantly less likely to be poor in the North and the South. Male headed households faced higher odds of being poor in 2012 in Baghdad, the Centre and the South, which may be reflecting an expansion in social protection transfers towards widow-headed households. A higher number

FIGURE 122: Marginal Effects: Household Size and Composition



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 123: Marginal Effects: Household Characteristics



Source: Authors' calculations, IHSES 2007 and 2012.

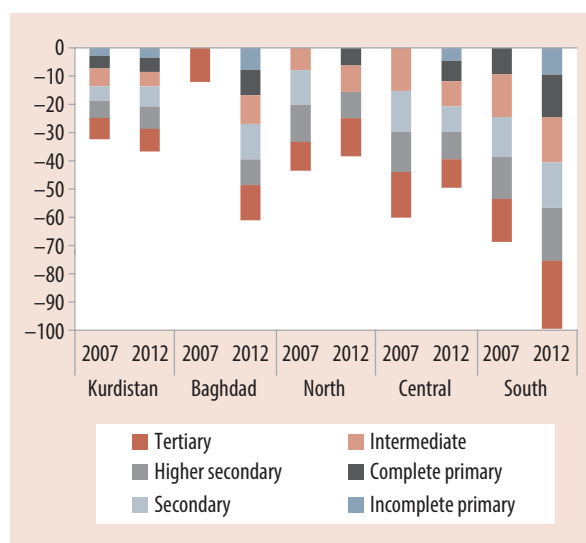
of employed working age males is associated with a small decrease in the odds of poverty everywhere in 2012 except in Kurdistan and the South.

By far the most consistent and striking correlate of poverty is the education of the head of the household. Even in Kurdistan, where the magnitudes of the partial effects are the lowest, primary and intermediate schooling in themselves each lower the likelihood that a household is poor by 5 and 10 percent respectively; and secondary education and higher reduce these odds further by more than 7 percent each (Figure 124). In Baghdad in 2007, it was tertiary education that really distinguished the non-poor from the poor, but the picture has become more in line with the national pattern in 2012, with the likelihood of being poor falling with each additional level of education. In the South, where education levels are the lowest, education reduces the odds the poverty the most. In 2012, household with heads with even complete primary education were 15 percent less likely to be poor (compared to 9 percent less likely in 2007) relative to similar households with illiterate heads. Higher education starkly reduces the likelihood that a household is below the poverty line in the South: by 16 percent if the head

has completed secondary education, by 19 percent if the head has completed higher secondary education and by 24 percent if the head has tertiary education.

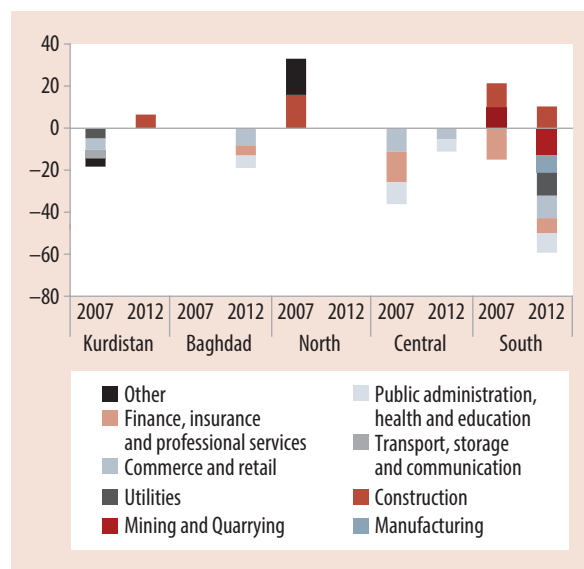
The relationship between employment sector and poverty and varies across divisions (Figure 125). For instance, in 2007, households in Kurdistan with heads employed in utilities, transport and storage, and commerce and retail were 4 to 5 percent less likely to be poor compared with otherwise similar households. In 2012, in contrast, no sector of employment significantly lowered the odds of poverty relative to non-employment; and construction jobs actually increased the likelihood of being poor. In Baghdad, in 2012, commerce and retail, transport, finance and public administration jobs lower the likelihood of poverty in 2012. In the North, no employment sector affected the odds of a household being poor in 2012. In the Central division, in contrast, no employment sector increases the likelihood that the household is poor—public administration and commerce and retail lower poverty in 2007 and 2012. In the South, where labor market outcomes are the poorest, and where the male employment to working age ratio has fallen between 2007 and 2012, the

FIGURE 124: Marginal Effects: Education of the Head of Household



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 125: Marginal Effects: Sector of Employment of the Head of Household



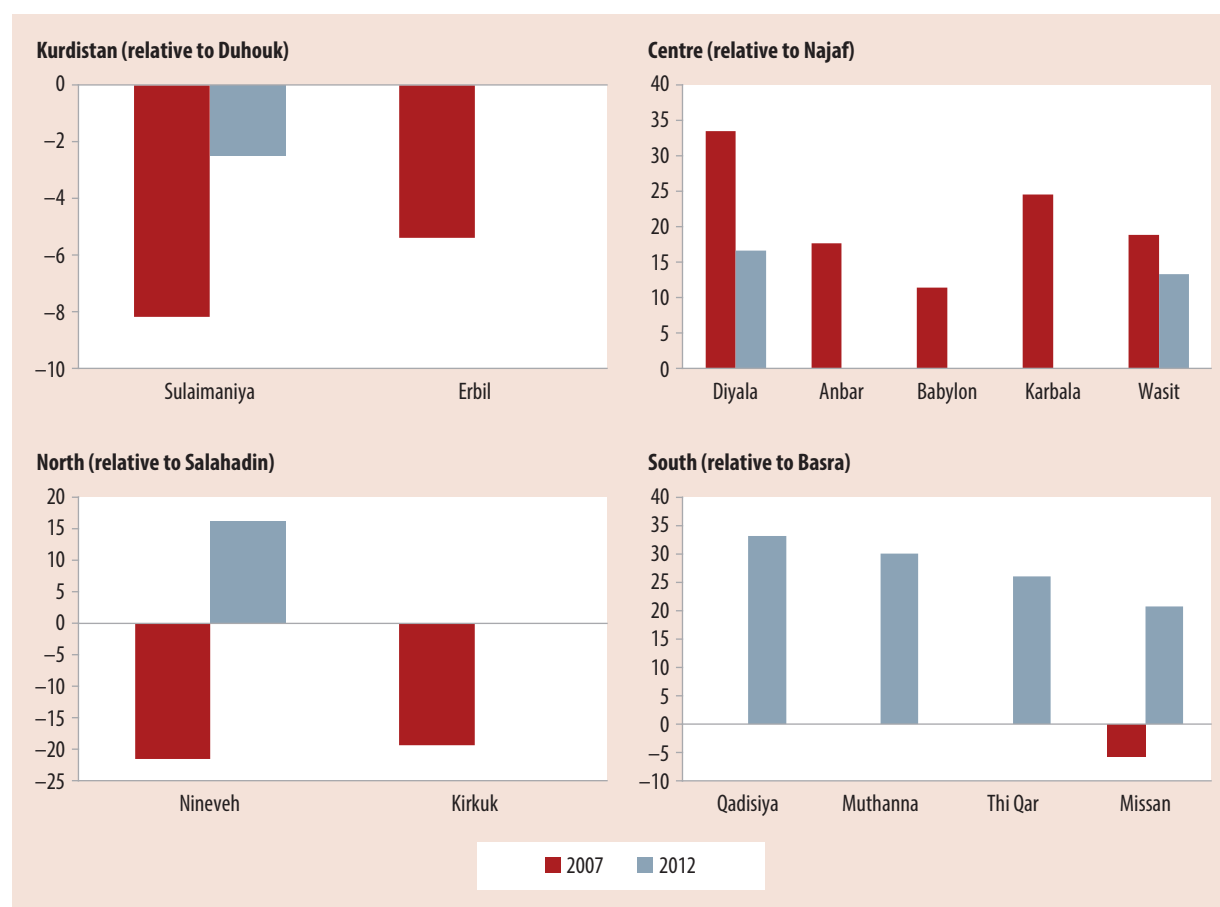
Source: Authors' calculations, IHSES 2007 and 2012.

relationship between employment and poverty has become stronger. Mining, utilities, public administration and finance in 2012—which are predominantly public sector jobs—lower the likelihood of living below the poverty line by 13, 11, 9 and 7 percent respectively, as do commerce and manufacturing. In contrast, households with heads employed in construction are 10 percent more likely to be poor compared to similar households.

It is also interesting to note how the relative positions of different governorates within each division have altered between 2007 and 2012. In these probit regressions, we also include dummy variables for governorates within that division, and the coefficients on these dummies measure the effect on governorate-specific factors. In other words, these coefficients estimate the higher or lower odds of

poverty associated with living in that governorate relative to the excluded or reference governorate within the division (among households with similar size and composition, education and employment of the head of household, etc). In 2007, households in both Sulaimaniya and Erbil were 8 and 5 percent less likely to be poor, but by 2012, only households in Sulaimaniya enjoyed a small advantage over households living in other governorates (Figure 126). This is consistent with the fact that Duhok was the only governorate within Kurdistan to significantly reduce poverty headcount rates. The Central division, like the Kurdistan region, has witnessed a remarkable convergence across governorates. In 2007, living in any governorate outside Najaf increased the likelihood of a household being poor. By 2012, this was true only of Diyala and Wasit.

FIGURE 126: Marginal Effects: Governorate Effects



Source: Authors' calculations, IHSES 2007 and 2012.

In the North, Kirkuk began with a relative advantage compared to Salahadin in 2007, but the gap appears to have bridged (Salahadin was one of the governorates to reduce poverty significantly). In contrast, in Nineveh, where households were less likely to be poor relative to Salahadin by more than 20 percent in 2007, five years later, they were 16 percent more likely to be poor (consistent with the increase in poverty in Nineveh). In the South, in 2007, after accounting for the effect of household characteristics, only households in Missan had a 5 percentage point lower likelihood of being poor relative to Basra. By 2012, each governorate in the South was associated with significantly higher odds of poverty relative to Basra (from 20 percent in Missan to 33 percent in Qadisiya).

Table 27 summarizes the marginal or partial effects of the same set of characteristics—household size and composition, the education and sector of employment of the head of household and other household characteristics—on the probability that a household belongs to the bottom 40 percent of the consumption distribution. In terms of four sets of factors—living in an urban area, household size and dependency, education of the head of household—there is a remarkable overlap in terms of poverty and belonging to the bottom 40 percent, with significant increases in the magnitudes of the coefficients. This suggests that the same set of factors that are highly correlated with poverty are also associated with belonging to the bottom 40 percent, or in other words, that these are very similar households. The relationship with sectors of employment is not such a linear and straightforward one. For example, in 2012, construction jobs for the household head are associated with higher odds of poverty in Kurdistan and the South; but they also increase the likelihood that a household belongs in the bottom 40 only in Kurdistan.

Explaining Rural – Urban Welfare Disparities *Within* Divisions

We now explore the scale urban-rural welfare disparities within divisions in Iraq, examine how these

have changed over time, and try to understand why these disparities exist. Figure 127, panel A presents the mean differences in the welfare ratios between urban and rural areas within each region in 2007 and 2012 (Baghdad is excluded because it is an overwhelmingly urban governorate).³⁶ In Iraq, as in most other countries, households in urban areas have higher levels of welfare than those living in rural areas, even after taking into account cost of living differences. The largest differential between urban and rural welfare is in Kurdistan followed by the South. In three of the four divisions, the urban-rural welfare gap declined between 2007 and 2012 while it actually widened in the South, where rural poverty increased at a faster rate than urban poverty in three governorates.

These differences in welfare between rural and urban areas can be due to differences in portable (or non-geographic, mobile) household characteristics such as education or household composition or due to differences in returns to these characteristics, i.e., their marginal effects. The estimated decompositions of welfare differences between urban and rural areas within divisions reveal that characteristics explain a larger share of the welfare differences within regions (see panel b in Figure 127). Differences in household characteristics explain around 60% of the welfare differences between the urban and rural areas in 2007, and their contribution has increased to more than 70% in 2012. Thus, rural-urban welfare differences within each division in Iraq are driven by the (increasing) concentration in urban areas of individuals with a higher level of endowments. For instance, individuals who live in urban areas have significantly higher levels of education which appears to explain a large part of the differential in welfare levels. In Kurdistan, this factor contributes more than 40% of the difference explained by characteristics in both years.

³⁶ The welfare ratio is the ratio of the household's expenditure to the contemporaneous poverty line in the region of residence of the household. The welfare ratio as defined is a number that measures the standard of living as a multiple of the poverty line. See Annex for details on methodology.

TABLE 27: Probability of Being in the Bottom 40 Percent*

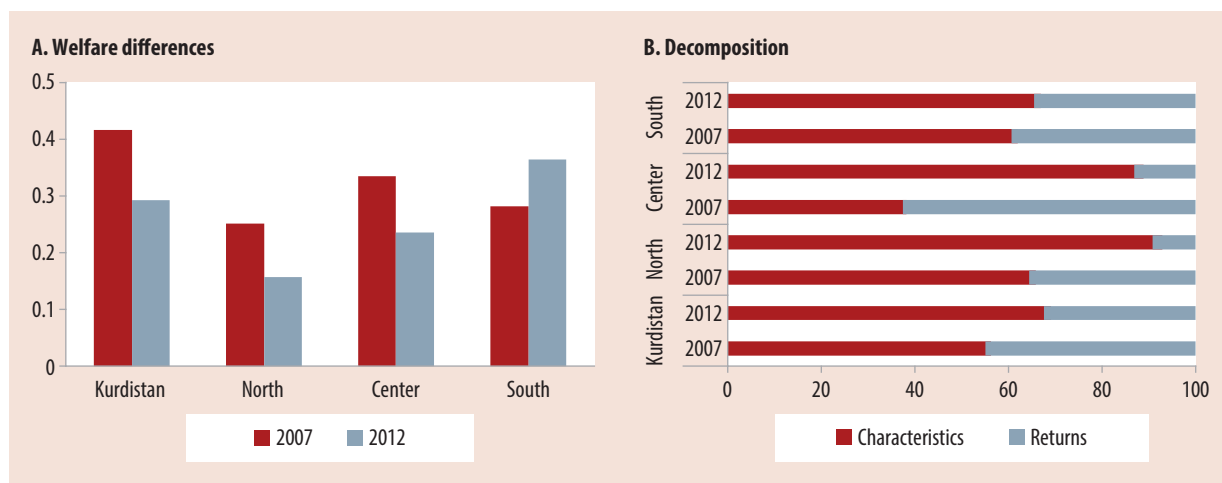
Marginal probability effects: Partial effects of each explanatory variable (evaluated at mean values) on the probability that a household belongs to the bottom 40 percent of the consumption distribution		Kurdistan		Baghdad		North		Centre		South	
		2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Living in an urban area		-21.5	-11.5		-11.2		-6.1	-19.5		-12.1	-12.0
Household size and dependency	Number of household members	7.4	7.2	21.5	17.1	10.2	5.8	8.1	7.7	10.9	9.4
	Number of children 0–6	10.5	7.2		6.2	6.8	6.4	4.7	6.2	3.7	5.6
	Number of children 7–17	7.2	7.8	3.7		2.2	5.0	3.7	6.5	3.5	6.9
	Number of elderly				-9.3	-6.7		-6.1			
Male headed household					16.0				6.9		12.9
Head of household lived elsewhere for at least 6 months					17.8						
Number of employed working age males					-6.6		-5.5	-8.7	-3.9		
Sector of employment of the head of household (relative to non-employed head of household)	Agriculture and fishing			-26.1	-16.0		-15.3			11.7	
	Mining and Quarrying					-29.2					-21.7
	Manufacturing							-8.5			-11.4
	Utilities					-22.7					
	Construction		14.0			21.0		11.8		16.0	
	Commerce and retail	-15.7		-14.9	-12.6						-11.4
	Transport, storage and communication			-23.5					-8.6		
	Finance, insurance and professional services					-14.5	-11.3	-17.2	-12.8	-13.0	
	Public administration, health and education	11.1		-21.0		-10.1	-8.6	-12.1			-12.4
	Other			-18.6							
Education level of the head of household (relative to illiterate head of household)	Incomplete primary	-12.3	-8.4		-24.2		-6.2	-11.0			-11.8
	Complete primary	-9.9	-16.1			-7.3	-9.0	-12.0	-8.7	-14.5	-19.5
	Intermediate	-19.8	-16.7		-30.4	-12.2	-17.3	-21.0	-16.0	-26.5	-24.6
	Secondary	-21.4	-27.0		-34.4	-18.9	-19.3	-23.6	-23.8	-23.4	-26.3
	Higher secondary	-29.0	-22.9	-26.0	-30.0	-28.5	-23.7	-23.6	-21.4	-24.9	-28.5
	Tertiary	-33.6	-28.5	-35.2	-35.7	-14.8	-30.9	-27.4	-30.7	-30.4	-35.7

Source: Authors' calculations, IHSES 2007 and 2012.

NOTE: * This table summarizes results of probit regressions (marginal effects) reported in Tables A 4.11 to A 4.15 in the Annex.

Another pattern that is important to note is that in the division where headcount rates fell, the Centre, the contribution of characteristics has more than doubled: differences in individual endowments between rural and urban areas explained less than 40 percent of welfare differences in 2007, compared to 87 percent in 2012. In general, this pattern holds in every division where rural-urban welfare differences have fallen. In contrast, in the South, where poverty increased, there has been almost no change in the relative contribution of characteristics and returns.

There are two potential explanations as to why differences in characteristics between urban and rural areas of the same region may be large. First, it could be that the nature of productive activities in urban and rural areas may require inherently different characteristics. Farming activities in rural areas, for instance, require little formal education and might be carried out more efficiently by households with more family members. However, a lower education level and larger number of family dependents would be less likely to lead to better economic outcomes in an urban setting. A second, complementary

FIGURE 127: Differences Within Regions – Urban Versus Rural Areas

Source: Authors' calculations, IHSES 2007 and 2012.

possibility is that people sort themselves across space based on their characteristics. That is, individuals migrate between urban and rural areas within regions to the location where they can earn the highest returns for their set of characteristics.

Why did these rural-urban differences in characteristics become more important over time? While it is unlikely that the nature of economic activities changed enough to explain this trend in the five year time period considered here, it is more probable that mobility between rural and urban areas increased, potentially induced by existing income differentials, so as to reduce the welfare premium associated with living in urban areas, holding all else equal.

Explaining Welfare Differences between Divisions

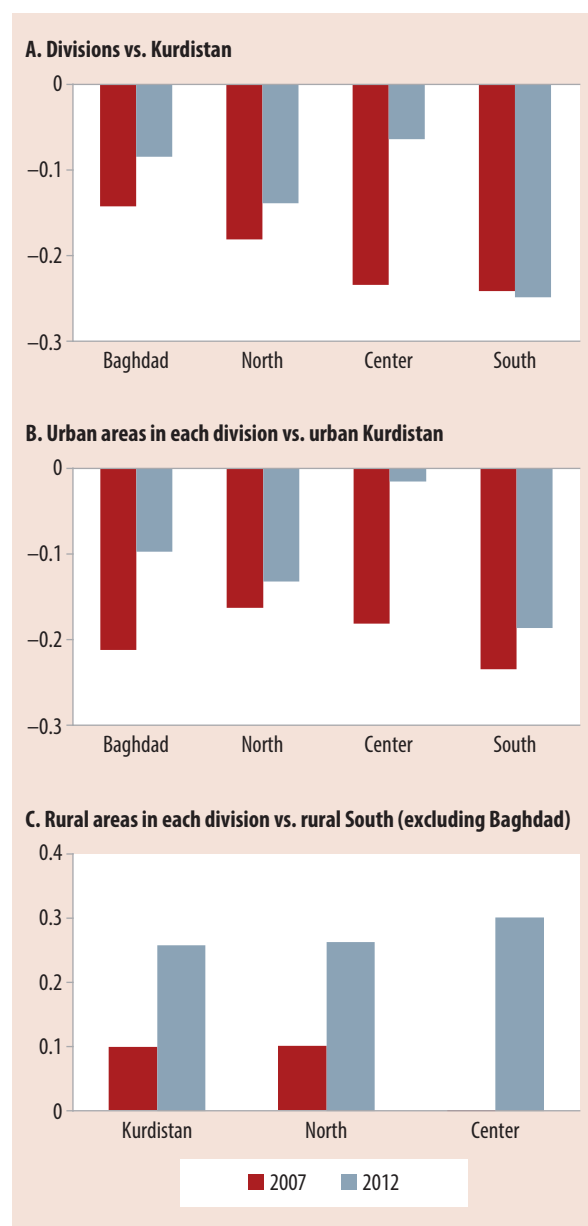
To carry out the “between-region” comparisons, we first compare the differences in welfare in each division (urban and rural areas pooled) against Kurdistan, which has the lowest poverty levels. Acknowledging that the pooling of urban and rural areas into one regional aggregate may be “mixing apples with oranges”, we also construct additional comparisons of urban areas in each division against urban Kurdistan (the least poor urban sub-division)

and rural areas in each division against the rural South (the poorest rural sub-division).

Figure 128 presents the mean differences in the welfare ratios between divisions in 2007 and 2012. Comparing the welfare ratios between divisions, not surprisingly, Kurdistan has the highest welfare of any division (panel A in Figure 128) or any of the urban areas of Iraq's divisions. The South is the poorest division relative to Kurdistan in both 2007 and 2012 though the gap seems to have declined somewhat in 2012 in urban areas (panel B in Figure 128) while it has increased in rural areas (panel C in Figure 128). Moreover, the rural areas of the South appear to have lower welfare ratios than the rural areas of other divisions and this has worsened over time. In line with the rapid welfare improvements in the Centre, the welfare difference between Kurdistan and the Centre have come down sharply in 2012, in both rural and urban areas.

The decomposition of welfare differences “between” divisions in Iraq reveals that differences in returns to characteristics of households play a larger role in explaining welfare differentials than they did between urban and rural areas within the same divisions. This result is robust to different types of comparisons. Thus, welfare differences between the

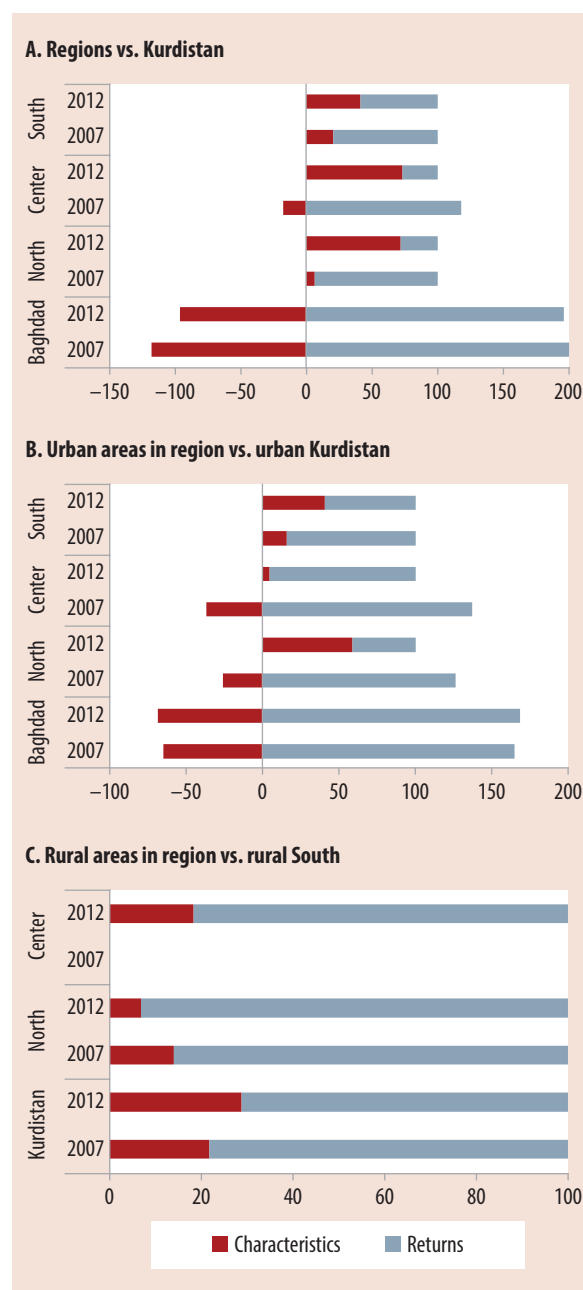
FIGURE 128: Welfare Differences between Divisions



Source: Authors' calculations, IHSES 2007 and 2012.

urban areas of other divisions and urban Kurdistan are mostly due to differences in returns to characteristics rather than due to differences in characteristics. That is, people living in urban Kurdistan have roughly comparable characteristics to urban residents of the other divisions, but the latter receive much lower returns for these characteristics. An exception is the case of the North region in

FIGURE 129: Explaining Welfare Differences between Regions



Source: Authors' calculations, IHSES 2007 and 2012.

2012 (see panel B of Figure 129). Differences in welfare between the urban areas in the North and the urban areas in Kurdistan appear to be explained for the most part (close to 60%) by differences in the characteristics of the household endowments in these areas.

The results of the analysis also reveal some interesting changes in the primary factors explaining inter-division welfare disparities over time. In 2012, welfare differences across urban areas in different divisions and urban Kurdistan seem to be less due to differences in the returns compared to 2007. For example, in 2007 about 16 percent of the welfare differential between urban areas in the South and Kurdistan could be attributed to differences in characteristics with the remaining 84 percent attributed to differences in returns. By 2012, differences in characteristics seem to play a bigger role (just over 40 percent), while differences in returns seem to become less important (just below 60 percent).

When comparing differences in welfare across rural areas in Kurdistan, the North and the Centre with respect to the rural South, differential returns to characteristics account for around four-fifths of the welfare differences in both years. Thus, rural individuals in the South with a certain set of characteristics earn much lower returns than similar individuals in rural areas of other divisions.

Taken together, these suggest that urban-rural mobility within divisions may be bridging the welfare gap; and that to some extent a similar trend is true (although much smaller in scale) between urban areas of different divisions. However, differential returns to characteristics continue to be very important in explaining welfare differential across rural areas in different divisions. In the South in particular, the rural-urban welfare gap has increased, accompanied by an increasing disparity between rural areas in the rest of the country and the rural South.

In this chapter, we argue that spatial disparities in welfare across Iraq are explained in part by economic revival in relatively stable and peaceful governorates in the Centre, in the Kurdistan region and in Basra, in part by the immediate effect of the post-2003 violence (which continues to this day) in Baghdad and the Northern governorates, and to the continued neglect of the southern governorates. Violence and insecurity has been a pervasive feature of many parts of the country for a long time, and are evident in long term trends of displacement and a stalling of progress in health and education. Since 1990 however, beginning from a common legacy of persecution and neglect during the Saddam era, Kurdistan and the South have been on divergent trajectories. Poverty trends mask the improvements in education and labor market outcomes that have been experienced in the three Kurdish governorates, which have also experienced a significant increase in population. In the southern governorates, and with the exception of Basra, the last five years appear to have compounded the neglect of the past, with declining male employment and labor force participation, declining female employment in agriculture, and with young people falling further behind in human capital. Relative peace and stability has not been sufficient for economic revival. But the absence of peace and security has implied little change in welfare in Baghdad and the North, where the post-2003 violence was concentrated. It is only in the Centre where peace and stability have to some extent combined with an improvement in economic activity, and where job growth has outpaced the growth in the male working age population.

Understanding the Drivers of Poverty Reduction

5

T*o 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);

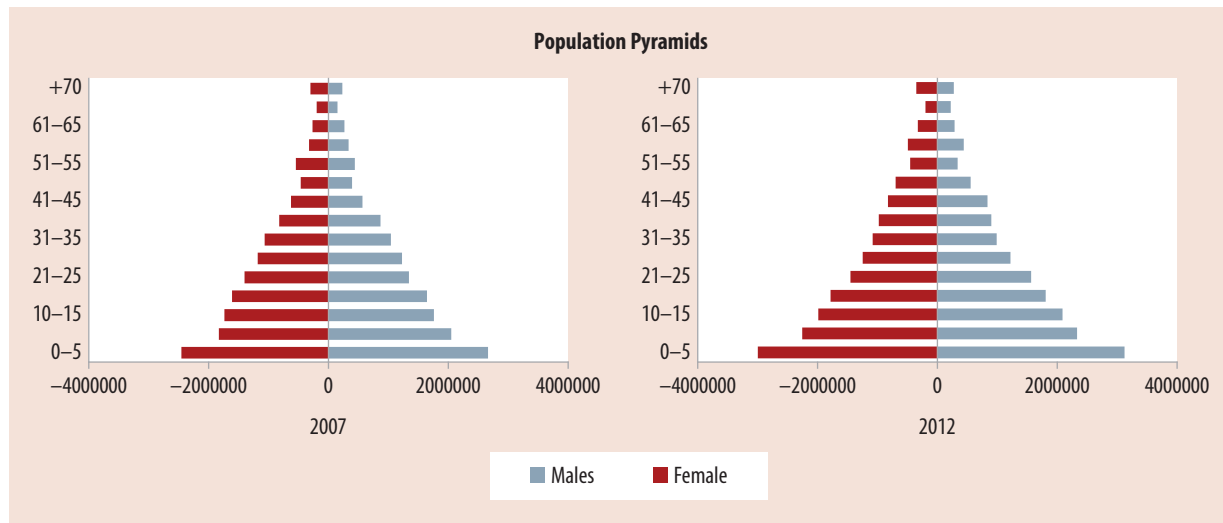
2. Growth in labor income as consequence of changes in employed members, movements in their earnings or a combination of both;
3. Growth in non-labor income, mainly in the form of public or private transfers; and
4. Changes in consumption or saving patterns.

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



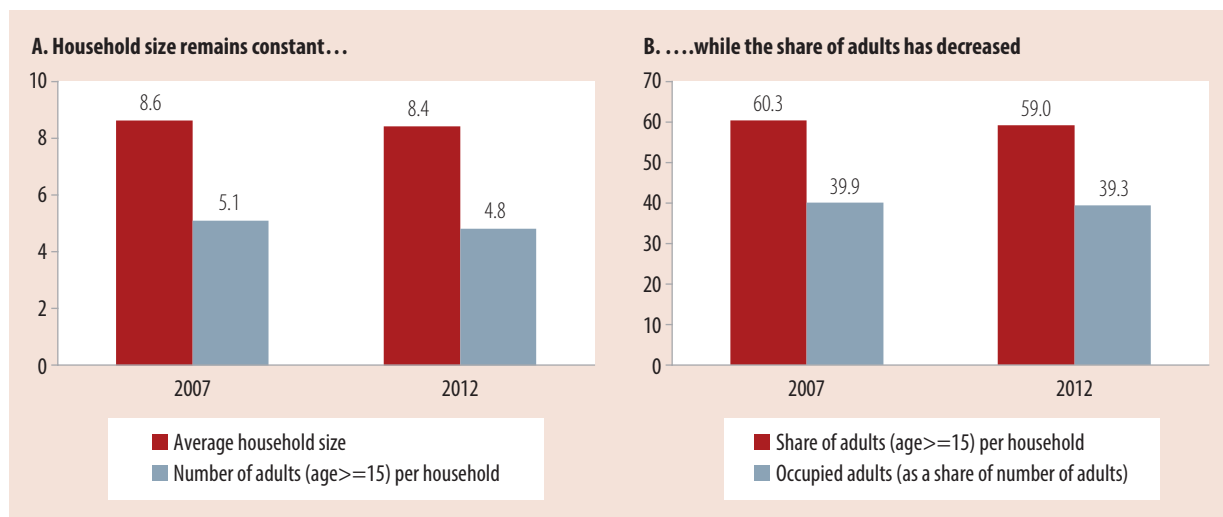
Source: Authors' calculations, IHSES 2007 and 2012.

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

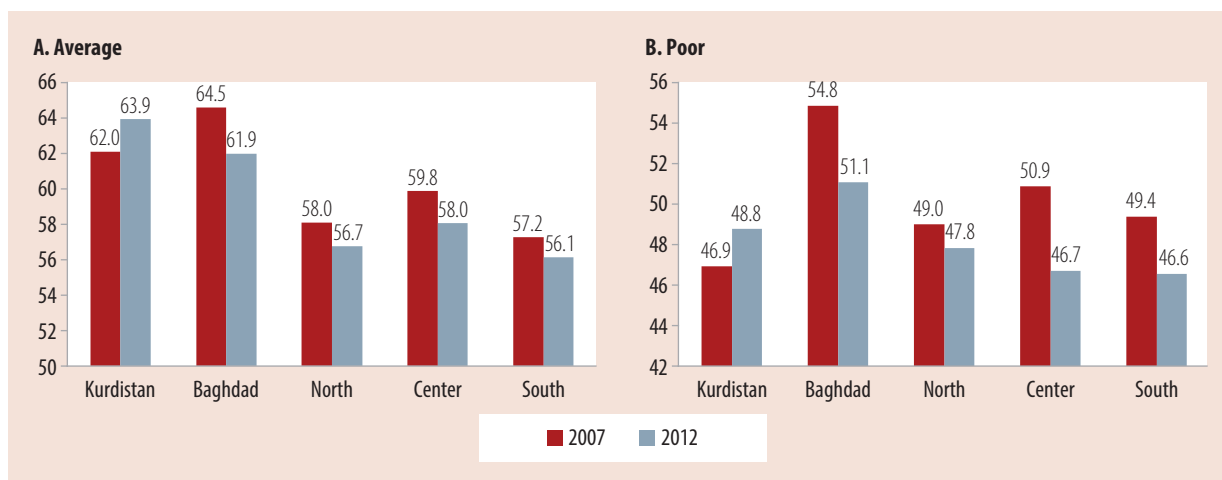
that despite the observed population growth, both labor force participation and the employment-to-population ratio decreased over the period, particularly for women. At the household level, the share of working adults (ages 15–64) slightly decreased (Figure 131 panel B), pointing to a potential decline 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

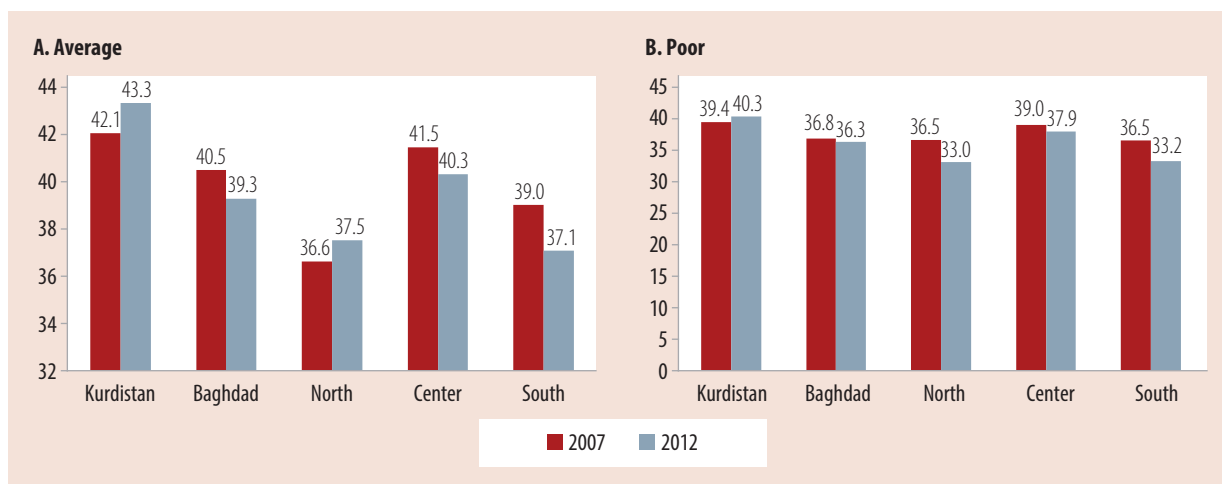


Source: Authors' calculations, IHSES 2007 and 2012.

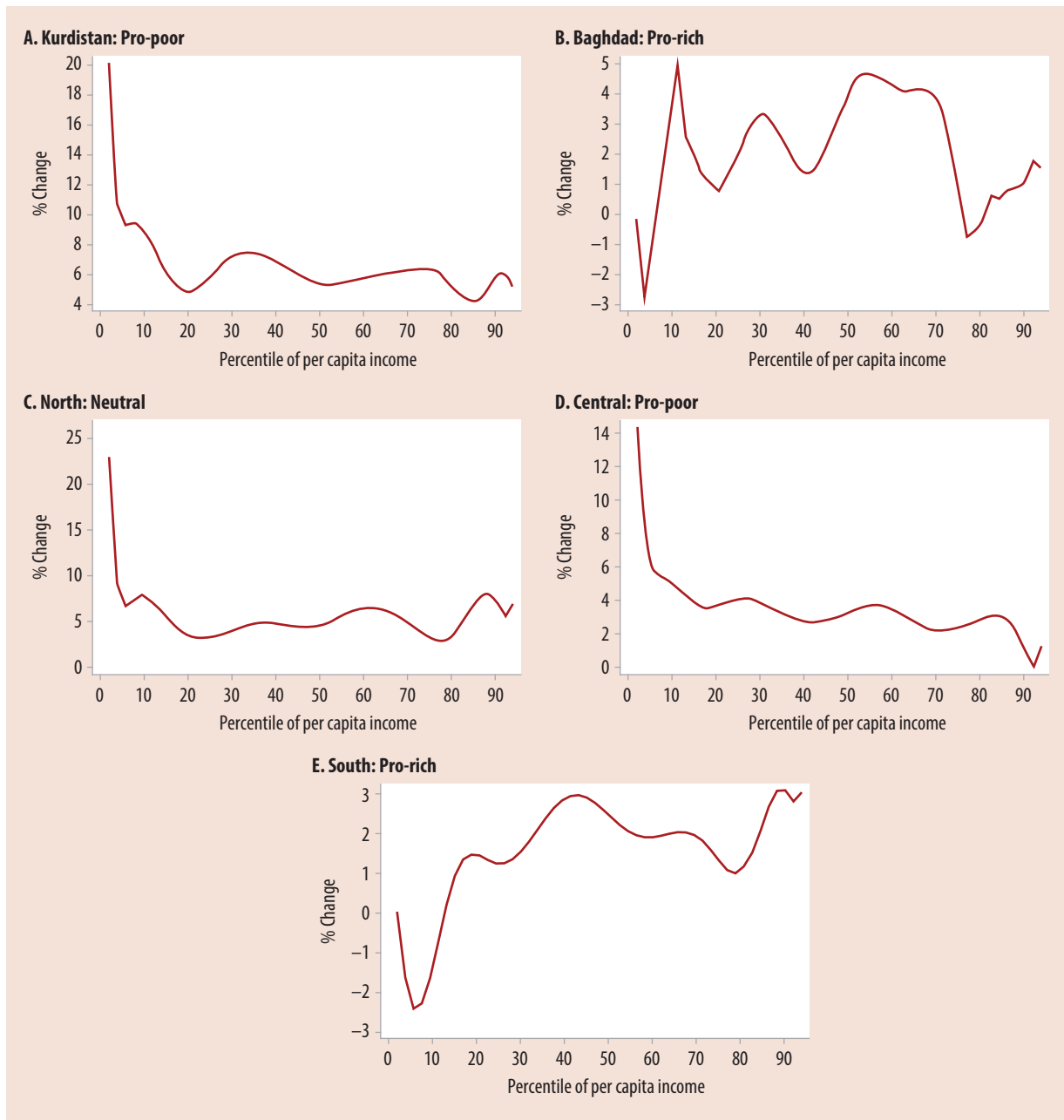
This negative trend in the share of working adults holds true not only among divisions but also across households within each geographical division (Figure 133). The exception is Kurdistan which indeed experienced the opposite trend, with an increase in its share of working adults over the period for 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

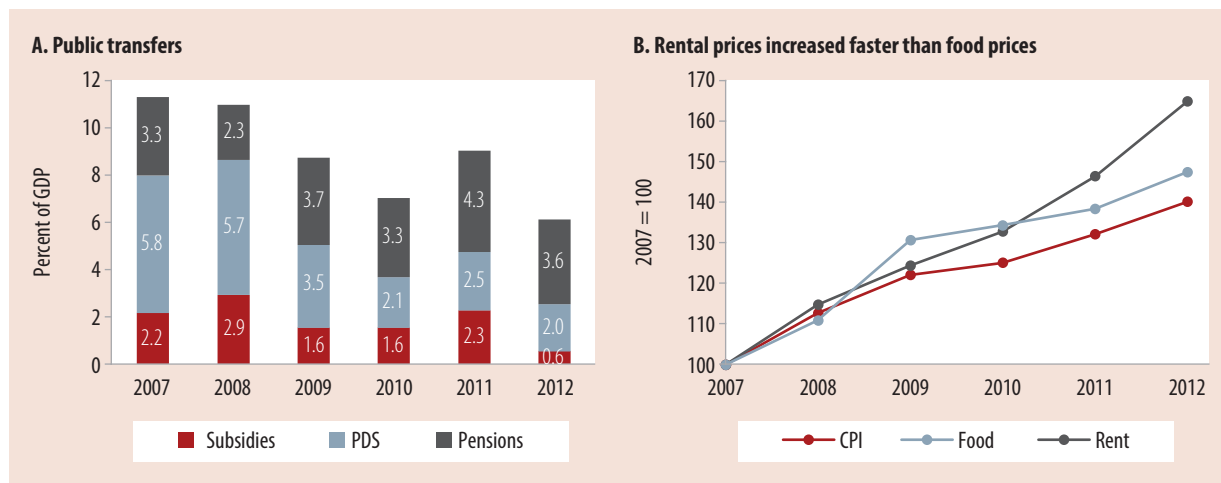
Source: Authors' calculations, IHSES 2007 and 2012.

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).³⁷ Government spending for subsidies have decreased as a share of the GDP while pensions

³⁷ 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

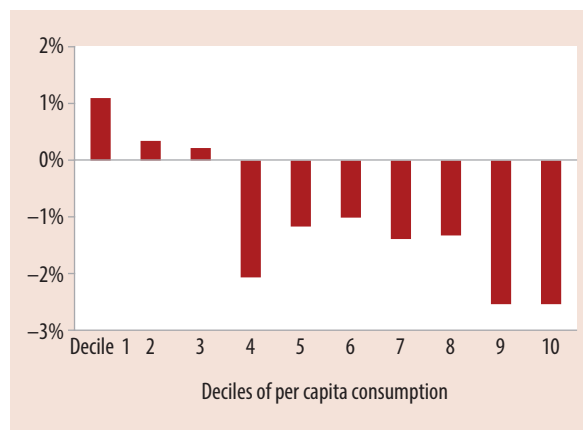


Source: Authors' calculations, PER (2013) and CSO (2014).

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

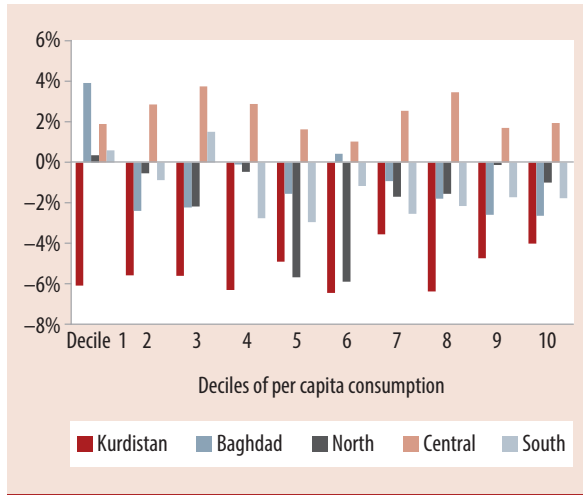


Source: Authors' calculations, IHSES 2007 and 2012.

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:

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

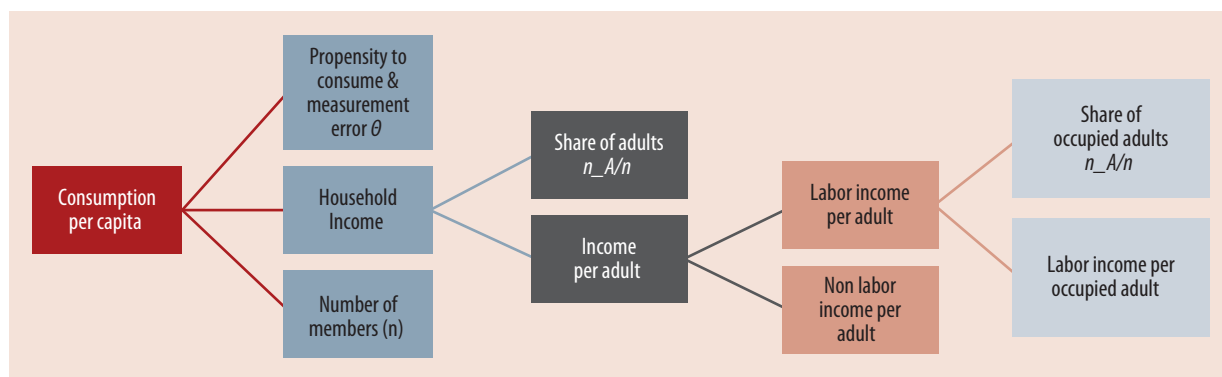
Where n is the total number of members in household h , θ_h is the consumption-to-income ratio, and Y_h represents the total income of household h .

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 share 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.

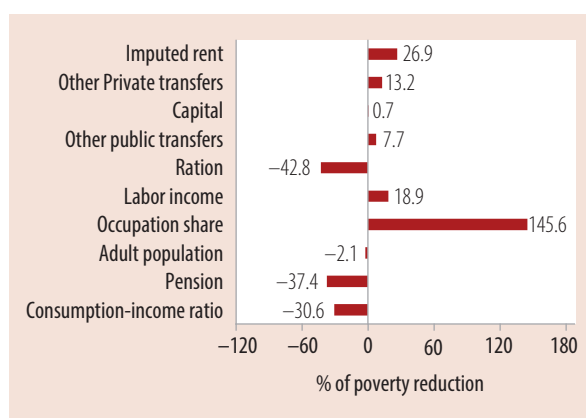
FIGURE 138: Different Components of Consumption Per Capita



Source: Inchauste, G and others (2014).

There were also important contributions from different non-labor income components which acted in different directions. From the private viewpoint, domestic and international transfers or remittances among households contributed to 13 percent of the total reduction in poverty. Notice that even though international transfers increased significantly over the period, most of the change in consumption that is explained by private transfers came from domestic remittances. Capital income slightly contributed so as to reduce poverty over the period.

FIGURE 139: Contributions to Poverty Reduction – Total Iraq



Source: Authors' calculations, IHSES 2007 and 2012.

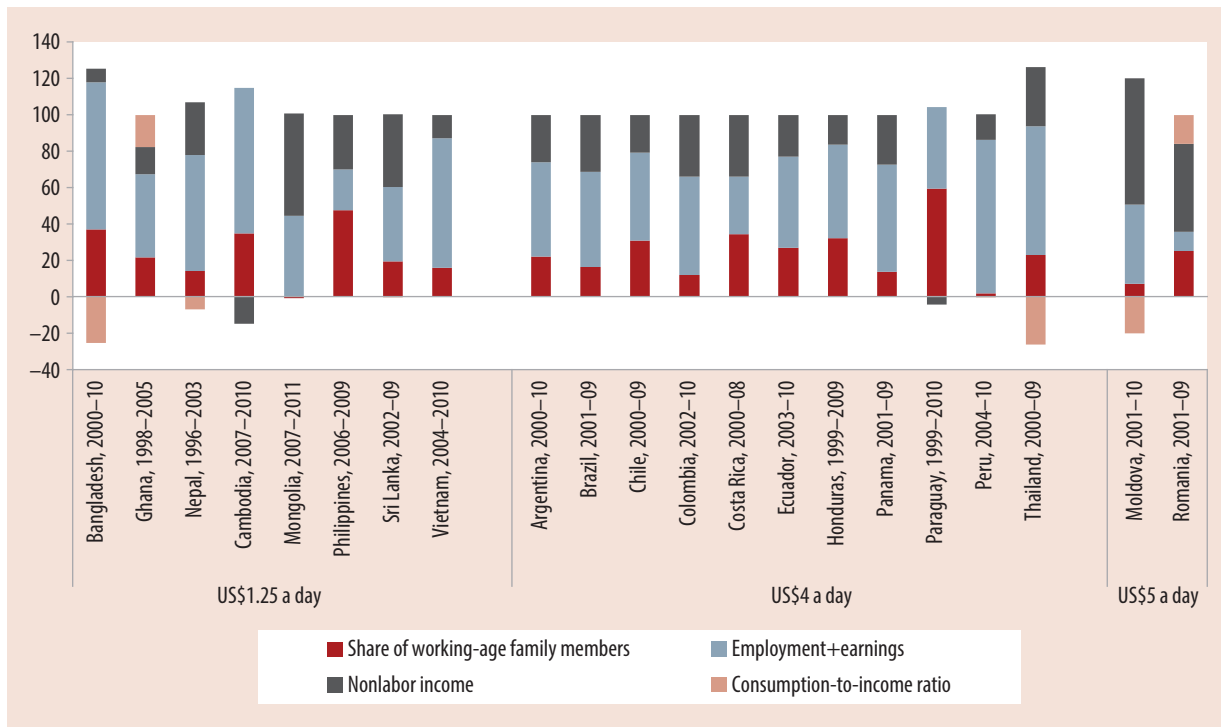
Notes: "Capital" includes all incomes from property such as rent from land, non-residential buildings, equipments, shares and profits, interests, among others; "Other public transfers" refers to social protection network compensation and other public transfers in cash and in kind; and "Other private transfers" refers to domestic and international remittances, zakat and other private transfers in cash and in kind.

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 reduction in the number of ration items transferred to the poor did not help to reduce poverty. The reduction of ration transfers would have led to a 43 percent reduction in poverty if they had remained at their 2007 levels.

Demographic factors as well as the consumption-income ratio worked to counter poverty reduction. In the case of the first factor, the share of adults per households among the poor decreased, therefore increasing poverty, pointing to an unequalizing force in the country. These negative contributions suggest that if these factors had remained constant over the period, poverty reduction could have been larger than actually observed.³⁸

The result that labor income growth has been the main contributor to poverty reduction during 2007–2012 period is in line with the results obtained for similar work undertaken for other countries over the last decade. Figure 140 shows these simple accounting decompositions for a set of countries in which there was a substantial decline

³⁸ In the case of the consumption to income ratio there is measurement error in both of its components, interpretations about changes in this ratio must be treated with caution.

FIGURE 140: Growth in Labor Income is the Main Contributor Factor to Changes in Moderate Poverty

Source: Inchauste, G. and others (2014), World Bank, Washington DC.

Notes: "Labor income" refers to the change in employment and earnings per adult; "nonlabor income" refers to transfers, pensions, capital, and other income not from labor. Consumption-based measures of poverty are used in the case of Bangladesh, Ghana, Nepal, Peru, Thailand, Moldova, and Romania. Income-based measures of poverty are used elsewhere. Data from SEDLAC, RIGA and National Household Surveys.

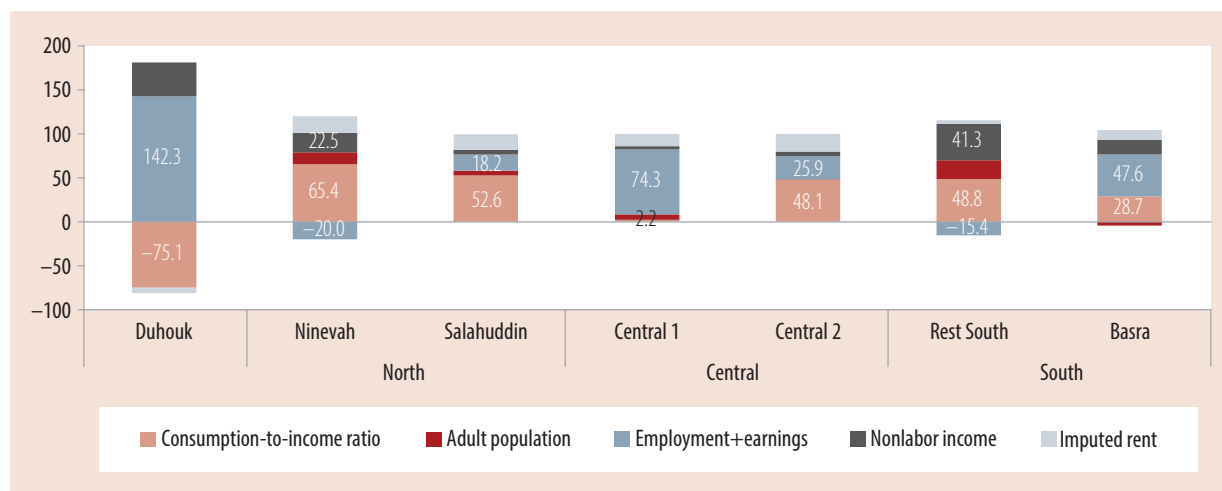
in poverty. In particular, in 12 of the 21 countries changes in labor incomes and employment explain more than half of the change in poverty, and in another 6 countries, they account for more than 40 percent of the reduction in poverty. The number of occupied adults increased, contributing to poverty reduction due to increased employment. But, it was increases in earnings per occupied adult that made the largest contribution to poverty reduction similar to what has been experienced in Iraq.

The results of the decomposition exercise mask a lot of heterogeneity across different parts of Iraq. We perform the same exercise for those governorates and sub-divisions which experienced a significant change in poverty, either positive or negative, over the period, and find that labor income still represents one of the most important factors which contribute to poverty reduction (Figure 141). However, the size of this relationship varies. In 3 out of 5 sub-divisions where poverty fell (i.e. Duhouk, Basra and

Central 1: Diyala and Anbar), changes in labor income and employment explain more than the half of the reduction in poverty, and in the other 2 sub-divisions (i.e. Salahuddin and Central 2: Kerbala, Wasit, Najaf and Babylon), they represent the second most important factor, explaining more than a quarter of the reduction in poverty. Additionally, in those sub-divisions which experienced an increased in poverty (i.e. Ninevah and Rest South: Qadisiya, Muthanna, Thi-Qar and Missan), 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 (i.e. Duhouk and Central 1), contrary to findings for the whole country. In the other 3 sub-divisions where poverty fell (i.e. Basra, Central 2 and Salahuddin), lower levels of employment among the poor actually increased poverty (Table

FIGURE 141: Decomposition of Significant Poverty Changes by Divisions



Source: Authors' calculations, IHSES 2007 and 2012.

Notes: Include only those divisions with significant change in poverty reduction. Central 1 = Diyala and Anbar; Central 2 = Kerbala, Wasit, Najaf and Babylon and Rest South: Qadisiya, Muthanna, Thi-Qar and Missan. "Capital" includes all incomes from property such as rent from land, non-residential buildings, equipments, shares and profits, interests, among others; "Other public transfers" refers to social protection network compensation and other public transfers in cash and in kind; and "Other private transfers" refers to domestic and international remittances, zakat and other private transfers in cash and in kind.

A5.2). The same pattern was found among those divisions where headcount rates increased: changes (decreases) in employment contributed to increases in poverty. In general, the increase in earnings of workers was relatively more important in reducing poverty than the change in the number of workers or jobs. As mentioned, we cannot differentiate between improvements in quality of jobs, productivity or longer hours of work.

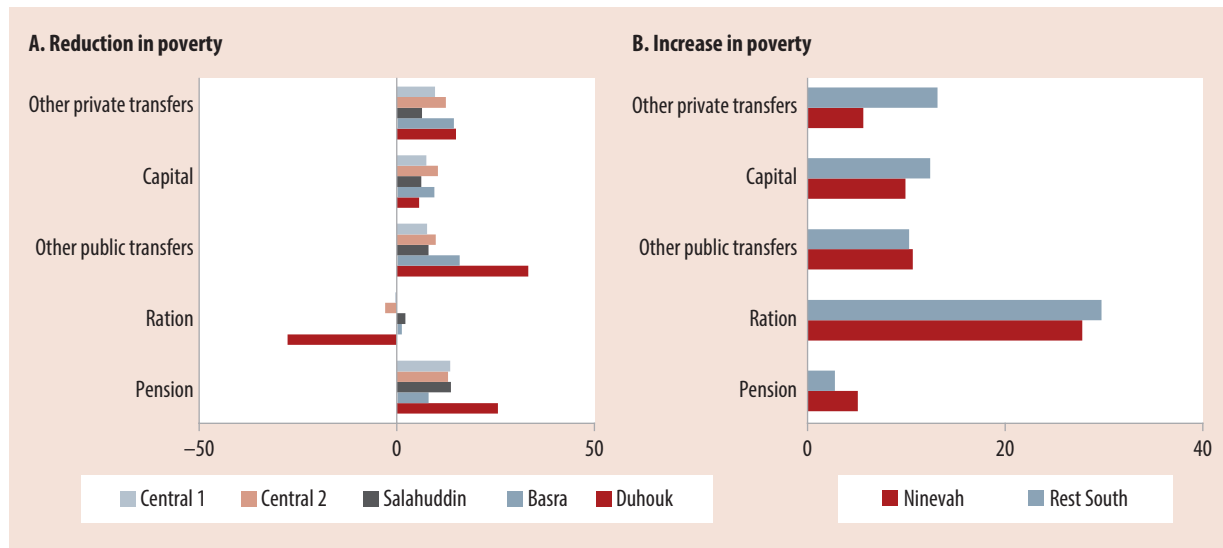
Although changes in labor income are the main contributor to poverty reduction in most divisions, non-labor income also mattered. In those sub-divisions with significant decreases in poverty, changes in non-labor income components have contributed positively, i.e., in favor of poverty reduction (i.e. in Duhok, Basra, Salahuddin and Central 2). Moreover, the reduction in ration items was overcompensated with increases in pensions, other public transfers and domestic remittances (Figure 142 panel A). On the other hand, divisions with increases in poverty also experienced the reduction in transfers from rations but not the counterbalancing effect of sufficient increases in other non-labor income components (Figure 142 panel B). As a result, changes in non-labor income explained a significant part of

increase in poverty in Rest of South (41.3 percent) and Ninevah (22.5 percent).

Finally, changes in the consumption-to-income ratio generally helped to reduce poverty in 3 out of 5 divisions: Salahuddin, Central 2 and Basra; where the ratio increased at the bottom of the distribution. However, the reduction in the consumption-to-income ratio during the period in Rest of South and Ninevah explained more than 50 percent of the increase in poverty. In other words, poverty did not fall as it would have had consumption remained a constant share of income. It is important to notice that these results must be interpreted with caution to the extent that there is measurement error in both components of the ratio.

To conclude, 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. Non labor income components and public and private transfers including pensions and domestic remittances contributed to poverty reduction. At the same time, demographic changes have worked in the opposite direction, limiting poverty reduction.

FIGURE 142: Public and Private Transfers



Source: Authors' calculations, IHSES 2007 and 2012.

Notes: Include only those divisions with significant change in poverty reduction. Central 1 = Diyala and Anbar; Central 2 = Kerbala, Wasit, Najaf, and Babylon and Rest South: Qadisiya, Muthanna, Thi-Qar and Missan. "Capital" includes all incomes from property such as rent from land, non-residential buildings, equipments, shares and profits, interests, among others; "Other public transfers" refers to social protection network compensation and other public transfers in cash and in kind; and "Other private transfers" refers to domestic and international remittances, zakat and other private transfers in cash and in kind.

Thus, the labor market in Iraq, as in other countries appears to be the most important channel linking growth and welfare. However, the record on modest poverty reduction in the face of strong

economic growth suggests that the relationship between growth, employment and earnings is weak. We next turn to an indepth exploration of these issues.

The Growth-Employment Nexus

Iraq experienced steady and strong GDP growth, averaging a rate of 7 percent per year over the 2007 to 2012 period but only modest poverty reduction; implying a negative but weak relationship between economic growth and poverty reduction. For economic growth to have a positive impact on poverty, it needs to generate employment and income for those who need it the most. Recent economic growth was driven mainly by growth in mining or oil, which represents half of the total GDP, the bulk of government revenues, and almost all export revenues. However, it employs a tiny share of the labor force (1%) and has a low output-elasticity of employment (−0.2). Across other sectors, in general, employment generation has remained low despite output growth. In contrast, earnings are much more responsive to output growth in general and for the mining sector in particular; although the latter is not likely to directly benefit the poor. Earnings have grown at an annual rate of 8.3 percent in the mining sector, which employs 1 percent of the labor force, compared to −2.5 percent in agriculture or 0.8 percent in construction, which employ more than a fifth of the population.

Although more than 750,000 new jobs were created over the five year period, these were not enough to absorb all new participants in the labor market, and four-fifths of these new jobs were generated by the public sector. The expansion of public sector employment has increased the incentives for 'wait unemployment' and low labor force participation. Having a public sector job translates into having a "better" job relative to the private sector on several dimensions including wages,

benefits and working hours. Earnings have disproportionately increased among public sector employees. A private sector worker still earned almost 30 percent less than public workers in 2012, before including other benefits associated with public sector employment.

The expansion of the public sector has adversely affected the labor market in Iraq by creating economy wide disincentives to labor force participation, especially for the youth. An increase of one percentage point in the public employment rate of the governorate where the youth was born contributes to a significant reduction (around 50 and 40 percent for 2007 and 2012 respectively) in their participation rate, keeping everything else constant. This disincentive to labor force participation is also significant among adults. In general, reduces the participation rate of both adult women and men by about 30 percent, holding everything else constant. For women, in addition, a significant gender wage gap further disincentivizes labor force participation.

The nature of public sector expansion has also altered the incentives for education. With the expansion in public sector jobs for less educated men, the returns to education in the public sector level off after primary school, and do not pick up again until after tertiary education. In 2012, an average male in the working-age population received 20 percent more in the public sector by having complete primary education relative to being illiterate. However, the premium for getting an additional level is almost negligible thereafter until he completes tertiary education.

The type of employment growth generated by Iraq over the last five years has only weakly impacted poverty, and the expansion of public sector employment has occurred in sectors where a minority of the poor work. For instance, one-quarter of the poor work in Construction, where only 7 percent of jobs are public sector jobs. This does not imply more intervention of the public sector in these sectors but the contrary. In fact, the expansion of the public sector has adversely affected the labor market in Iraq by creating economy wide disincentives to labor force participation; inhibiting the development of the private sector; and distorting incentives to invest in education.

The Links between Growth and Employment in Iraq

As mentioned in Chapter 2, Iraq experienced steady and strong GDP growth, averaging a rate of 7 percent per year over the 2007 to 2012 period but only modest poverty reduction (3.8 percentage points over the entire five year period). This points to a negative but weak relationship between economic growth and poverty reduction, which may be due to weak links between economic growth and employment or between employment and earnings, or both. On the other hand, the decomposition analysis from Chapter 5 shows that the growth of labor income is the most important contributory factor to poverty reduction, but that in Iraq, it was not driven by employment growth, but rather by growth in earnings. Thus, an economy where growth goes hand in hand with job creation and income generation, i.e., one where the links between growth and welfare are strong, has the potential to deliver significant poverty reduction. And so, we turn our attention to the relationship between growth, employment and earnings in Iraq.

For economic growth to have a positive impact on poverty, it needs to generate employment and income for those who need it the most. Recent economic growth was driven mainly by growth in mining which represents almost half of the total GDP. However, of all the sectors, this has the lowest potential

for employment creation for any given growth rate because it employs a tiny share of the labor force (1%) and has a low output-elasticity of employment (-0.2).³⁹ This implies that a 1 percent increase in output will generate a 0.2 percent reduction in employment in the mining sector. Given the growth rate experienced in mining since 2007, this means that employment in the mining sector has reduced by 1.3 percent or 0.07 percent of the labor force.

This pattern is evident not only in mining but across almost all economic sectors. Even when a sector's GDP has grown over the period, employment generation has remained low. This implies that employment is relatively inelastic to output growth overall (Table 28). Among sectors which have grown between 2007 and 2012, manufacturing is one of the most responsive sectors in terms of employment. It employs 10 percent of the labor force and it has one of the highest output elasticities of employment of 0.6. Having experienced an annual growth rate of 9.5 percent over the period, this indicates that employment in manufacturing sector has increased by 6 percent, or 2.4 percent of the labor force.

In contrast, earnings are much more responsive to output growth in general and for the mining sector in particular; although the latter is not likely to directly benefit the poor. Earnings have grown at an annual rate of 8.3 percent in the mining sector, which employs 1 percent of the labor force, compared to -2.5 percent in agriculture or 0.8 percent in construction, which employ more than a fifth of the population (Table 28). Moreover, the output elasticity of earnings is also relatively high in public administration, the financial services sector, and other services, all of which are primarily public sector jobs. Within the private sector, only transport, storage and communications has a relatively high earnings elasticity; and accounts for 11 percent of employment.

³⁹ We are referring to the direct effect of mining on employment; we are not considering the spillover effect on other sectors.

TABLE 28: Growth, Employment and Labor Income Relations

Economic Activities	Annual growth rate (%) 2007–12	Employment			Earnings	
		Labor Share (%) 2012	Annual growth rate 2007–12	Output elasticity of labor	Annual growth rate 2007–12	Output elasticity of earnings
Agriculture & fishing	2.69	8.94	–4.78	–1.78	–2.54	–0.95
Mining & quarrying	7.80	1.02	–1.29	–0.17	8.26	1.06
Manufacturing Industry	9.45	9.67	5.96	0.63	4.74	0.50
Utilities	16.08	2.21	1.87	0.12	5.94	0.37
Construction	15.30	13.63	2.96	0.19	0.82	0.05
Transport, storage & communication	7.96	11.43	3.65	0.46	6.65	0.84
Commerce and retail	12.39	15.61	0.17	0.01	6.93	0.56
Financial, insurance	3.61	14.37	15.51	4.30	3.23	0.89
Public administration	5.66	17.23	–2.81	–0.50	6.95	1.23
Other services	4.00	5.89	1.90	0.47	4.64	1.16
Total	7.09	100.00	1.95	0.27	4.77	0.67

Source: Authors' calculations, IHSES 2007 and 2012.

New Jobs in the Economy: Public Versus Private Sector

Notwithstanding the weak relationship between economic growth and employment, more than 750 thousand new jobs were created over the five year period. However, these were not enough to absorb all new participants in the labor market. In the face of significant labor market discouragement, this has translated into stagnant participation and employment rates for the working age population during the period.⁴⁰

Demographic trends in Iraq create opportunities as well as challenges for the future growth and poverty reduction. The working-age population has been expanding at an average growth rate of 2.2 percent per year indicating an 11 percent increase in the working-age population between 2007 and 2012. The “bulge” among five to fourteen year-olds in the 2012 population indicates that the working-age population growth trend will increase over the next decade.⁴¹ While a growing labor force can be an asset for income generation and growth, absorbing a large wave of new entrants every year poses a major

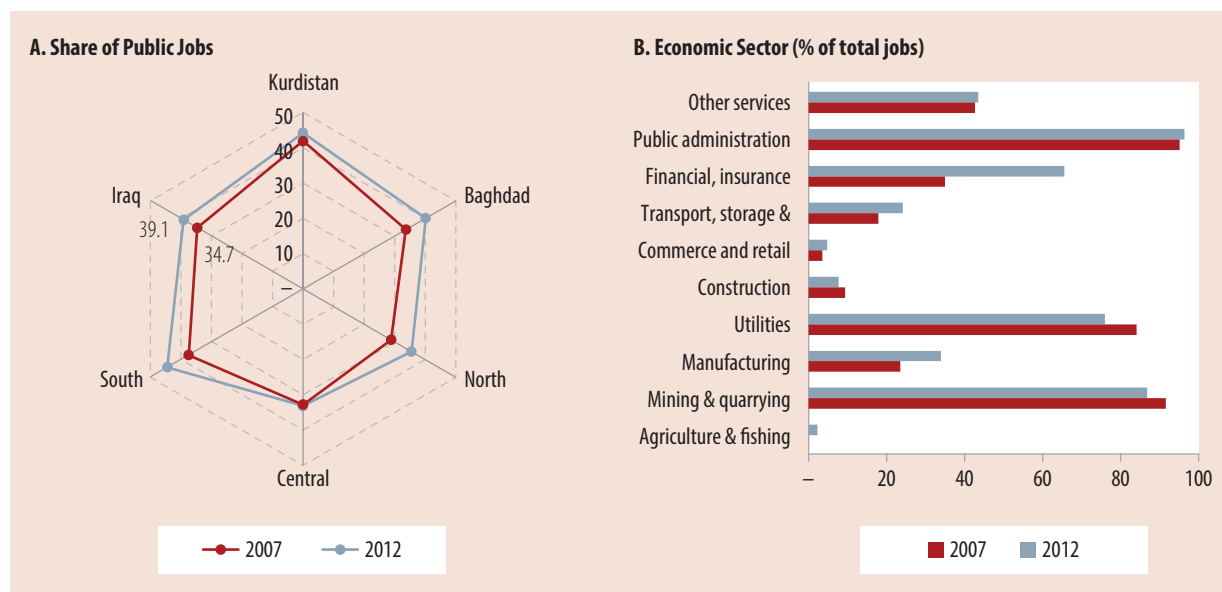
challenge for the labor market particularly in an economy with relatively weak links between growth and employment. Moreover, the relatively small improvement in human capital of younger generations poses another challenge for the country.

The private sector contributed around 60 percent of total jobs in Iraq in 2007 and 2012. However, it did not lead new job creation: in the last five years 80 percent of the new jobs were generated by the public sector. While in 2007, public jobs accounted for 35 percent of total jobs in Iraq, five years later, their share jumped to almost 40 percent (Figure 143 panel A). These types of jobs grew not only across space—in

⁴⁰ In chapter 4 “For young women, the main reason cited for not looking for work is social reasons and being a housewife. In contrast, for young men, the bulk those who fall in this category say they are not actively looking for a job because they cannot find a job, and this is another indicator of labor market discouragement among young men”.

⁴¹ Individuals between 5 and 15 year-olds grew annually almost 1 percentage point faster (3 percent per year) than the annual growth rate of the working-age population between 2007 and 2012 based on IHSES 2007 and 2012.

FIGURE 143: Public Sector Employment



Source: Authors' calculations, IHSES 2007 and 2012.

Baghdad, the North and the South—but also among economic sectors such as Financial, Insurance and professional services (with more than half of them in 2012), Manufacturing and Transport (Figure 143).

In 2007, the public sector already employed more than 70 percent of highly educated workers, those with higher secondary and tertiary education; and around 40 percent of total public jobs were concentrated among them (Figure 144 panel A). While the dominance of the public sector as a source of employment for the highly educated has continued, new public sector jobs have also absorbed less educated workers. Most of the new public jobs went mainly those with lower than intermediate level of education. In particular, 60 percent of the new public sector jobs were distributed among workers with less than primary complete (Figure 144 panel B).

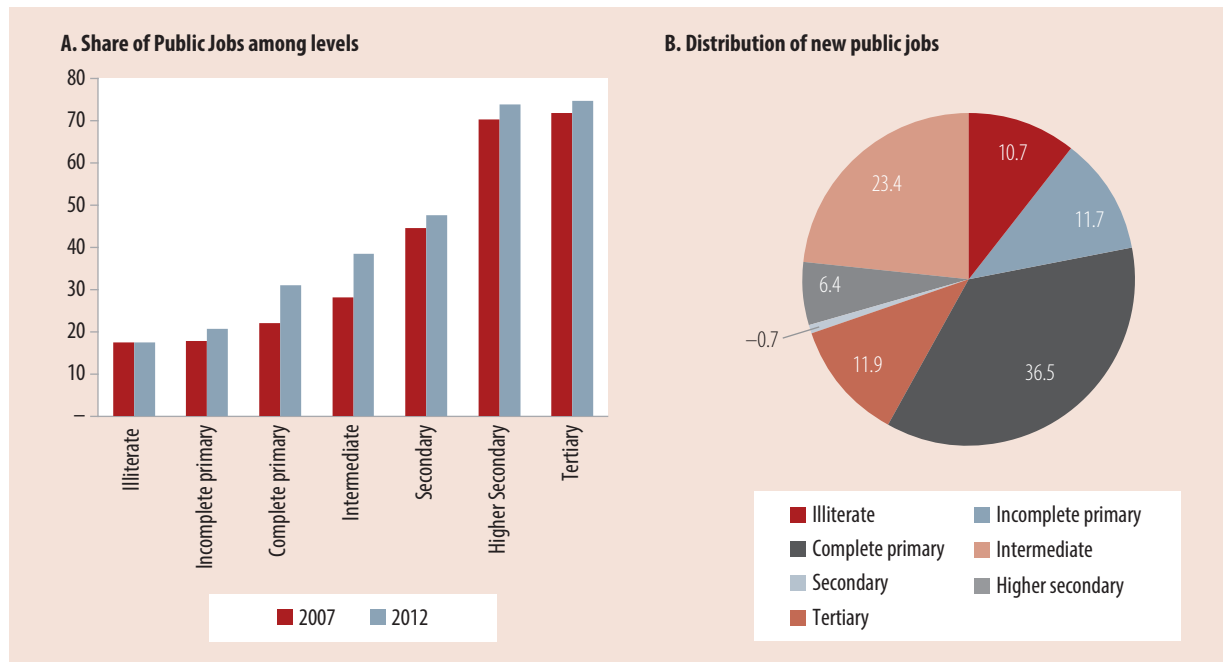
Having a public sector job translates into having a “better” job relative to the private sector on several different dimensions such as retirement plan. Figure 145 shows that around 90 percent of public workers have a retirement plan irrespective of the year compared to their private counterparts who have no benefits at all.⁴²

Additionally, being in a public sector job implies working fewer hours (about 2 hours less) than in the private sector (Figure 146 panel A). The hours gap between both sectors has been increasing between 2007 and 2012. However, there are differences across space: while this gap increases significantly in Kurdistan and Baghdad, it remains almost constant in the South and Central division and reduces in the North (Figure 146 panel B). For instance, in Kurdistan the difference between the median hours of work in private and public sector was 2 hours in 2007. This represents 22 percent less hours of work relative to the median hours of work in the private sector for that year. In 2012, this gap increases up to 27 percent of the median hours of work in the private sector (i.e. 9.5 hours). This translates into almost 2.6 less hours of work in a public job relative to a private one.

Thus, what little job creation has taken place in Iraq over the last five years has been driven by the public

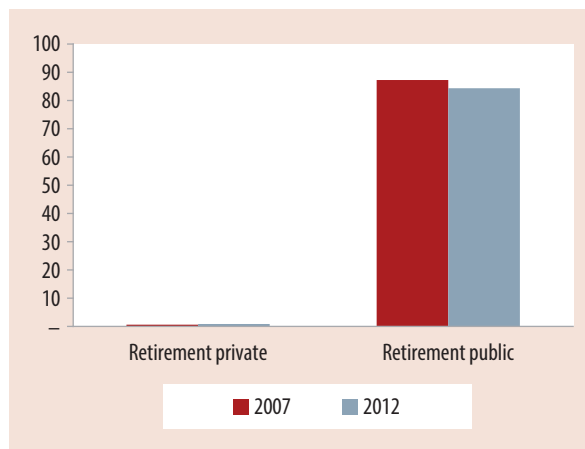
⁴² According to last consultation with country counterparts held in Erbil–May 2014, all public jobs include health insurance. However, the 2012 IHSES presents inconsistencies in the variable that measures this benefit; thus results are not presenting in this report.

FIGURE 144: Public Jobs – Education Levels



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 145: Private and Public Jobs: Retirement



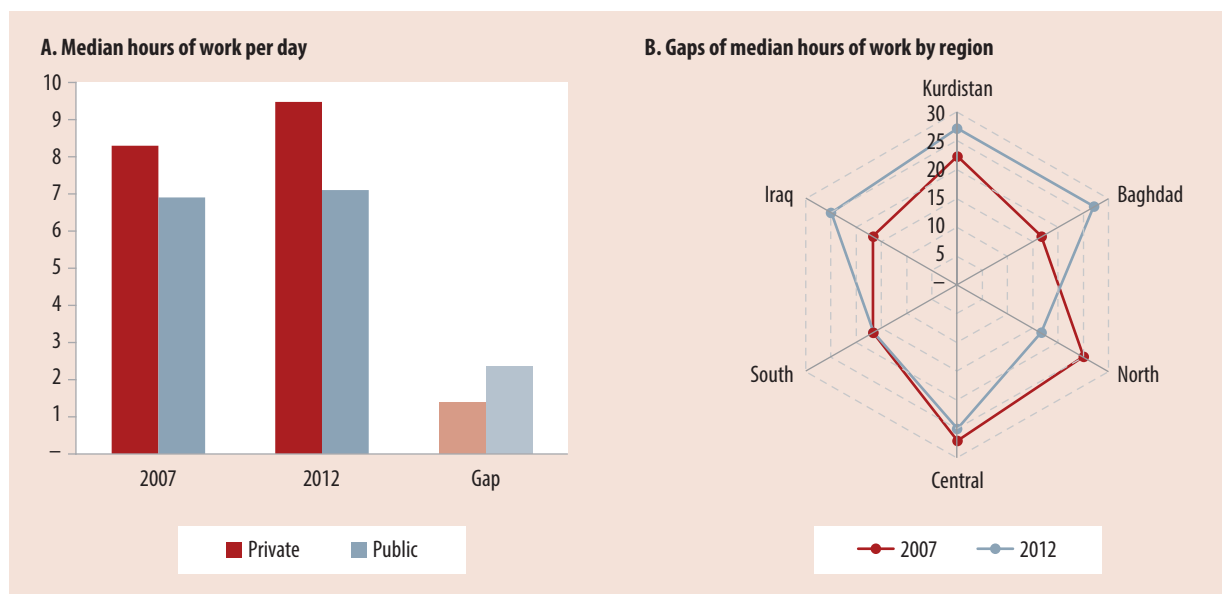
Source: Authors' calculations, IHSES 2007 and 2012.

sector. A large and expanding public sector can create significant distortions in the labor market, especially in a country where there is already low labor force participation, even among men, and labor market discouragement is widespread. The increasing possibility of a public sector job, with greater job security, benefits and fewer hours of work, can raise the reservation wage among the working age

population, and limit active job search as people wait and queue for openings in the public sector. Moreover, the private sector's ability to attract talent is also severely constrained by an expanding and increasingly well-paying public sector. In the medium term, the anticipation of public sector employment can also distort education investments, by catering to certain fields of study that may be irrelevant to the private sector. Below we quantify some of these adverse consequences of the expansion of public sector employment on youth, male and female labor force participation; on education investments; and on the potential for private sector development.

Youth Participation in the Workforce

Youth labor force participation in Iraq is low and stagnant. Only 40 percent of Iraqis between the ages of 15 and 24 who are not in school, are employed or looking for work. This means that 6 out of every 10 young Iraqis who are not in school are neither working nor actively seeking work. However, labor force participation rates vary significantly by the level of education of the youth. It ranges from 25

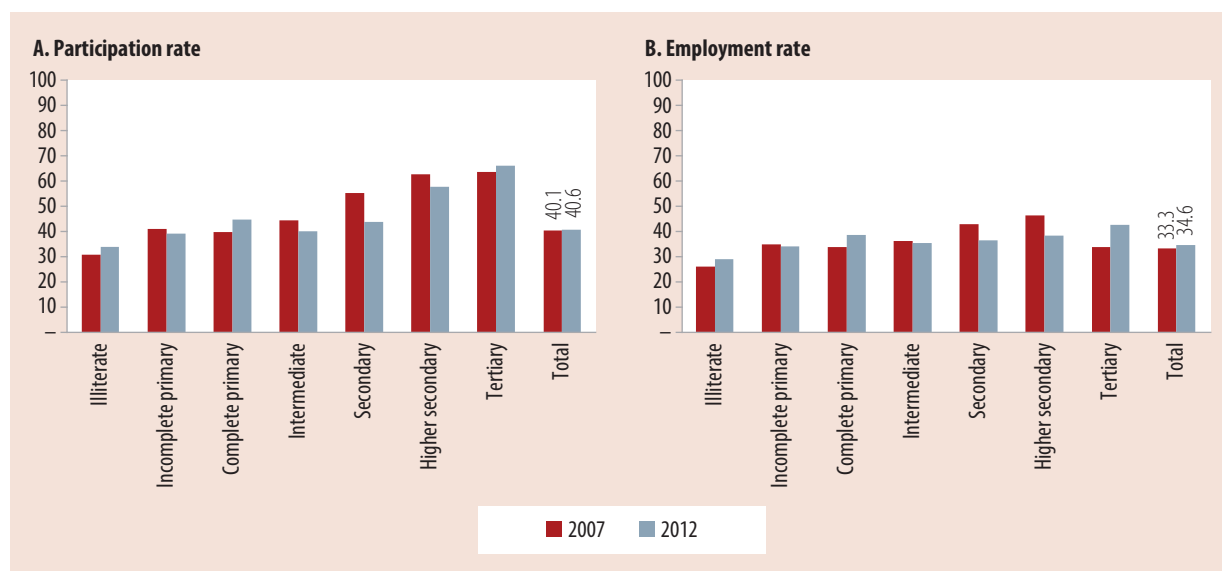
FIGURE 146: Private and Public Jobs: Gaps on Hours of Work Per Day

Source: Authors' calculations, IHSES 2007 and 2012.

percent for illiterate individuals to 66 percent for those with tertiary education (Figure 147 panel A).

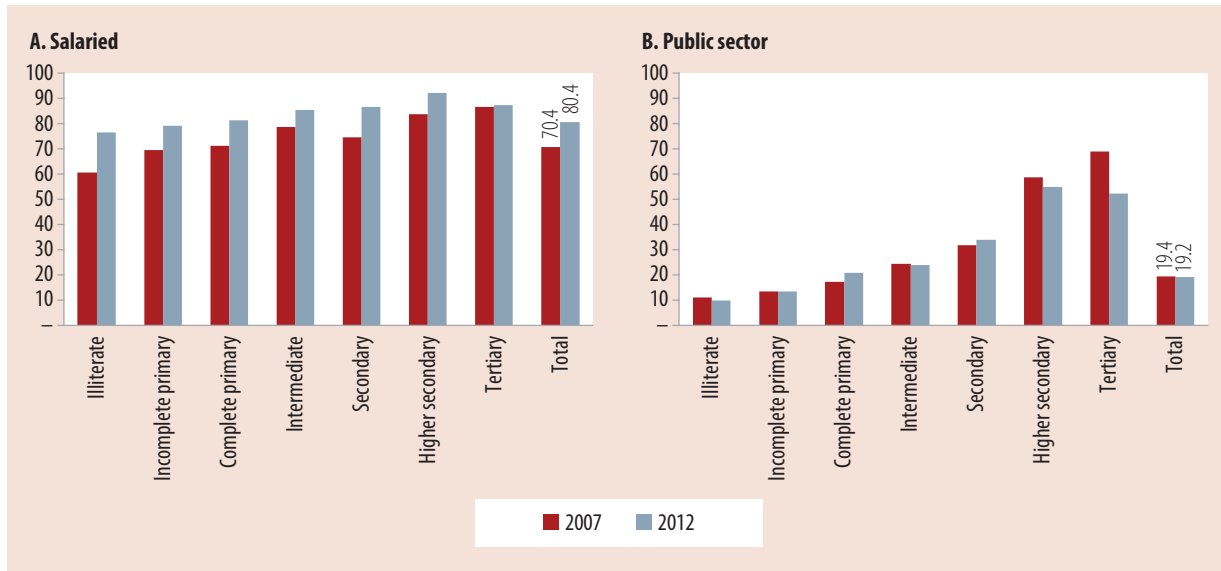
Given these low participation rates, it is not surprising to find low levels of employment among this young cohort. 33 percent of this population found

a job in 2007 compared to 35 percent in 2012 (Figure 147 panel B). Conversely to the participation rate, the employment rate does not vary much by education. This implies much higher unemployment rates among the highest educated youth. In 2012, unemployment rises to almost 25 percent

FIGURE 147: Youth Participation and Employment Rates, by Education Level

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 148: Type and Sector of Work, by Education Level



Source: Authors' calculations, IHSES 2007 and 2012.

among youth with tertiary education in comparison to about 5 percent for illiterate.

The majority of employed youth were engaged in salaried jobs irrespective of their level of education. In 2007, salaried employment accounted for 70 percent of all employed youth with a variation of 20 percentage points between the lowest and highest education level. In 2012, the share of salaried employment increased at all levels of education (or in other words, self-employment increased) except tertiary (Figure 148 panel A). Salaried workers consist of two distinct groups, public and private workers, with public sector jobs making up a fifth of salaried employment. The former has remained at almost 20 percent over the five year period. Between 2007 and 2012, there was a 17 percentage point decrease in the share of tertiary educated workers employed in the public sector; but since their share in the youth population is so small, the overall rates of public sector employment remain largely unchanged (Figure 148 panel B).

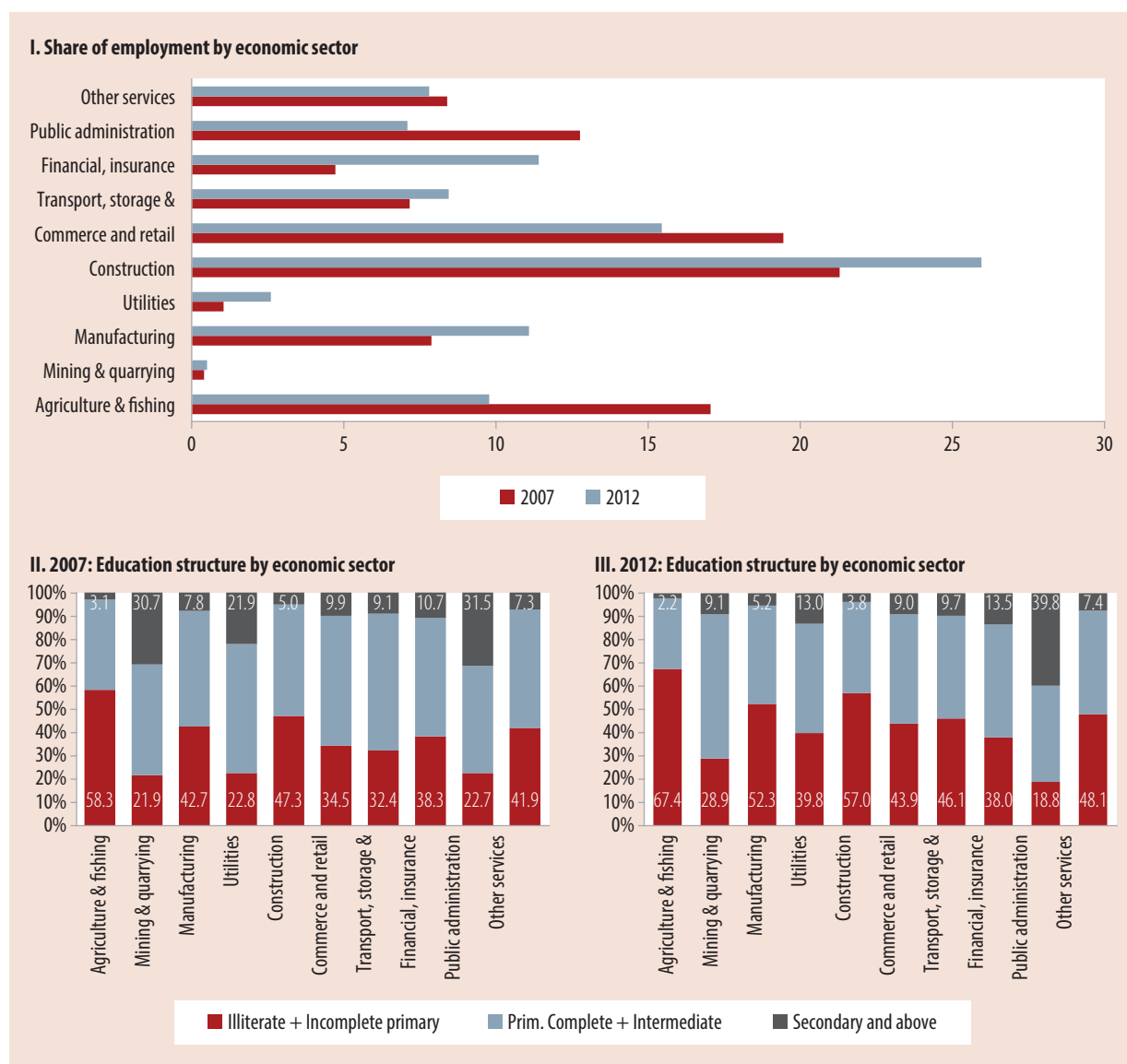
Between 2007 and 2012, the youth have moved out mainly from Agriculture, Public Administration and Commerce to Construction, Manufacturing and

Financial, Insurance and professional services (Figure 149 panel A). As a result of this sectoral shift among the youth, the education levels within each sector have remained largely unchanged, with the most educated youth are still being employed in services and the less educated are absorbed mainly by Construction (Figure 149 panels B and C). However, average education levels within the public administration and mining sectors has increased, with more young workers having relatively high education.

What contributes to labor force participation among youth?

To investigate the hypothesis that youth labor force participation rates are low because youth are queuing for a job in the public sector, we calculate the marginal effects of the probability of being active conditioned on several individual and household characteristics of the young population for 2007 and 2012. We find that an increase of one percentage point in the public employment rate of the governorate where the individual was born contributes to a significant reduction (around 50 and 40 percent for 2007 and 2012 respectively) in the participation

FIGURE 149: Sectors of Employment, Youth



Source: Authors' calculations, IHSES 2007 and 2012.

rate among the youth, keeping everything else constant (Table A 6.1).⁴³

Being born in a governorate where the public sector contributes a larger share of the jobs in the local economy relative to other governorates creates disincentives to participate in the labor market among the youth. To illustrate by how much the public employment rate affects the labor participation of this cohort, we calculate the probability to participate by education level considering three levels of

public employment rates: minimum or low, mean and maximum (Figure 150).

These graphs provide clear evidence in favor of the hypothesis that youth queue for a job in the public sector independent of their education level. Both

⁴³ To avoid problems associated with the endogeneity of migration, we use the jurisdiction of birth rather than that of current residence to calculate the relevant public employment rate as Asaad (2013)

FIGURE 150: Youth Participation Rate by Public Employment Rate in the Governorate of Birth

Source: Authors' calculations, IHSES 2007 and 2012.

graphs show on the one hand, that the probability to participate in the labor market increases with the level of education of the young independent of the share of public employment. For instance, in 2012, around 40 percent of the youth with less than intermediate level education were willing to participate in the labor market if they were born in a governorate with low public employment rate. These participation rate levels increase to 70 percent for youth with higher secondary or more in similar governorates.

On the other hand, the higher the share of employment in the public sector, the lower the participation rates among the youth irrespective of their level of education. For example, the participation rate among those with tertiary education decreases 30 percentage points (from 70 to 40 percentage) if the youth were born in a governorate with low public employment rates relative to a governorate with high rates of public employment. In other words, the bigger the public sector, the higher the disincentive to participate among the youth.

We also note that there are other factors which contribute to lower labor force participation among youth. For instance, having another household

member working in the public sector as well as living in urban areas, in households where the net income is relatively high and where the household head has more than incomplete primary education; reduces the probability to participate in the labor market.⁴⁴

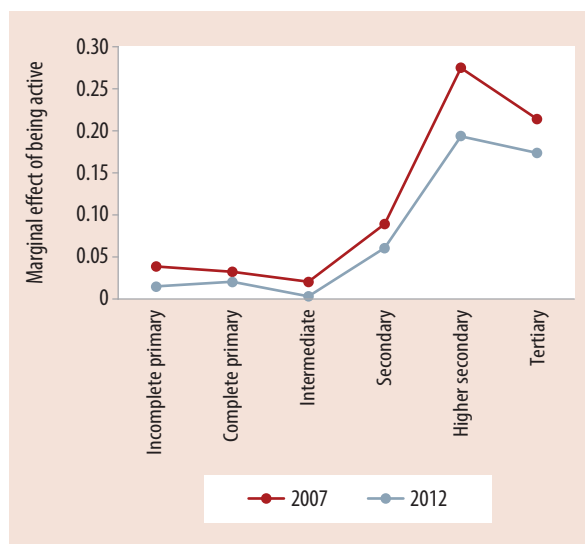
On the other hand, there are many factors which encourage youth labor force participation in 2007 and 2012. Among these, we find that being male increases participation significantly by about 70 percent for both years. Being relatively older and living in a rich governorate increases the probability by about 3 and 8 percent respectively. The individual's level of education also has a positive effect on the probability to participate. The higher the education level, the higher the impact on participation, ranging from 5 up to 20 percent higher with respect to being illiterate (Figure 151).

Female Participation in the Labor Force

Only 15 percent of adult Iraqi women of working age participate in the labor force; well below the already

⁴⁴ Net income includes labor income from other household members and from non-labor sources.

FIGURE 151: Marginal Effects of Being Active – Youth Population by Education Level



Source: Authors' calculations, IHSES 2007 and 2012.

low rates of female labor force participation in the Middle East and North Africa region of around 25 percent. The share of women aged 25 to 64 who are either employed or actively seeking work has remained stagnant between 2007 and 2012. Participation varies sharply by education. Among adult women with intermediate or lower education, labor force participation rates are below 10 percent. With secondary education, these rates more than double to 24 percent, and increase six-fold with secondary and tertiary education. Well educated Iraqi women are therefore at least six times as likely to work or to be looking for work compared to the vast majority of Iraqi women (Figure 152 panel A).

This pattern is almost entirely reflected in employment rates for adult women. Almost all of labor force participation comprises of employment, with negligible rates of unemployment at each level of education. Less than 10 percent of women with intermediate education or less are employed, but almost 60 percent of women with higher secondary or tertiary education work. However, there has been an 8 percentage point decline in employment among the most highly educated women between

2007 and 2012 (Figure 152 panel B). Consequently, the most educated women also have the highest rates of unemployment of around 5 to 6 percent.

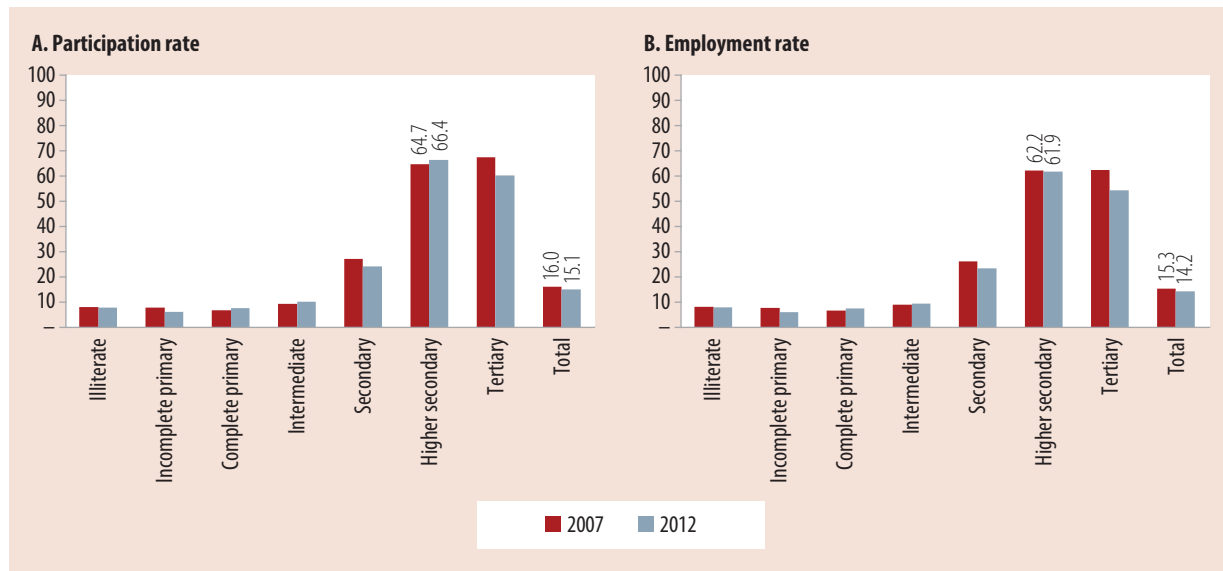
Overall, 70 percent of employed women work in salaried employment (Figure 153 panel A). Among the few less educated women who work, the majority are self-employed: about a third of women with primary education or less work in salaried jobs. In contrast, with higher education, the likelihood of working in a salaried job more than doubles: for instance, almost all employed women who have secondary or higher education are employed in a salaried job. This pattern is driven by differences in access to public jobs by education level. Almost two-thirds of employed women work in the public sector, varying from around a fifth of women with primary education or less to almost all employed women with secondary or higher education (Figure 153 panel B).

Between 2007 and 2012, adult women have moved primarily from the public administration, health and education services sector, which still employs 40 percent of women, to mostly public sector jobs in financial, insurance and professional services, and private sector jobs in commerce and retail. In addition, there was a small decrease in employment in agriculture (Figure 154 panel A). Almost all women who work in agriculture have low levels of education; in contrast, almost 90 percent of women employed in the public administration sector have secondary and higher education. As a result of shift in women's employment towards financial services and commerce, the share of highly educated women in the former has come down, whereas the share of highly educated women in commerce has increased (Figure 154 panels B and C).

What contributes to labor force participation among adult women?

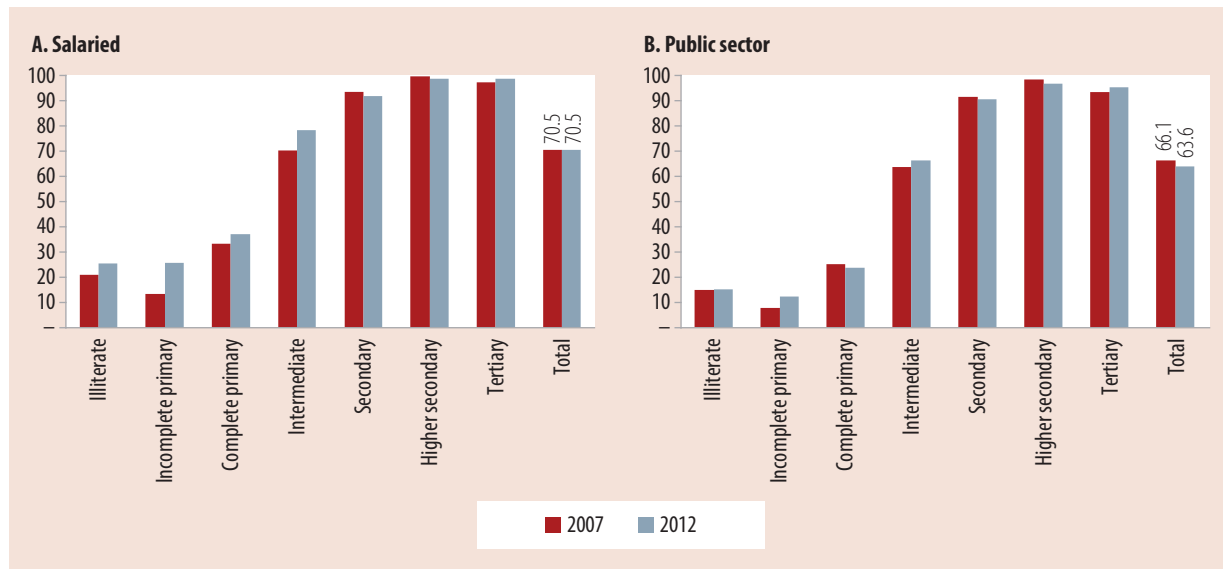
As in the case of the youth, we analyze how the public sector affects adult female participation in the labor market. To do so, we consider women between

FIGURE 152: Participation and Employment Rates, Adult Women



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 153: Type and Sector of Work, Adult Women

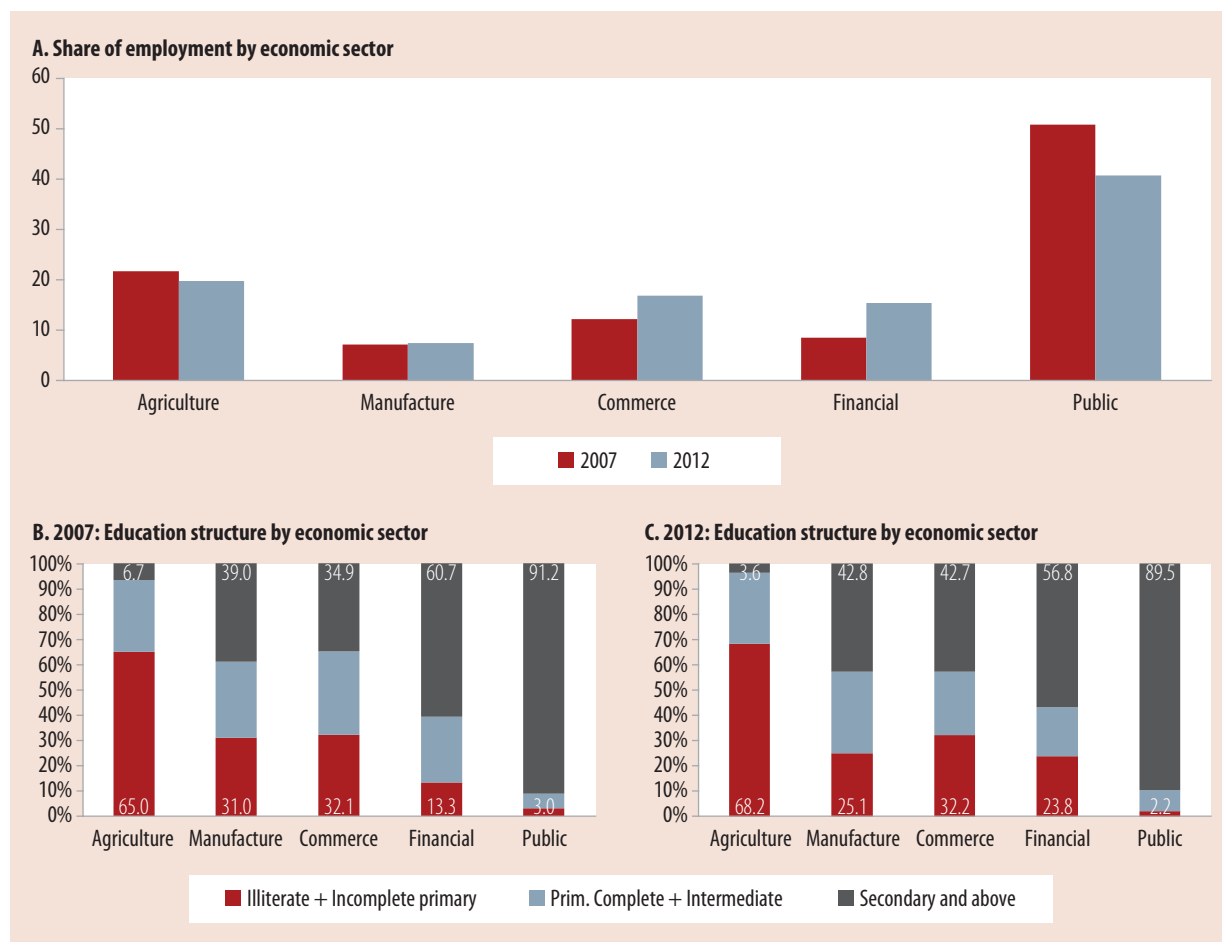


Source: Authors' calculations, IHSES 2007 and 2012.

25 and 64 years old and we divide them into two groups accordingly to their marital status: currently married and non-married (including single, widowed and separated); and skill level: less educated—less than primary complete, and highly educated—more than primary complete. This results in four mutually exclusive groups. We find that an increase of one

percentage point in the public employment rate of the governorate where the woman was born would contribute to a significant reduction, in general about 30 percent, in her participation holding everything else constant (see Table A 6.2 and A 6.3). The exception to this result is married women with high education levels in 2012. One possible explanation

FIGURE 154: Economic Sector of Employment, Adult Women



Source: Authors' calculations, IHSES 2007 and 2012.

of this is that the overall improvement in economic conditions over the last five years may have increased the pool of highly educated women who were also competing for the relatively scarce number of public sector jobs. This is measured through the negative coefficient on the local labor supply measure. At the same time, the opportunity cost of working appears to be increasing for these women. This is captured by the stronger relationship of having children on the decision to participate.

In general, the higher the net income, the lower the participation rate among women. We also note that the presence of another member employed in the public sector acts as a disincentive to participate for less educated women. However, for highly educated

women who are more qualified for public sector jobs, this effect acts as an incentive to participate possibly because of better access to networks and connections to get these types of jobs.

Among the factors that contribute to higher labor force participation, we find evidence that social and gender norms within the household, which are measured by the presence of a working woman in the household, matter. This factor increases the labor force participation by at least 10 percent. The decision to participate is unaffected by the education of the spouse or the household head. Finally, own education independently promotes the labor force participation even after controlling for a range of household and individual characteristics.

Male Participation in the Labor Force

More than four-fifth of adult Iraqi men of working age are either employed or actively looking for work. While these rates of labor force participation are much higher than those among adult women and have remained almost stagnant between 2007 and 2012. Unlike for women, male labor force participation rates are on average higher among the less educated than among the better education. For instance, in 2012, while 87 percent of men aged 25 to 64 participated in the labor force, this drops 10 percentage points among illiterate educated men and increases to more than 90 percent among secondary educated men (Figure 155 panel A).

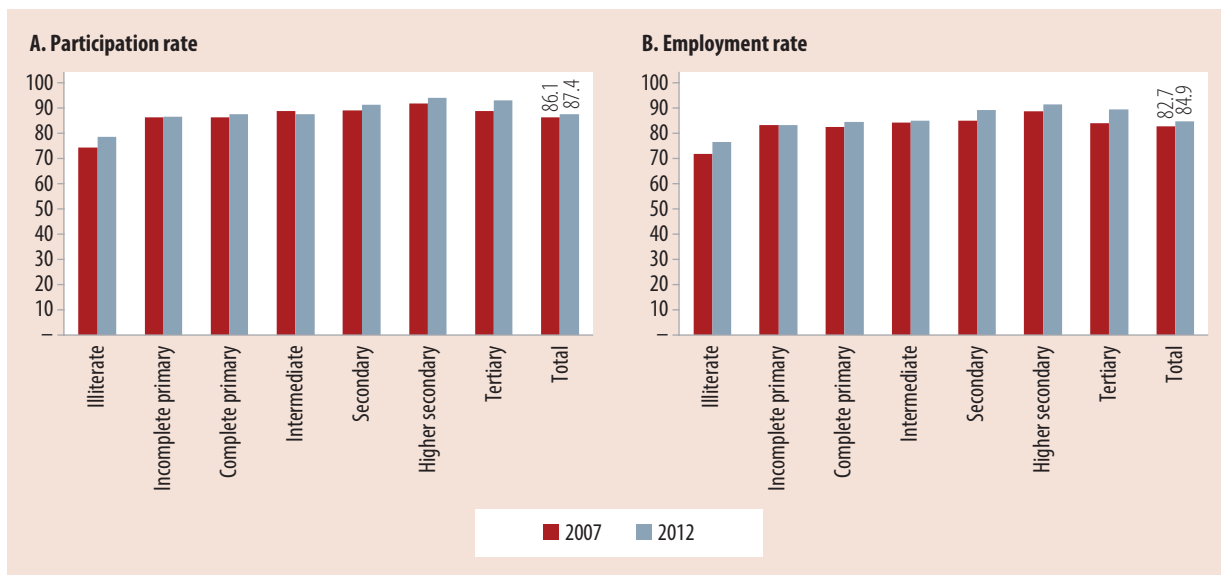
As with women, the variation in labor force participation by education is reflected in employment rates at different levels of education. Overall, 85 percent of adult men are employed, a rate that varies from 70 percent among the less educated men to 90 percent among men with tertiary education (Figure 155 panel B).

More than 70 percent of employed men work in salaried employment, which represents an increase of 6 percentage points relative to 2007 (Figure 156

panel A). A majority of men work in salaried employment at each level of education, and the share of self-employment has fallen at each level of education between 2007 and 2012. At the highest levels of education, more than four-fifths of employed men work in salaried jobs. Unlike for women, this is not entirely driven by public sector employment, except for the highly educated. While the share of employment in the public sector has increased across education levels, less than 50 percent of men with secondary education in the public sector. In contrast, 70 percent of tertiary educated men work in the public sector. However, on average, 58 percent of adult men are employed in the private sector; driven by a greater dependence on the private sector as a source of employment among the majority of adult men who have relatively low levels of education (Figure 156 panel B).

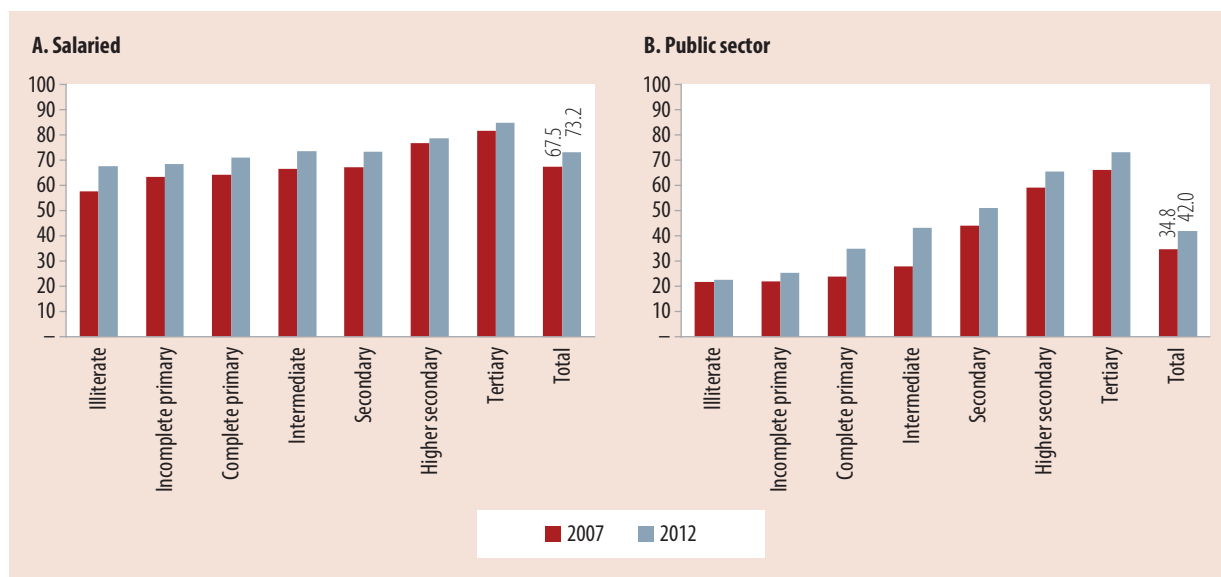
In 2012, three sectors—commerce and retail, public administration, health and education; and financial, insurance and professional services—together accounted for almost half of all employment for men (Figure 157 panel A). Between 2007 and 2012, adult men have moved away from agriculture, commerce and retail and public administration, predominantly

FIGURE 155: Participation and Employment Rates, Adult Men



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 156: Type and Sector of Work, Adult Men



Source: Authors' calculations, IHSES 2007 and 2012.

into the financial services sector, which has almost doubled its share in male employment to 15 percent.

The majority of male workers in agriculture and construction are less educated: more than 80 percent of male workers have intermediate or lower education. In contrast, more than half of male employees in mining and public administration have secondary or higher education levels. With the shift towards male employment in the public sector-dominated financial services sector, the average education level in this sector has come down, suggesting that these new jobs attracted relatively less educated men (Figure 157 panel B and C). A similar trend is noticeable in the utilities sector, which is also predominantly public sector.

What contributes to labor force participation among adult men?

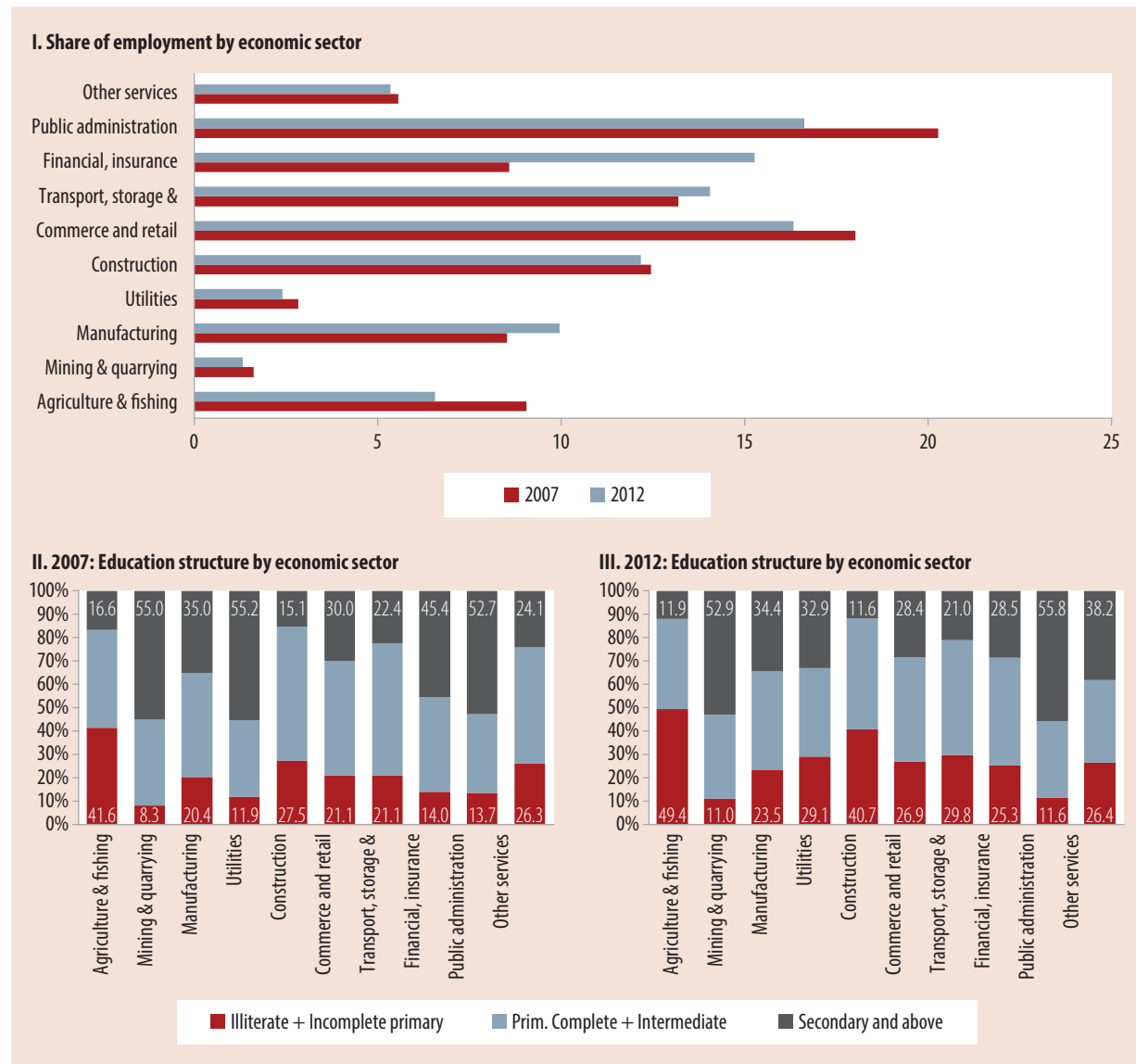
The expansion of jobs was led by the public sector, which accounts for more than 40 percent of adult male employment. We now explore whether queuing for public sector jobs inhibits adult male participation. In order to do so, we estimate the likelihood to participate in the labor market for this cohort

conditioned on several individual and household characteristics. The results show that being born in a governorate with high public employment rates is a powerful disincentive to participate in the labor market, lowering it by almost 30 percent (Table A 6.4).

Another factor that operates in the same direction is higher levels of household net income which reduces by almost 4 percent the likelihood of participating in the labor market. In other words, the higher the household net income, the lower the necessity to work or look for work for adult men. As expected, older men, living in urban areas, in richer governorates, head of household, married and with high levels of education have higher labor force participation rates.

At a time when labor market outcomes have exhibited very little dynamism, the primary mover in the labor market has been the public sector. But irrespective of the group of analysis, the presence of a large public sector in the local labor market has acted as a significant deterrent to labor force participation, which has potentially further weakened the relationship between economic growth and employment.

FIGURE 157: Sector of Economic Activity, Adult Men



Source: Authors' calculations, IHSES 2007 and 2012.

What Explains Differences in Earnings?

At the same time, another dimension in which the public sector affects the labor market in the medium term is through distorting the incentives to invest in education by catering to certain fields of study that may be irrelevant to the private sector. To provide some evidence from the demand side on this particular problem, we use the 2011 Iraq Enterprise Survey (BES), which collects information over almost

1000 firms across the country.⁴⁵ The BES is a nationally representative, firm-level survey conducted periodically by the World Bank Group in the developing world. It collects data from non-agricultural, private-owned, registered firms with more than 5 employees. The survey covers a broad range of business environment topics including investment as well as their balance sheets and performance

⁴⁵ The BES was collected in Iraq between March 2011 and October 2011.

measures. Given that this survey is representative at the national level, it is ideal for obtaining a broader picture of the investment environment in Iraq.

The BES finds that one of the major business constraints is inadequately educated labor force. 34 percent of the firms identified this as a major constraint, which is almost 13 percentage points higher than the average in the region and 7 percentage points higher than among all countries (Figure 158). This could be a reflection of an important supply side challenge for the growth of the private sector. Iraq's private sector also faces a range of other challenges to growth and job creation (See Box 4 for the main findings from the 2012 Investment Climate Assessments).

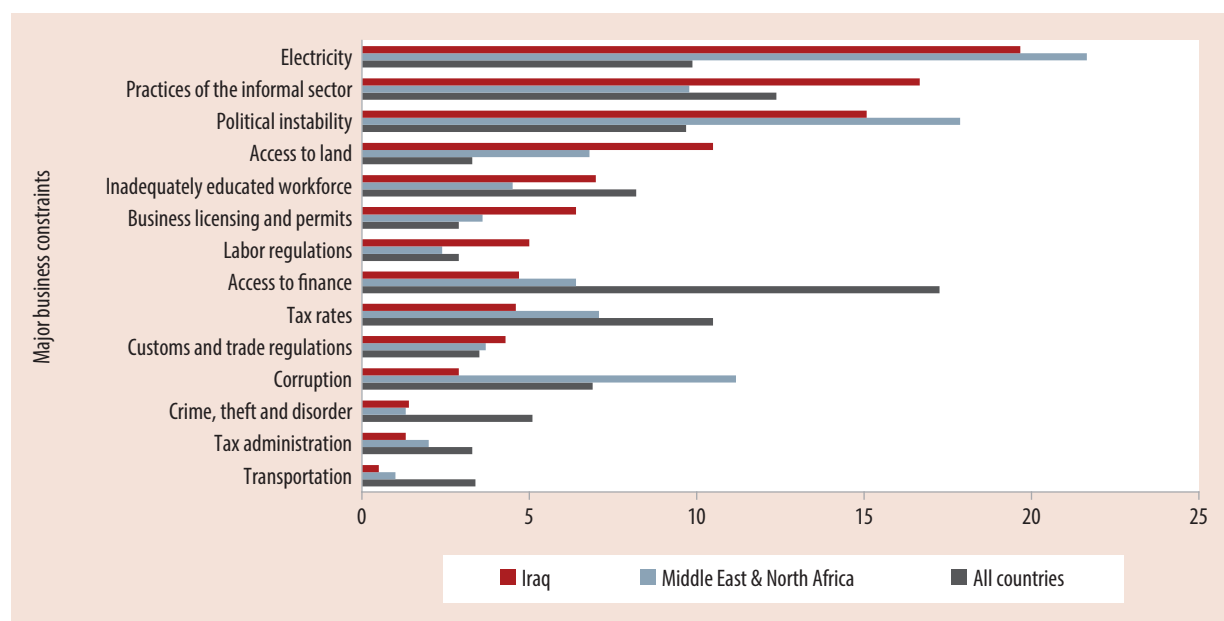
Earning functions for the Iraqi labor market are estimated in order to understand the factors that account for differences in earnings levels and growth rates. As expected, the main factors include sector of occupation, education, experience and geographic location. Even though the educational structure of the Iraqi working age population has not significantly changed over the last five years; the returns to education have increased for all workers. However,

there are significant differences in how these returns have varied across levels of education for male and female workers over time.

We calculate the returns to education for the working-age population (between 15 to 65 years old) by gender in 2007 and 2012. We see that returns have increased significantly for almost all levels of education irrespective of being male or female (Figure 159). However, for males, the gap has been expanding over the last five years in a faster rate than that observed for females (Figure 159 panel A). Note also that the magnitude of differences in returns between low and high educated women is bigger than for men. Moreover, these differentials in returns seem to not have significantly changed for women with less than secondary education but have widened for women with higher secondary or tertiary education. This may be related to labor market segmentation between low and high educated women (Figure 159 panel B).

So far it appears that the labor market is generating the correct incentives to invest in education. However, these dynamics seem to differ in the public

FIGURE 158: Business Constraints



Source: Authors' calculations, World Bank Enterprise Survey, Iraq, 2011.

BOX 4: Doing Business in Iraq – Main Messages from the Investment Climate Assessment 2012

The private sector has limited presence and incentives for its expansion are nearly absent in Iraq. Accordingly to the last Investment Climate Assessment (ICA) for Iraq, this is a consequence of decades of socialist economic policy which have tightly bound Iraq's economy to the state. Although the potential for private sector engagement in post-conflict Iraq is significant, the country's private sector is both under-developed and unsupported. Most private businesses in Iraq are very small and informal, mainly operating in retail and trade, construction and transportation services, as well as in light industry in the textile, food, engineering, and chemicals fields.

The Enterprise Survey suggests significantly higher costs of doing business in Iraq than elsewhere in the region. Respondents to this survey listed *electricity, instability, and corruption* as the three most severe obstacles to doing business in Iraq. The average firm suffered nearly 600 power interruptions per year, with some firms reporting three outages per day. This *unstable power supply* results in significant sales losses. As a reflection of the *political instability* in Iraq, security and crime are also major concerns, with many surveyed firms spending considerably on protection. Note however, that the importance of these problems often varies significantly between regions and sectors. *Corruption* further acts as an economic burden on firms surveyed, with firms reporting that bribes are commonplace, often to smooth frequent inspections from authorities, including government agencies and municipal police forces.

Among other problems identified by this report are the following: *poor access to finance and land*; and *competition* from State-Owned Enterprises (SOEs) and the informal sector. Credit systems and access to finance are severely limited because of the state's long-term dominance. Nearly half of the firms surveyed reported having great difficulty in obtaining financing; fewer than 7% reported having a loan. Some small and micro-enterprises have no access to banks with markedly difficulties for the smaller ones. Firms also reported poor access to land for investment in general caused by widespread government ownership of prime land and inefficient methods of allocation to the private sector. With regard to competition from the informal sector, firms report difficulties confronting competition from unregistered companies, many of which infringe upon the rights of registered businesses, and face lower costs due to their noncompliance with formal rules.

These are few of multiple constraints that private firms faced on doing business in Iraq such as proper transport or access to adequate labor force. It is not surprising that the ICA report emphasizes the fact that The World Bank's Doing Business 2012 Report ends ranking Iraq 164 out of 183 economies. Iraq ranks second to last amongst the economies in the Middle East and North Africa region (MENA), significantly behind regional best performers on a global level such as Saudi Arabia (12), United Arab Emirates (33), and Qatar (36).

Source: Investment Climate Assessment—Iraq, World Bank (2012).

FIGURE 159: Evolution of Returns to Education by Gender



Source: Authors' calculations, IHSES 2007 and 2012.

and private sector labor markets. From the public sector's viewpoint, the incorporation of less educated workers has produced an expected adjustment on their returns relative to highly educated public workers irrespective of gender. Figure 160 shows that there was no significant increase in the returns of the highly educated workers while the less educated ones experienced the opposite relative to illiterate workers. On the other hand, what occurred in the private sector was that the gap was widened significantly only for highest educated males.

The returns to education in the labor market can profoundly affect the decision to invest in education and the level at which education is stopped. When we examine the earnings gains for each additional education level, we see that in 2012 an average male in the working-age population receives 20 percent more in the public sector by having complete primary education relative to being illiterate. However, the premium for getting an additional level is almost negligible thereafter except when he completes tertiary education, when he obtains roughly an additional 11 percent increase (Table 29). The private sector is not as generous as the public sector at lower levels of education and a similar male will

only get 6 percent higher returns for having completed primary school. However, the private sector catches up for the highest educated males by offering similar premiums as the public sector. Note that the private sector pays much less than the public sector irrespective of gender.

A similar story is true for Iraqi women (Table 29). For the few women who are employed, the premium for getting primary school is higher than for males, increasing from 11 percent up to 25 percent relative to illiterate women in the private and public sector respectively. In contrast to their male counterparts, women received an increase again of about 30 percent more by obtaining secondary school irrespective of the sector (Table 29). This would be mainly driven by the types of activities (i.e. secretaries, assistants, etc.) that most of these workers likely perform in comparison to males. The next big jump in women's education premium happens when they get up to tertiary.

Hand in hand with the growth in employment in the public sector, earnings have disproportionately increased among public sector employees, from already high levels compared to the private sector. At

FIGURE 160: Evolution of Returns to Education by Gender – Public Sector



Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 29: Returns to Education by Gender and Sector – 2012

	Private		Public	
	Male	Female	Male	Female
Incomplete primary	0.0136	0.0610	0.108***	0.199
Complete primary	0.0635***	0.116	0.189***	0.253**
Intermediate	0.0691**	0.170	0.196***	0.175
Secondary	0.129***	0.405	0.225***	0.509***
Higher Secondary	0.118**	0.275	0.247***	0.728***
Tertiary	0.354***	0.902***	0.356***	0.773***

Source: Authors' calculations, IHSES 2007 and 2012.

the same time, between 2007 and 2012, even private sector workers experienced an increase in their earnings although they continue to be at a disadvantage in the labor market relative to their public sector counterparts. A private sector worker still earned almost 30 percent less than public workers in 2012, before including other benefits associated with public sector employment. A portion of this difference is likely due to differences in the endowments of public and private sector workers like education levels, experience, among others. In order to understand the factors underlying public/private income differentials, we utilize the Oaxaca-Blinder decomposition method. This approach is typically used in order to disentangle the share of the wage gap attributable to characteristics from the share attributable to an unexplained component (which may be due, in part, to discrimination). In the Iraqi context, the most problematic assumption of this approach is the failure to recognize the potential for deep segmentation between the kinds of jobs that public and private workers perform. Construction of counterfactuals, i.e. private workers' earnings if rewarded at public prices, may be meaningless if private workers cannot be matched to public workers with similar characteristics. As described in Nopo (2008), failure to recognize this problem implies in overestimation of the unexplained component of the wage gap.

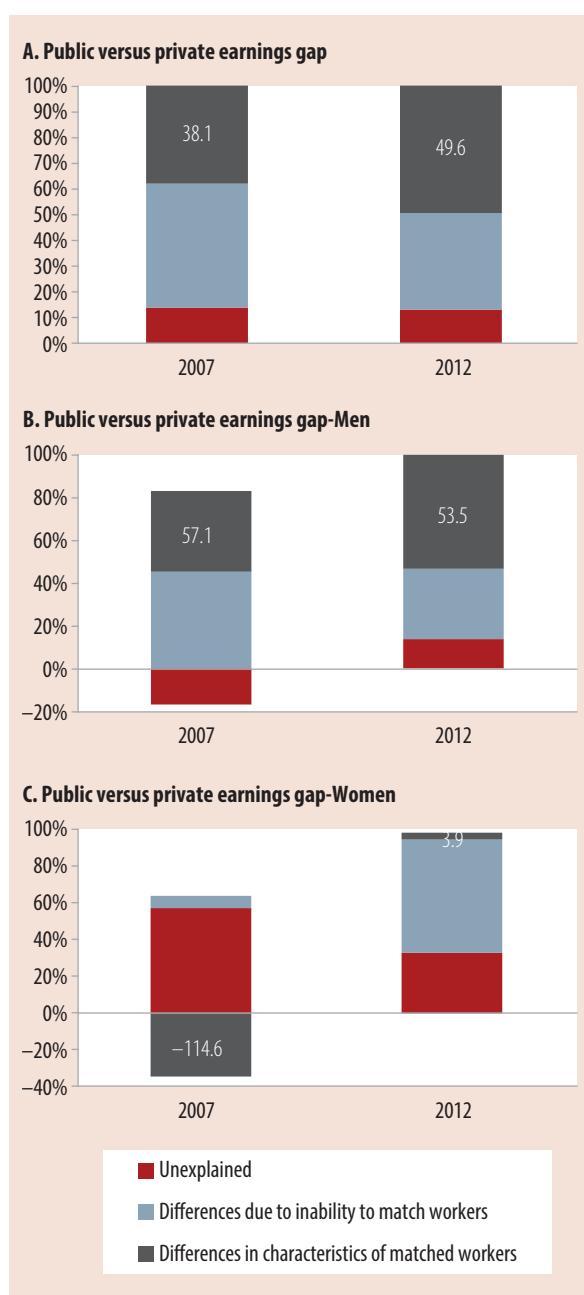
In order to take this problem into account, the earning decomposition is undertaken after “matching” public and private workers that have “similar”

characteristics. Figure 161 panel A shows that, even after controlling for these differences, about 13 percent of the gap remains unexplained in 2012. However, almost 50 percent of the gap is explained by differences in characteristics among similar workers in both sectors. This may reflect the fact that the type of activities performed by private workers demand lower levels of qualification than their public counterparts. This pattern has not changed over the period of analysis.

To disentangle these differences between private and public workers, we performed the same analysis for men and women workers separately. We see that the unexplained factor is the smallest contributory factor for men and the differences in human capital characteristics (education, experience, sector of employment, etc) increases their contribution to almost 60 percent in 2012. In other words, there seems to be no significant discrimination factors that explain differences in earnings between private and public workers for men (Figure 161 panel B), but rather, public sector employees have better characteristics relative to those employed in the private sector.

On the other hand, women seems to be more exposed to labor segmentation between public and private activities given the lack of common support among these types of workers. Figure 161 panel C shows that more than 60 percent of the gap among women is explained by this factor. As we have already seen women with low levels of education are mainly concentrated in private sector activities which are mainly informal (i.e. with almost no access to health insurance or retirement plan) and in economic sectors such as agriculture and commerce that pay much less than their public counterparts. On the other hand, we find that it is the highest educated women who have access to “better” jobs, in terms of access to benefits as well as high levels of earnings; mainly concentrated in public sector.

Another gap relevant to our analysis is the difference between male and female earnings. If there is a significant gender wage gap, so that women with similar characteristics systematically earn less than men

FIGURE 161: Decomposing Differences in Earnings

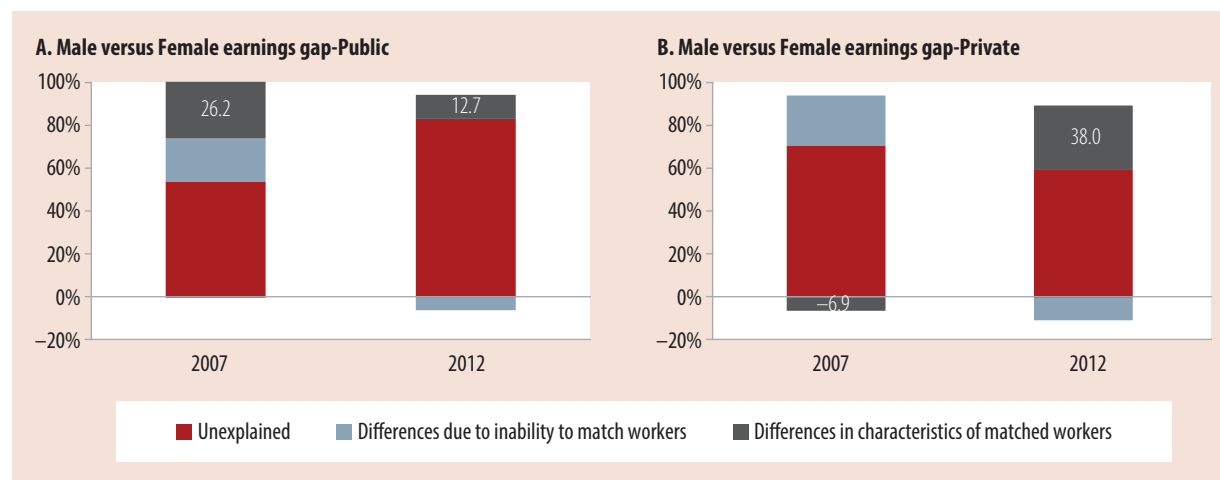
Source: Authors' calculations, IHSES 2007 and 2012.

with similar characteristics, this may be a further disincentive for women to work. We perform two decompositions of the gender wage gap based on the sector of employment: public and private. Men earn a substantial premium in the labor market relative

to women irrespective of the sector they are working in. In general, in 2012, males earned 20 percent more than women if they were working in the public sector. Moreover, in contrast to 2007, when up to 26 percent of the gap could be explained by human capital characteristics, by 2012, the contribution of this factor is less than 13 percent, despite the slight improvement in women levels of education (Figure 162 panel A). The primary reason why women earned less than men is largely unexplained and not attributable to the idea that women lack qualifications for being public servants; perhaps is attributable to discrimination against them. This gender wage gap dramatically increases up to almost 8 times of that observed in the public sector when considering workers in the private sector, which may explain why women who have high enough education work primarily in the public sector (Figure 162 panel B). Again, the main contributor to this difference is the unexplained factor.

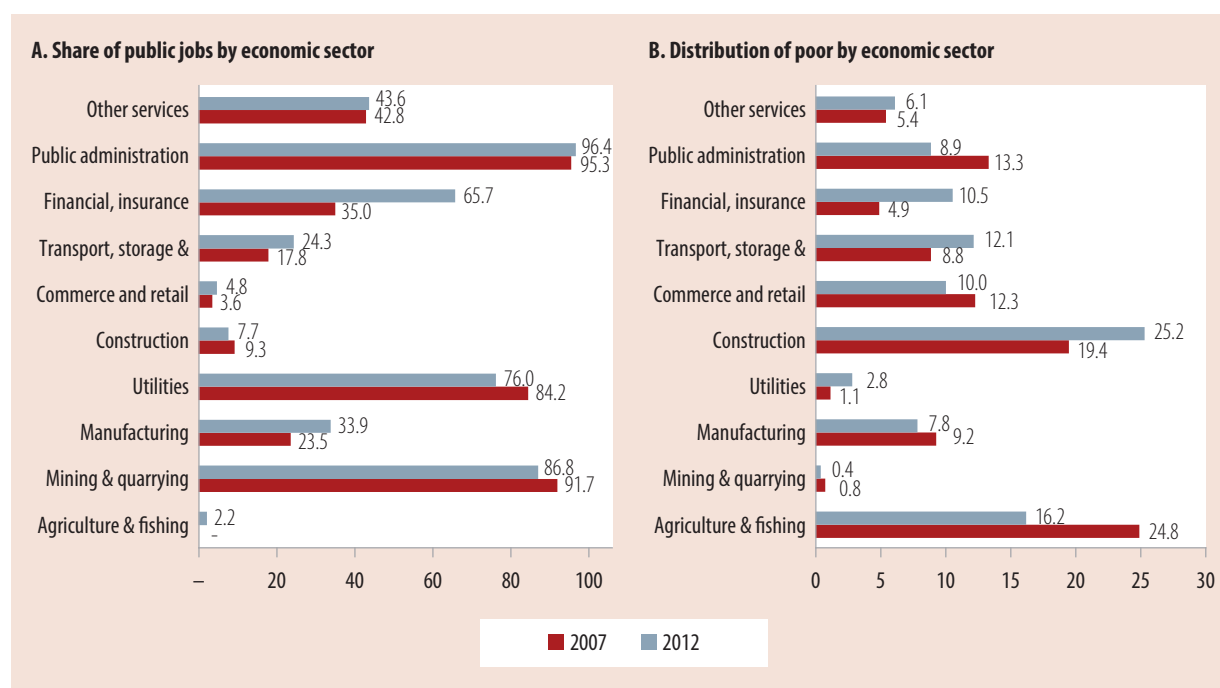
The type of growth generated by Iraq over the last five years has only weakly impacted poverty. The analysis of the previous chapter shows that it was mainly through the increase in labor income rather than with the creation of new jobs that some of the poor jumped the threshold. Throughout this chapter, we also learned that even though the new jobs, which were mainly created by the public sector, are much “better” in terms of hours and benefits, these did not benefit many of the poor. Figure 163 shows that the poor are concentrated in those economic sectors where the public sector generates a smaller share of employment. For instance, one-quarter of the poor work in the construction sector, where 93 percent of jobs are in the private sector. This does not imply more intervention of the public sector in these sectors but the contrary. In fact, the expansion of the public sector has adversely affected the labor market in Iraq by creating economy wide disincentives to labor force participation; inhibiting the development of the private sector; and distorting incentives to invest in education. In the next chapter, we turn to a closer examination on the labor market facing the poor.

FIGURE 162: Decomposing Gender Differences in Earnings



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 163: Evolution of Employment by Economic Sector



Source: Authors' calculations, IHSES 2007 and 2012.

The Labor Market for the Poor: The Rural-Urban Divide

The labor market for the poor looks significantly different from that facing the non-poor in Iraq, and it varies considerably across rural and urban areas. Poverty is not only correlated with lower rates of employment and labor force participation, but also with important differences in the types of economic activities. Comparing urban and rural households, not only are the characteristics of rural households starkly different—larger household sizes and lower educational attainment, for instance—, but even for the same characteristics, poverty rates are much higher for rural households.

In terms of the labor market, the most important headline indicators that distinguish non-poor households from poor households are higher participation and employment rates, and in particular, public sector employment rates. In 2007, 76 percent of the urban poor and 81 percent of the rural poor worked in the private sector, compared with 60 percent and 72 percent of the urban non-poor and the rural non-poor. Over time however, the role of the public sector as a source of employment has increased, especially for the non-poor, but also for the poor. In 2012, 27 percent of the employed urban poor and 22 percent of the employed rural poor worked in the public sector.

The differences in the sectors of employment are only one of the many differences in characteristics between urban and rural households. Rural households have on average much lower levels of education than urban households, and while educational attainment among the urban working age population has remained stagnant

between 2007 and 2012, rural Iraq does not show signs of catching up and continues to lag behind significantly.

The urban labor market and poverty:

Between 2007 and 2012, the employed urban poor became increasingly concentrated in three sectors, in addition to commerce and retail—construction; transport, storage and communication; and financial, insurance and professional services—which together accounted for approximately 58 percent of the urban employed poor. Most of the urban poor work in the private sector. Poverty rates among households with heads employed in the public sector are significantly lower than among other urban households. Households with heads employed in the public sector earn the highest per capita income, driven by the highest per capita labor income, compared to other types of urban households. The results of the Oaxaca-Blinder decomposition method show that households with heads employed in the public sector had on average better characteristics, which were associated with lower poverty.

The rural labor market and poverty:

In terms of the type of employment, the most important change between 2007 and 2012 among rural households has been in the large increase in the share of the rural poor working in salaried non-farm employment rather than in self-employed farm work. There has been a shift away from agriculture among the rural poor: in 2007, 47 percent of the rural poor worked in this sector, compared to 30 percent in 2012.

In 2007, agriculture was the main sector of employment for 27 percent of employed Iraqi women and 10 percent of employed Iraqi men. By 2012, agriculture's share in female and male jobs had fallen to 23 percent for women and 7 percent for men. The bulk of this declining dependence on agriculture occurred in the North, Centre and the South; which all recorded sharp declines in agricultural households accompanied by no change in or decreases in the share of diversified households.

Overall, within the 2007 to 2012 period, rural poverty reduction was driven by households who were diversified—with at least one member employed in agriculture, and at least one working off the farm. Poverty rates fell sharply (almost halved) among diversified households, while there was little change in the welfare of other types of households. The primary reason why agriculture households are poorer than diversified households is largely explained by differences in the coefficients and not attributable to differences in characteristics. Welfare improvements experienced by households who were diversified were limited to Kurdistan, the North and the Centre. In Baghdad and the South, poverty increased for almost all types of rural households.

Overall, poverty reduction has been largely explained by increases in labor income, and over the five year period between 2007 and 2012, new job creation and significant increases in labor earnings have been concentrated in the public sector. Neither employment nor earnings have expanded as fast in the private sector, and in particular in sectors where the poor work. At the same time, while Iraq is a relatively urbanized country, poverty reduction in Iraq between 2007 and 2012 was faster in rural areas, and trends in rural poverty also drove trends in headcount rates within the country. In this chapter, we take a closer look at the labor market for the poor, and examine whether the drivers of poverty reduction were different across rural and urban Iraq, given the differences in the main sectors of economic activity across the country. We also try and understand whether welfare improvements have been accompanied by an improvement in education and labor market outcomes and favorable changes in

demographics or whether welfare improved only for particular types of households, perhaps because the returns to employment in certain sectors improved.

Where do the Poor Work?

Compared with non-poor households, labor force participation rates and employment rates are lower among men and women in poor households. Female labor force participation rates among the rural poor were almost three and a half times higher than among the urban poor in 2007; and although rural female workforce participation has declined by 6 percentage points since then, it is still higher than in urban areas (table 30). While male participation and employment rates are fairly similar among the rural poor and the urban poor, one important difference is the decrease in male participation and employment rates among the urban poor between 2007 and 2012; and the decrease in female participation and employment rates among the rural poor during the same period.

In terms of the type of employment, the most important change between 2007 and 2012 has been in the large increase in the share of the rural poor working in salaried non-farm employment rather than in self-employed farm work. This in turn is reflected in the shift away from agriculture among the rural poor: in 2007, 47 percent of the rural poor worked in this sector, compared to 30 percent in 2012. Instead, the rural poor have shifted into construction (23 percent) and the financial, insurance and professional services sector (9 percent). The urban poor have become increasingly dependent on construction, with 28 percent employed in this sector in 2012; but have also moved to transport, storage and communication (15 percent) and the financial, insurance and professional services sector.

The differences in the type and sector of economic activity notwithstanding, the employed poor are much more dependent on the private sector as a source of labor earnings (Figure 164). In 2007, 76 percent of the urban poor and 81 percent of the

rural poor worked in the private sector, compared with 60 percent and 72 percent of the urban non-poor and the rural non-poor. Over time however, the role of the public sector as a source of employment has increased, especially for the non-poor, but also for the poor. In 2012, 27 percent of the employed urban poor and 22 percent of the employed rural poor worked in the public sector.

Thus, in terms of the labor market, the most important headline indicators that distinguish non-poor households from poor households are higher participation and employment rates, and in particular, public sector employment rates. Within the poor, urban and rural households are employed in different types of economic activity, with an increasing dependence on construction, and to a smaller extent,

on predominantly public sector jobs in the financial sector in both rural and urban areas. In rural areas, agricultural employment has declined sharply among the poor, whereas in urban areas, employment in the commerce and retail sector and the manufacturing sector has decreased among the poor.

Differences in Economic Activity are Only One of Many Dimensions of Differences between Urban and Rural Households

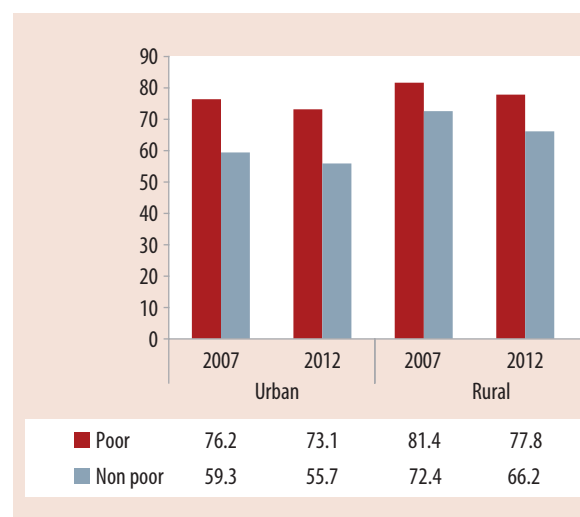
These differences in the sectors of employment are only one of the many differences in characteristics between urban and rural households. Rural households have on average much lower levels of education than urban households, and while educational attainment among the urban working age population has remained stagnant between 2007 and 2012, rural Iraq does not show signs of catching up and continues to lag behind significantly (Figure 165). While there are minor increases in the share of working age individuals in rural Iraq with incomplete and primary education, less than a fifth of the rural workforce has intermediate or higher education (in contrast to 38 percent of the urban workforce).

TABLE 30: Labor Market Outcomes for the Urban and Rural Poor, 2007 to 2012

		Urban poor		Rural poor	
		2007	2012	2007	2012
Labor force participation	Male	74.6	72.7	71.9	69.9
	Female	4.4	3.6	14.8	8.6
Employment to working age ratio	Male	68.2	64.9	65.1	65.6
	Female	3.7	3.2	14.3	8.5
Labor relation	Salaried farm	1.9	0.7	3.7	3.0
	Salaried nonfarm	76.7	81.2	44.3	62.0
	Self-employed farm	2.1	1.8	43.2	26.3
	Self-employed nonfarm	19.4	16.2	8.8	8.7
Sector of employment	Agriculture & fishing	3.9	2.9	46.9	30.4
	Mining & quarrying	1.3	0.3	0.2	0.4
	Manufacturing	14.7	9.6	3.5	6.0
	Utilities	1.4	3.7	0.9	1.8
	Construction	21.3	27.7	17.5	22.6
	Commerce and retail	20.0	13.9	4.1	5.9
	Transport, storage &	9.4	14.8	8.3	9.2
	Financial, insurance	6.4	12.1	3.3	8.9
	Public administration	14.1	8.4	12.4	9.3
	Other services	7.7	6.5	2.9	5.6

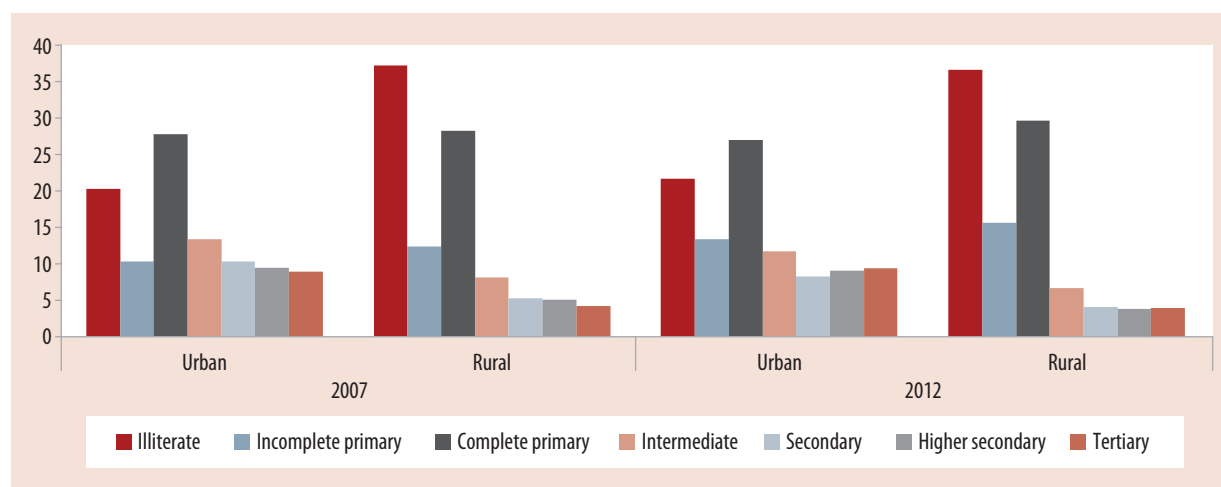
Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 164: Share of Employment in the Private Sector, Urban and Rural, 2007 to 2012



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 165: Education Levels, Working Age Population, Urban and Rural Households, 2007 and 2012



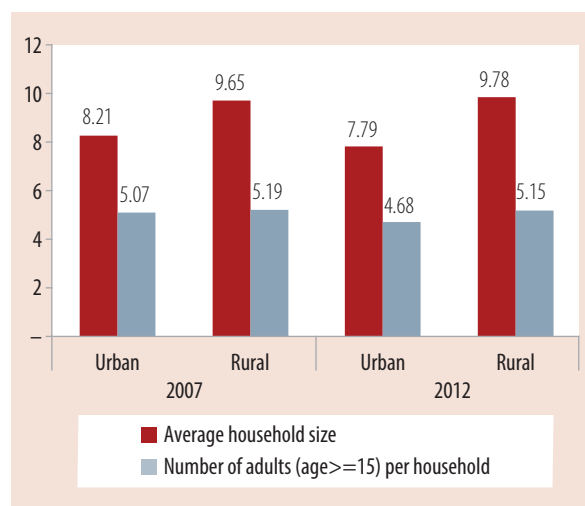
Source: Authors' calculations, IHSES 2007 and 2012.

Rural households continue to be significantly larger than urban households. Moreover, while average household size in urban areas has come down from 8.2 to 7.8 persons, accompanied by a similar decline in the average number of adults aged 15+, average household sizes and the number of adults in rural areas has remained unchanged (Figure 166). At the same time, there has been an increase in dependency

in rural and urban areas, with declines in the share of household members of working age. Finally, this has been accompanied by a decline in the share of household members who are occupied or employed adults (Figure 167).

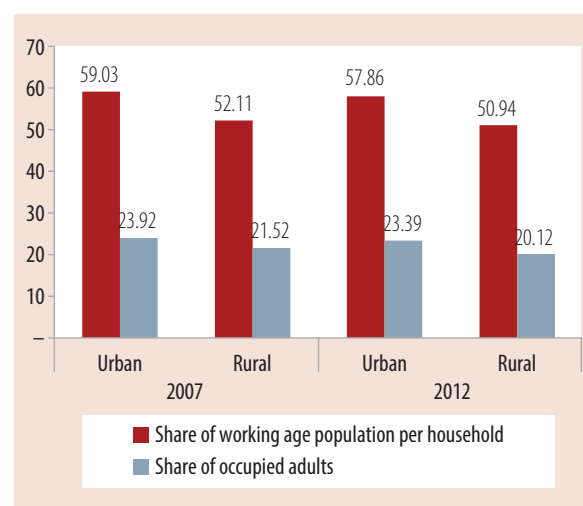
Thus, it appears that demographics have also not been in favor of poverty reduction across Iraq, but especially in rural areas, where dependency has been

FIGURE 166: Household Size and Composition Across Urban and Rural Areas, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 167: Dependency and Employment Across Urban and Rural Areas, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

increasing without a commensurate increase in earning adults. In any case, the rural working age population of Iraq is younger than the urban working age population: in 2012, 41 percent of the rural working age population is between 15 and 25 compared to 38 percent in urban areas; while 16 percent is between 46 and 65 in rural areas, compared to 19 percent in urban areas. This suggests that investments in education and improving labor market outcomes are even more important in rural Iraq, if young entrants into the labor market are to be able to find productive employment and contribute to household welfare.

While the differences between the urban and rural poor in terms of the type and sector of work are large, in terms of household size and composition, as well as the education of working age adults, a typical poor household in rural Iraq in 2012 appears to be more similar to a poor urban household than to a rural non-poor household (Table A 7.1).

The average poor rural household has 11 members, 7 of whom are dependents. Almost 85 percent of heads of households have primary education or less, and more than a third are illiterate. More than 60 percent of the heads of poor rural households are either not employed (32 percent) or work in agriculture (21 percent) or construction (11 percent). A typical non-poor household in rural Iraq is smaller, with 9 members and around 5 children, and 70 percent of heads have primary education or less (with a quarter being illiterate). In terms of the employment status of heads of households, this is somewhat similar to those of poor households in rural areas, with 44 percent being non-employed or working in agriculture; but with 12 percent holding jobs in the public administration sector.

Poor urban households on average had 10 members, 6 of who were children, and with 80 percent of household heads having primary education or less, and 32 percent of heads being non-employed. A similar pattern of larger household sizes, higher dependency, the relative importance of construction and transport as sectors of employment for the poor, and of lower levels of education for the poor is also

evident in urban areas. Urban non-poor households are significantly smaller in size, about 7 members, less than half of whom are children; and with much more educated heads: only 31 percent of heads had less than primary education.

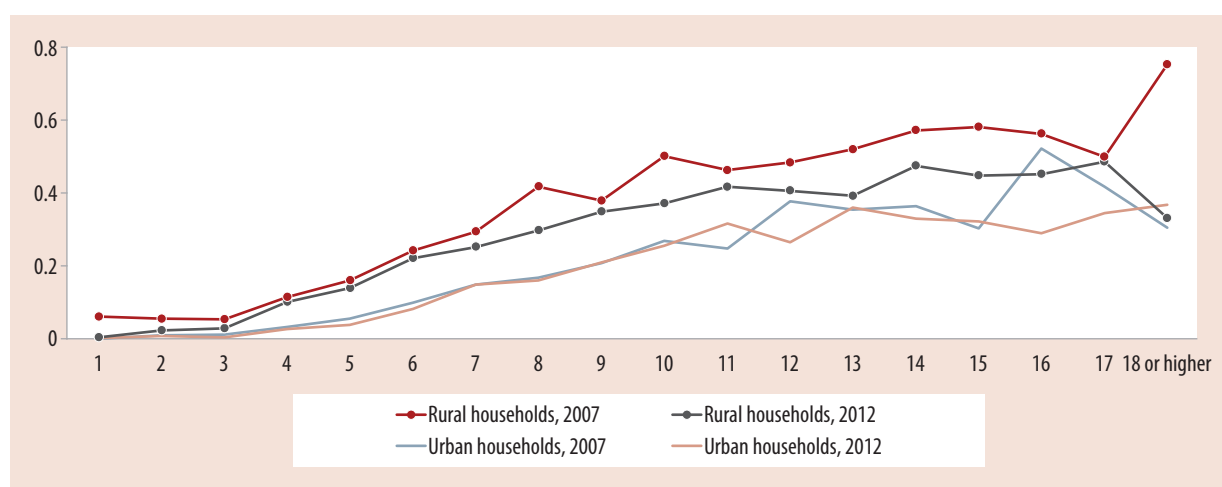
For Any Given Characteristic, Rural Households Face Higher Poverty Rates Than Urban Households

Despite these similarities between urban and rural poor households in terms of their average characteristics, for any given characteristic, headcount poverty rates in rural areas are much higher.

Rural households and poor households are typically much larger in size than non-poor urban households. Headcount poverty rates increase steeply among larger households, but more so in rural areas than in urban areas (Figure 168). Poverty rates among households of 4 or less are around 10 percent in rural areas, less than 3 percent in urban areas. Rural households with 10 or 11 members face headcount rates of around 40 percent, while similarly large households in urban areas experience poverty rates around 10 percentage points lower. Between 2007 and 2012, headcount rates of poverty among large rural households have significantly reduced, while they have remained stable among large urban households.

Poverty also declines starkly with education, especially in rural areas. Between 2007 and 2012, headcount rates have declined at almost every level of education in both urban and rural areas, but at each level of education, poverty is almost double in rural areas (Figure 169). For instance, in 2012, headcount rates among urban households with heads with incomplete primary education were around 15 percent; a little lower than poverty rates among rural households with secondary education. 16 percent of urban households with illiterate heads were poor in 2012, as compared to 32 percent of similar households in rural areas. Note that while education levels of household heads are fairly similar across poor and rural households, the incidence of poverty in rural areas is much higher, irrespective of level of education.

FIGURE 168: Poverty Headcount Rates by Household Size, Urban and Rural Households, 2007 and 2012



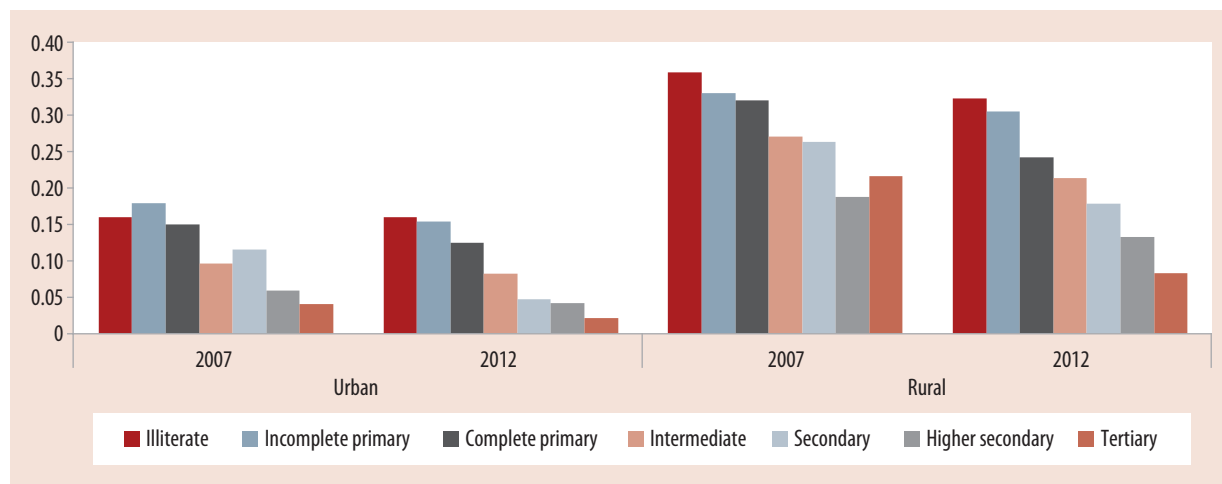
Source: Authors' calculations, IHSES 2007 and 2012.

This pattern is mirrored in the relationship between poverty rates and the household head's employment status. While poverty has declined among households with employed heads in both rural and urban areas, there has been an increase in poverty among rural households with unemployed heads. However, irrespective of the employment status of the head, headcount rates are higher in rural areas (Figure 170). In fact, households with unemployed heads face the highest rates of poverty in urban areas,

24 percent, which is significantly lower than poverty among rural households with employed heads, which is almost 30 percent.

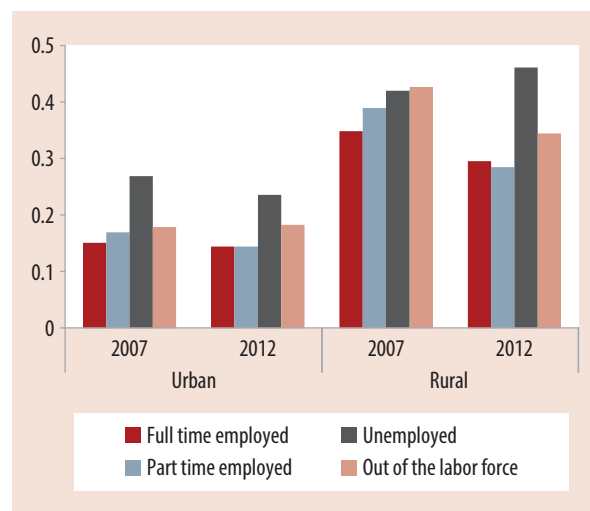
Thus, not only do the rural poor have different types of opportunities for employment, these are also accompanied by large human capital gaps and significant differences in household size and composition compared to the urban poor, each of which is also correlated with lower welfare.

FIGURE 169: Poverty Headcount Rates by Education, Urban and Rural Households, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 170: Poverty Headcount Rates by Employment Status, Urban and Rural Households, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

Next, we examine how these household characteristics correlate with consumption across urban and rural households (Table A 7.2). Among urban households, the relationship between household size, composition and education with consumption are very similar to the national average, and similar to those for rural households (although education has stronger effects in urban areas). In both years, employment in manufacturing, commerce and retail, finance, insurance and professional services, and in public administration, health and education are associated with higher per capita consumption relative to non-employment, whereas construction becomes negatively associated with consumption in 2012. In rural areas, employment in construction is negatively correlated with per capita consumption expenditures in both years relative to households whose heads are unemployed or out of the labor force. The presence of elderly household members in general increases consumption, except among rural households in 2012, perhaps suggesting that pension receipts no longer compensate for the increased dependency rates. Comparing 2007 and 2012, living in a rural area is by and large no longer associated with lower consumption in the governorates where poverty fell. Where poverty

rates increased, however, the negative association between consumption and rural areas has become even stronger between 2007 and 2012.

Table A 7.3 shows the results of multivariate analysis that estimates the marginal effects of these characteristics in predicting poverty and similar patterns are evident there as well. Across both survey years and for urban and rural households, larger household sizes and more children increase the likelihood of poverty. But the marginal effect of having an additional household member on whether the household is poor or not has substantially declined in rural areas, and is now equal in magnitude to that in urban areas. Education of the head of household significantly lowers the odds of poverty. For instance, in 2012, tertiary education reduced the likelihood that an otherwise similar household was poor by 19 percentage points in urban areas and by 31 percentage points in rural areas. It is worth noting that the overall relationship between poverty and education is stronger in rural areas, where education levels are the lowest and has been increasing over time.

Employment for the head of household in the public administration sector significantly reduces the odds of being poor, by 3 to 4 percentage points in urban areas. In rural areas, public administration jobs did not significantly lower poverty risks in 2007, but in 2012, they lower the likelihood that a household is poor by almost 12 percent. In 2012, employment in mining and quarrying and commerce and retail also lowered the risk of poverty for urban households while construction increased the likelihood. In rural areas, in 2012, all sectors of employment except manufacturing, utilities, commerce, finance and public administration had no effect on the likelihood of being poor. Overall, public sector employment—public administration and mining and quarrying in urban areas; and public administration, finance and utilities in rural areas—lower the odds of poverty; however, agriculture and construction, which offer primarily private sector jobs, have a weak relationship with poverty or actually increase the likelihood that the household is poor.

In urban areas, the limited improvement in welfare may be related to the decline in employment rates for men, which may have been counteracted by the prevalence of public sector jobs in mining, utilities and public administration. Moreover, as we show below, public sector employment and the expansion of public transfers, especially pensions, is associated with lower poverty in urban areas. What limited welfare improvements that have occurred have happened without any perceptible improvement in private sector employment and earnings. Among the rural population, despite higher poverty rates at each education level relative to urban areas, poverty reduction has taken place despite any perceptible change in education or in labor market outcomes. Indeed, rural households with employed heads face higher poverty rates than urban households with un-employed heads, in part because two major sources of male employment—agriculture and construction are not associated with lower odds of poverty.

Public Sector Employment, Public Transfers and Urban Poverty

Between 2007 and 2012, the employed urban poor became increasingly concentrated in three sectors, in addition to commerce and retail—construction; transport, storage and communication; and financial, insurance and professional services—which together accounted for approximately 58 percent of the urban employed poor. With the exception of financial, insurance, and professional services, which have become dominated by the public sector, most of the urban poor work in the private sector.

To further understand urban poverty, we therefore consider three types of households: those with heads employed in the public sector, those with heads employed in the private sector; and those with non-employed heads (including heads of household who are not of working age). Figure 172 shows the poverty headcount rates for each of these types of households, the trends between 2007 and 2012, and Figure 173 graphs their contribution to the total urban poor population. Poverty rates among

FIGURE 171: Share of the Urban Poor, by Sector of Employment



Source: Authors' calculations, IHSES 2007 and 2012.

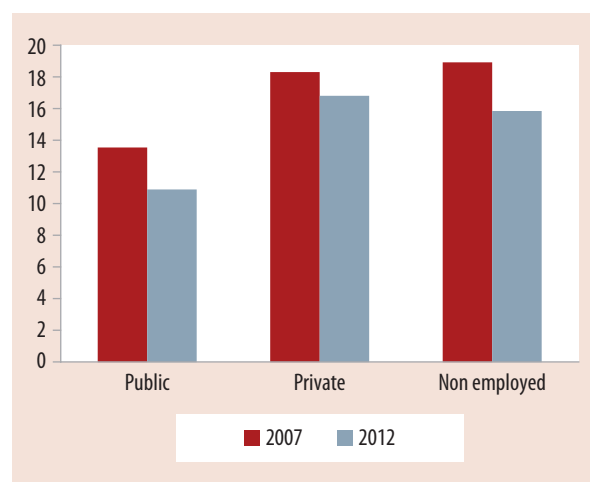
households with heads employed in the public sector are significantly lower than among other urban households, and have reduced from 13.6 percent to 11 percent between 2007 and 2012. While households with heads employed in the private sector and non-employed heads both had relatively high rates of poverty in 2007, the decline in poverty has been sharper among households with non-employed heads—from 19 percent in 2007 to 16 percent in 2012. The bulk of the urban poor, almost four-fifths belong to households whose heads are not employed in the public sector. Overall, though, between 2007 and 2012, the distribution of the urban poor across these categories has changed little.

Households with heads employed in the public sector earn the highest per capita income, driven by the highest per capita labor income, compared to other types of urban households. Between 2007 and 2012, these households have also experienced the largest average increases in per capita labor income. Non-labor incomes on the other hand, have declined over time, primarily because the increase in pension incomes, domestic remittances and other

transfers has not compensated for the decline in implicit incomes from ration receipts. In line with the findings in the previous chapter, welfare improvements among these types of households are probably related to the large and increasing earnings and benefits associated with public sector employment.

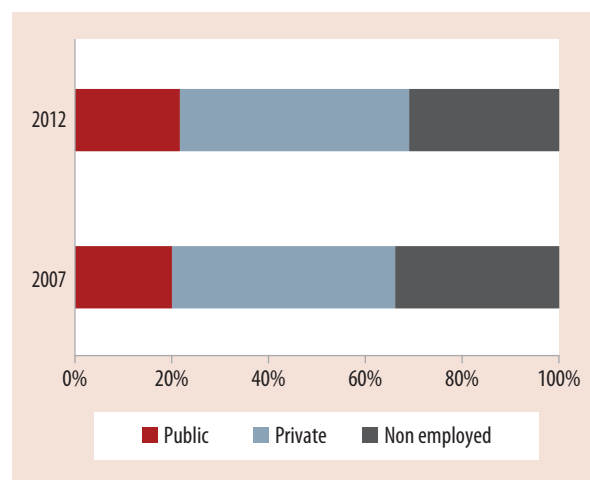
On the other hand, households with non-employed heads have the lowest levels of per capita income

FIGURE 172: Headcount Rates, by Types of Urban Households



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 173: Share of the Poor, by Types of Urban Households



Source: Authors' calculations, IHSES 2007 and 2012.

because of relatively low per capita labor earnings (earned by other household members), and both have grown slowly (Table 32). However, these types of households receive the highest levels of non-labor income, more than twice the levels received by households with public sector employed heads. Moreover, these have increased by 16 percent over the 2007 to 2012 period; compared with a decline in non-labor incomes among households with heads working in the public sector. While ration incomes have declined over time, these have been more than compensated by a 45 percent increase in pension incomes, which now makes up the single largest source of non-labor incomes and a doubling of incomes received as domestic remittances. These types of households therefore, receive much larger public and private transfers compared to other urban households, and have likely allowed household heads to remain non-employed; and the increases in these transfers over time has probably led to the observed welfare improvements.

TABLE 31: Labor and Non-Labor Income, Households with Heads Employed in the Public Sector

Per capita Income by components		2007	2012	Percentage change
Total		158.46	196.85	24.23
Labor		112.10	145.18	29.50
Non Labor		21.16	19.58	-7.46
Imputed Rent		25.19	32.10	27.40
Non Labor Income components	Capital	1.73	1.36	-21.35
	Pensions	2.09	2.75	31.58
	Remittances Intl'	0.73	0.23	-68.86
	Domestic	2.58	3.15	22.12
	Social protection	0.05	0.24	365.29
	Other Transfers			
	Public	2.03	3.39	66.69
	Private	0.35	0.08	-76.56
Rations		11.58	8.35	-27.88
Zakat		0.01	0.03	341.84
Public		15.76	14.73	-6.50
Private		5.40	4.85	-10.24

Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 32: Labor and Non-Labor Income, Households with Non-Employed Heads

Per capita Income by components		2007	2012	Percentage change
Total		141.73	168.62	18.97
Labor		77.23	84.36	9.23
Non Labor		38.00	44.02	15.86
Imputed Rent		26.50	40.23	51.84
Non Labor Income components	Capital	3.76	3.35	-10.98
	Pensions	13.50	19.61	45.28
	Remittances	1.57	0.54	-65.82
	Domestic	4.00	8.01	100.21
	Social protection	0.52	1.49	189.47
	Other Transfers	2.19	1.61	-26.67
	Private	0.49	0.36	-26.68
	Rations	11.90	8.96	-24.70
	Zakat	0.06	0.09	55.26
	Public	28.11	31.68	12.68
	Private	9.88	12.34	24.90

Source: Authors' calculations, IHSES 2007 and 2012.

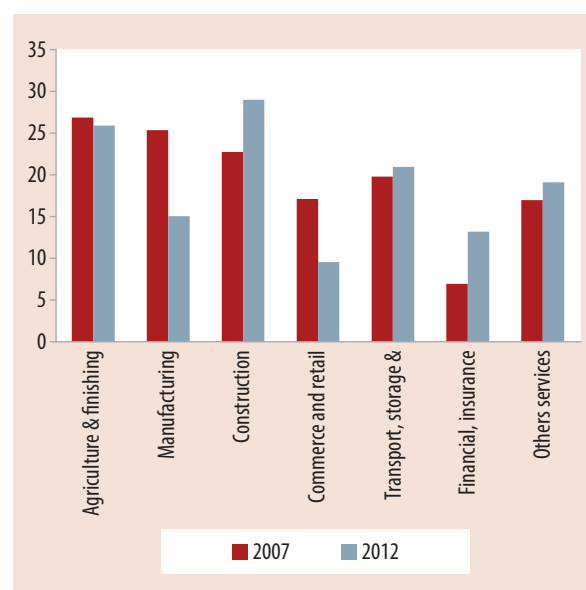
TABLE 33: Labor and Non-Labor Income, Households with Heads Employed in the Private Sector

Per capita Income by components		2007	2012	Percentage change
Total		150.02	181.70	21.12
Labor		104.66	128.46	22.74
Non Labor		22.53	23.63	4.85
Imputed Rent		22.83	29.62	29.74
Non Labor Income components	Capital	1.88	2.29	22.04
	Pensions	3.75	5.55	47.93
	Remittances	0.61	0.29	-51.61
	Domestic	2.38	4.31	80.76
	Social protection	0.26	0.83	221.97
	Other Transfers	1.77	1.62	-8.74
	Private	0.25	0.10	-60.42
	Rations	11.62	8.58	-26.15
	Zakat	0.01	0.05	366.30
	Public	17.41	16.58	-4.73
	Private	5.13	7.04	37.37

Source: Authors' calculations, IHSES 2007 and 2012.

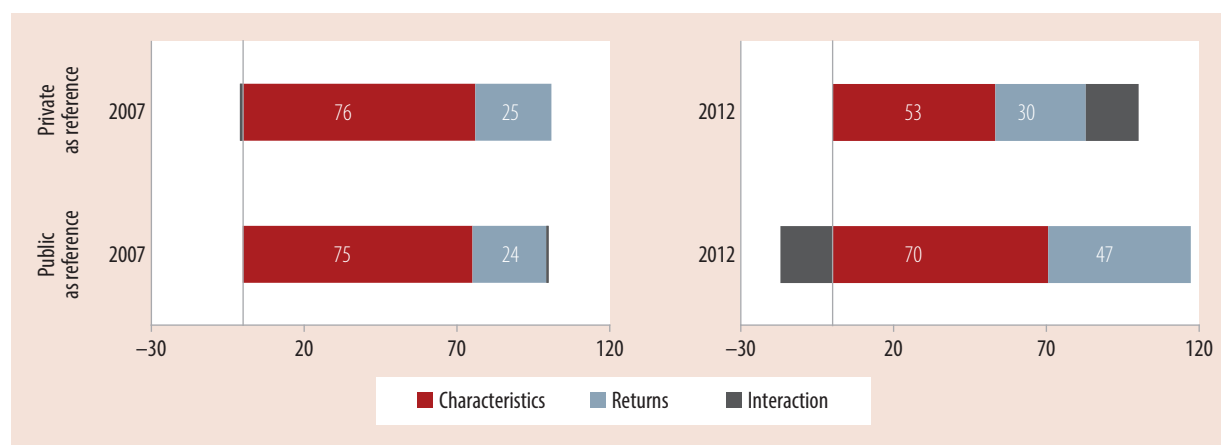
On average, urban households with heads working in the private sector earn lower per capita incomes and per capita labor incomes relative to those with public sector employed heads and higher per capita incomes and labor incomes compared to those with non-employed heads. On average, both have increased by slightly more than 20 percent between 2007 and 2012. However, there has been only a negligible increase in non-labor incomes, as the increase in pensions and domestic remittances has barely compensated for the decline in ration incomes.

Breaking down this aggregate picture by different employment sectors within the urban private sector, Figure 174 shows that headcount rates have significantly increased in the sectors where more of the urban poor are now concentrated—in construction and financial, insurance and professional services. Note that poverty rates have almost doubled among urban households with heads employed in private sector jobs in financial, insurance and professional services. In contrast, poverty has fallen among households with heads working in commerce and

FIGURE 174: Headcount Rates by Employment of the Head (Urban Private Sector), 2007–2012

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 175: Decomposing Differences in Headcount Rates between Private and Public Sector Employed Heads of Household



Source: Authors' calculations, IHSES 2007 and 2012.

retail and manufacturing, both of which now account for a smaller share of the poor than they did in 2007.

Explaining the Differences in Welfare between Public and Private Sector

The vast majority of poor households in Iraq, 70 percent, have employed heads of household. Within these types of urban households, poverty is lower among those with heads employed in the public sector; and these rates have come down faster, by 2.5 percentage points between 2007 and 2012 (as opposed to 1.5 percentage points among households with heads in the private sector). Were these changes driven by differences in endowments or due to other factors? In order to understand the factors underlying poverty headcount differentials, we utilize the Oaxaca-Blinder decomposition method. This approach is typically used in the labor market literature to disentangle the share of the wage gap attributable to characteristics from that attributable to coefficients (which may be due to discrimination).

In this case, we are applying this method to explain the poverty headcount difference between households with heads employed in the private and public sector in 2012. The idea is to quantify the part of that difference explained by differences in characteristics

and the part explained by differences in coefficients (which in this case measure the strength and nature of the relationship between the characteristic and poverty). In order to do that, we estimate the probability of being poor or not on a set of characteristics of the household and household head among others for both types of households in urban Iraq.⁴⁶

The results of this exercise show that in both years, differences in characteristics between these two types of urban households explain the bulk of differences in headcount rates (Figure 175). In other words, households with heads employed in the public sector had on average better characteristics, which were associated with lower poverty. In 2012, in addition, the returns associated with having similar characteristics appear to have become more important, and may explain the faster welfare improvements among households with heads in the public sector. This is in line with the increasing returns on the labor market from public sector employment observed earlier. Next, we turn to the labor market facing the poor in rural Iraq and begin with a brief description of the nature of the agricultural sector, on which so many of the rural poor still depend.

⁴⁶ We use the `nldecompose` command to perform the Oaxaca-Blinder decomposition for non-linear model.

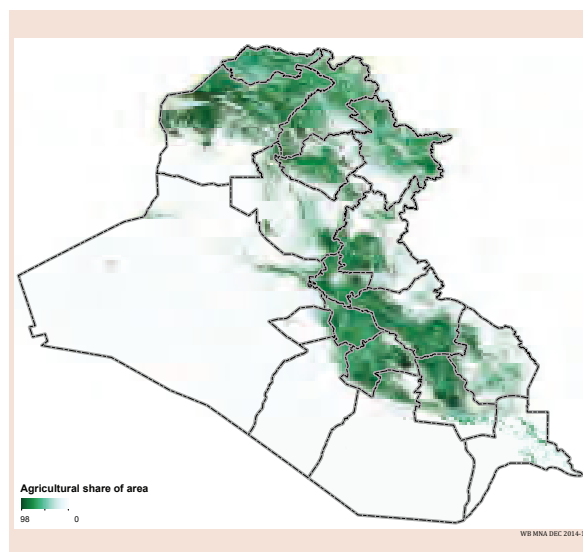
Rural Employment and Agriculture in Iraq, 2007 to 2012

Iraq's historical endowment of agriculture has been steadily and it appears, irrevocably eroding. In 1971, agriculture accounted for 16 percent of value added, around a fifth of GDP and 55 percent of total employment. At the time, it was recognized as a lagging sector, with little investment towards increasing productivity and building the necessary infrastructure. A 1974 World Bank report notes that "agricultural yields, reflected centuries of abuse and neglect of the land, much of which had been allowed to deteriorate to the point of being uncultivable."⁴⁷

During Saddam Hussein's early years, the state attempted to promote private sector investment in agriculture through the distribution of high yielding variety seeds, higher output prices, expanded subsidies to agriculture and heavy investments in irrigation. While area and production expanded throughout the 1980s, cereal yields continued to stagnate.⁴⁸ The Iran-Iraq war diverted labor and investment away from the sector, and caused significant damage to infrastructure in the southern governorates on the border with Iran. Following the invasion of Kuwait by Saddam Hussein, wide-ranging sanctions were imposed, and the inability to export oil severely limited access to imports of food and agricultural inputs. While the introduction of the Public Distribution System thereafter guaranteed some degree of food security to the Iraqi population, it introduced significant disincentives for cereal production, depressing producer prices and private investment.

The establishment of the autonomous Kurdistan region in the early 90s comprising a large part of the northern rain fed agricultural zone was followed by decades of relative peace and stability in the three Kurdish governorates. In the rest of Iraq, agricultural activity runs along and between the Tigris and Euphrates rivers, and is dependent on irrigation. Salinization has historically been a major challenge, given the low and saline water table in this zone, and it became widespread as agricultural services

MAP 2: Percentage of Land Used for Agriculture Per Square Kilometer



Source: Fritz et al. 2011.

and physical infrastructure, especially the irrigation network, were degraded as a result of inadequate maintenance and funding. In the South, the adverse impact on livelihoods was compounded by the massive drainage of the Mesopotamian marshlands in the 90s.⁴⁹

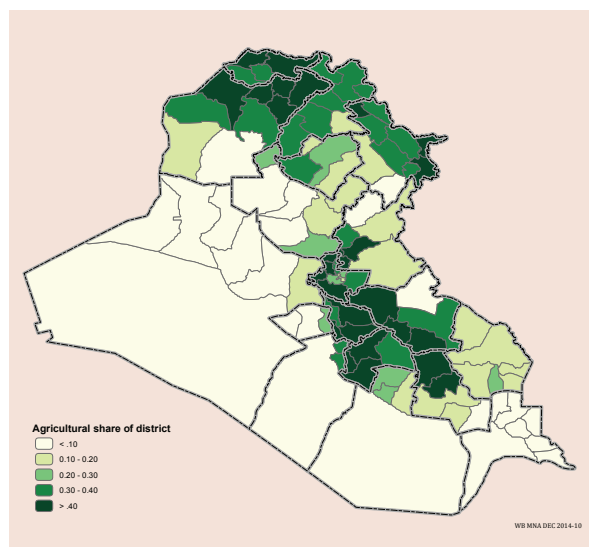
The spatial variation in agricultural activity across Iraq is quantified and visualized below. In order to measure agricultural land use in Iraq, we use the Global Hybrid dataset (0611–2012 V2) produced by Fritz et al. (2011) which estimates the percentage share of land used for agriculture within a one square kilometer pixel (Map 2). By multiplying this percentage by the total pixel area we derive a measure of total agricultural land use area. By aggregating the agricultural area of each pixel we calculate agricultural land use at a district level. This allows us to determine the total share of agricultural land

⁴⁷ World Bank (1974). Current Economic Position and Prospects of Iraq. Report No. 419a-IRQ.

⁴⁸ http://digital.library.unt.edu/ark:/67531/metacrs7073/m1/1/high_res_d/RS21516_2003May13.pdf.

⁴⁹ Joint World Bank FAO Agriculture Sector Note, 2011.

MAP 3: Share of Agricultural Land Use of Total District Land Area



Source: Staff calculations based on Fritz et al. 2011.

use within the total district land area, shown in Map 3, which clearly shows the concentration of agricultural activity in Kurdistan and around and between the Tigris and Euphrates rivers in Baghdad, Diyala, Babylon, Wasit, Kerbala, Qadisiya and Thi Qar.

But agricultural activity can also vary over time, especially as a response to weather shocks and conflict. Below we use a measure of greenness or the intensity or density of vegetation within a district over time, which identifies areas vegetation, including agricultural land and forest cover. The most common measure of greenness is the Normalized Differentiated Vegetation Index (NDVI), which is derived from remote sensing data. The NDVI calculates greenness values between of -1 , (indicating complete absence of vegetation,) and 1 , (indicating the greatest intensity of vegetation).⁵⁰ In this analysis, we use NDVI data constructed by the U.S. National Aeronautics and Space Administration (NASA) Global Inventory Modeling and Mapping Studies (GIMMS) at a bi-monthly frequency between 2003 and 2009 that measure greenness over 8 square kilometers pixels available for the entire area of Iraq (Zhu et al. 2013). From each bi-monthly pixel data, we derive three statistical measurements

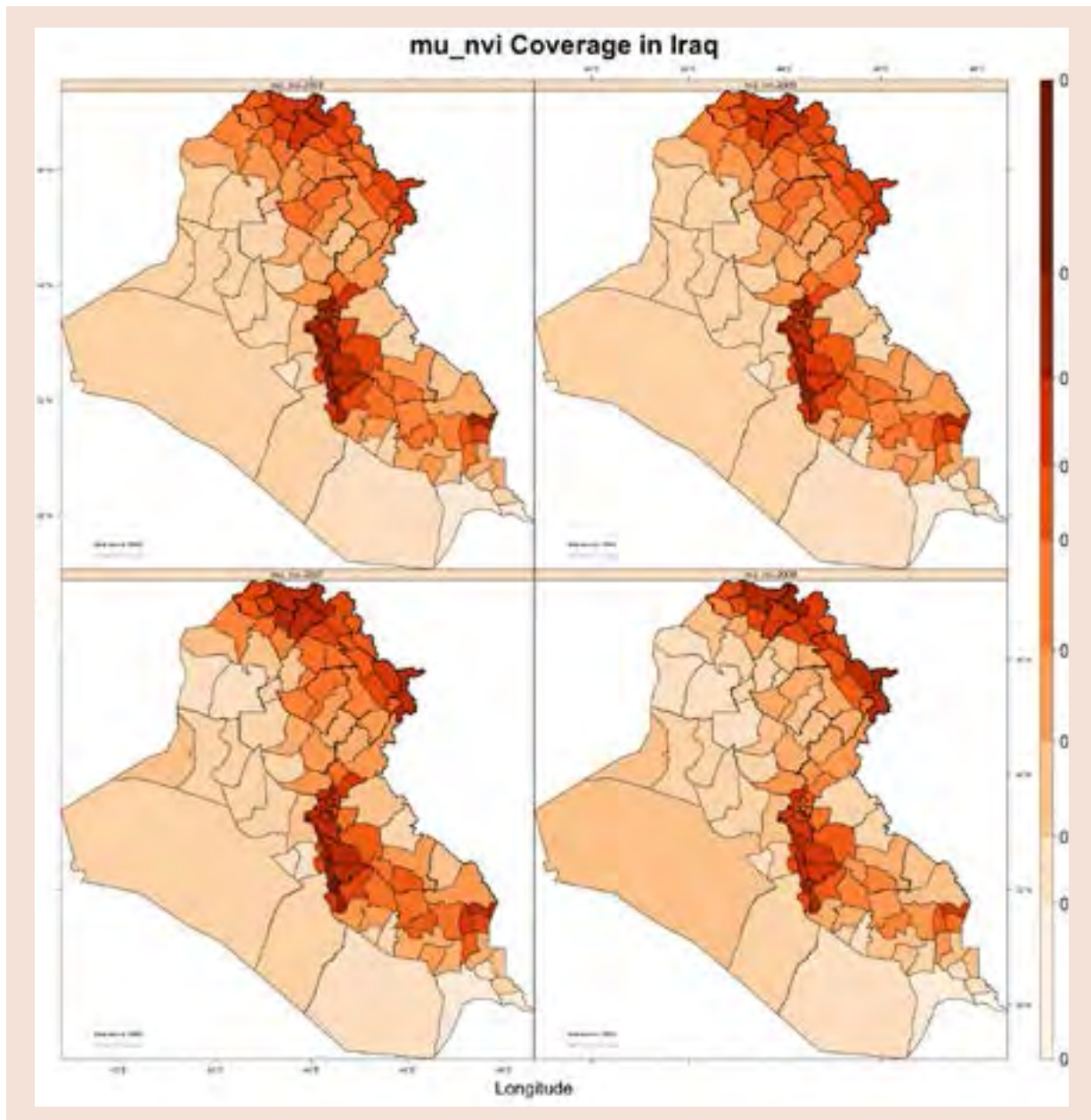
at the district level: the bi-monthly grid mean, bi-monthly grid standard deviation, and bi-monthly grid maximum. Each of these bi-monthly statistics is then aggregated in time to produce analysis at the annual level. Map 4 displays the district level variation in 2003, 2005, 2007 and 2009 that shows high greenness in the far North as well as the districts near Baghdad and along the Tigris and Euphrates rivers. Because of climate conditions, the Northern districts of Iraq have on average higher levels of greenness than the Southern districts. Variation in annual precipitation levels over the period of our analysis also affects the measure of greenness. For example, the 2007 and 2008 drought in the Northern districts of Iraq corresponds to lower measures of greenness.

The post-2003 conflict in Iraq led to a further diversion of resources and widespread destruction of infrastructure. Violence was predominantly focused in Baghdad and the North, and in the governorates of Anbar and Diyala in the Center; while the rest of the Centre, Kurdistan and the South remained relatively peaceful. The improvements in the security situation in the countryside have been accompanied by a revival of the rural economy in some parts of the country, as we will show below; but in the southern governorates, poverty among households dependent on agriculture has risen sharply, and while people are leaving agriculture, they have nowhere to go as the local economy continues to stagnate.

Agricultural Jobs: Evolution Across Time and Space

In 2007, agriculture was the main sector of employment for 27 percent of employed Iraqi women and 10 percent of employed Iraqi men. By 2012,

⁵⁰ Using the NDVI from multiple Landsat satellite images to estimate the total cultivated area for a portion of Iraq, Gibson et al. (2012) present the decline of cultivated area from the Late Sanctions period derived from NDVI calculated from images between 2000 to 2003 compared to the Operation Iraqi Freedom (OIF) period derived from NDVI calculated from images between 2008 to 2011.

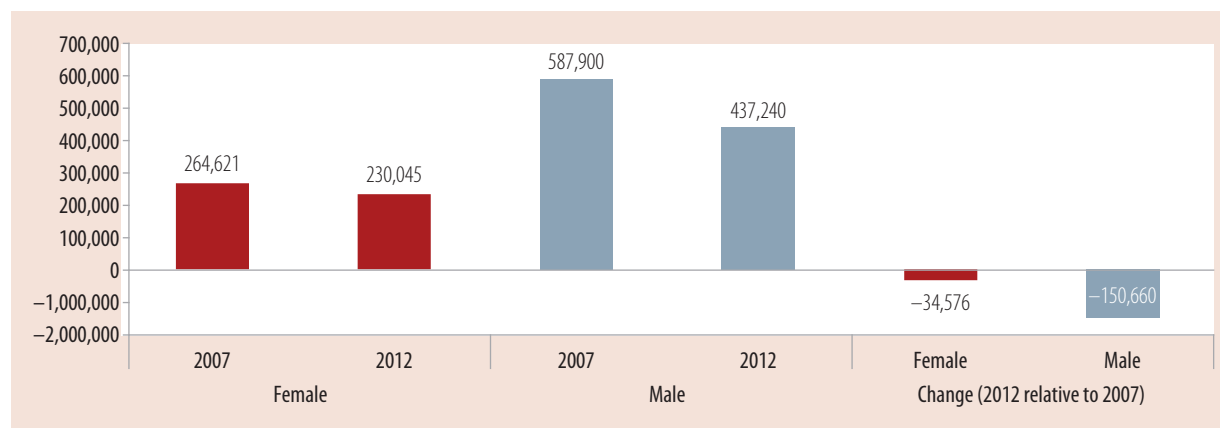
MAP 4: NDVI Changes in Greenness Over Time

Source: Authors' calculations.

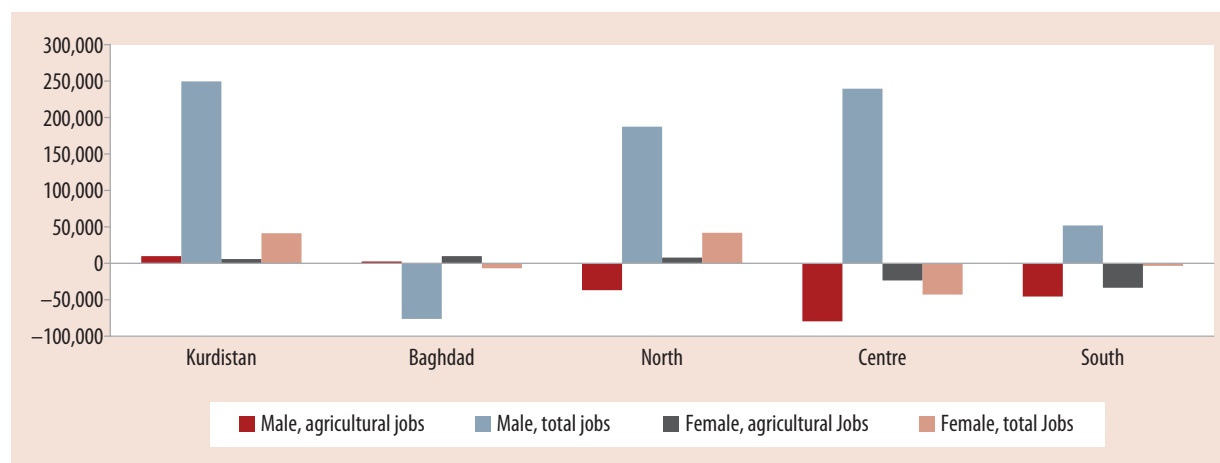
agriculture's share in female and male jobs had fallen to 23 percent for women and 7 percent for men.⁵¹ In line with these, there has been a decline in the share of the population belonging to households with heads employed in agriculture from 10 percent in 2007 to 7 percent in 2012. The declining importance of agriculture as a sector of employment is not the result of static employment in

agriculture combined with growing non-agricultural employment. It is due to an absolute decline in agricultural employment for both men and women

⁵¹ In 2007, agriculture employed 8 percent of the male working age population and 3 percent of the female working age population. By 2012, these estimates had fallen to 6 percent and 2 percent respectively.

FIGURE 176: Jobs in Agriculture for Men and Women, 2007 and 2012

Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 177: Changes in Number of Jobs in Agriculture and Total Jobs, Men and Women, by Division

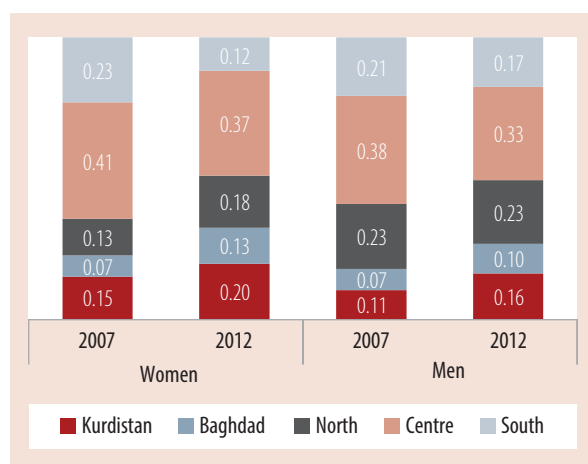
Source: Authors' calculations, IHSES 2007 and 2012.

between 2007 and 2012, with 34,500 fewer jobs for women and 150,600 fewer jobs for men of working age (Figure 176).

This has happened for the most part, due to a decline in the number of people working in agriculture: men in the North, Centre and South, and women in the Centre and South. While in Kurdistan, the North and the Centre, it has been accompanied by a significant increase in the number of jobs for men between 2007 and 2012, in the South, there was little additional job creation to compensate for the decline in agricultural employment (Figure 177).

These changes are reflected in the spatial distribution of agricultural jobs across Iraq (Figure 178). In 2007, Kurdistan, Baghdad and the North together accounted for 35 percent of all agricultural jobs for women. By 2012, each witnessed an increase in their share and now account for almost half the jobs for women in agriculture. In contrast, the importance of the Centre and the South in agricultural jobs for women has declined significantly, where it was a much larger employer in 2007 (accounting for more than 40 percent and 23 percent respectively), especially in the South, where its share has halved.

FIGURE 178: Share of Agricultural Jobs in Each Division, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

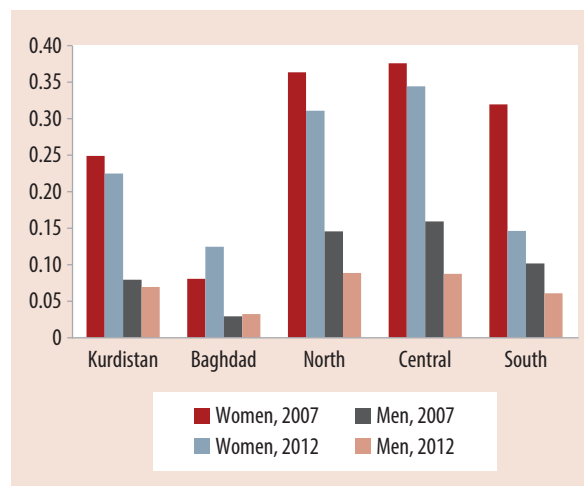
A similar trend is true somewhat for men, with an increase in Kurdistan and Baghdad's share in agricultural jobs for men, although from relatively low levels; no change in the North (around 23 percent), and declines in the Centre (by 5 percentage points) and in the South (by 4 percentage points). But still, the Centre and the South accounted for half of all agricultural jobs for men and women in 2012.

Across the country, with the exception of Baghdad, agriculture is an important source of jobs for the few women who work: in 2007, it accounted for a quarter of employed women in Kurdistan, more than 35 percent in the North and the Centre, and more than 30 percent in the South. While its share has somewhat declined, with a sharp decrease in the South, where overall female employment fell, it is still one of the most important sectors of work for women. For men, on the other hand, only 15 percent of employed men in the North and the Centre work in agriculture, and less than 10 percent in other divisions. The decline in agriculture's role in male employment by 2012 is evident across all divisions (Figure 179).

Rural Poverty and Non-Farm Diversification

To better understand the rural economy, the changing role of agriculture and examine the opportunities

FIGURE 179: Share of Agriculture as a Source of Employment for Men and Women Within Each Division, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

for non-farm diversification; we define four types of (mutually exclusive) households:

1. Non-agricultural household: A household where no employed member works in agriculture
2. Agricultural household: A household where all employed members work in agriculture
3. Diversified household: A household where at least one employed member works in agriculture and at least one works outside agriculture
4. Non-employed household: A household where no member is employed

Non-agricultural households account for a large majority of the population of Iraq: 83 percent of the population in 2012, and 92 percent of the urban population in 2012 belong to non-agricultural households (Table 34). In rural areas, there was a large increase in the share of these households, from 47 percent in 2007 to 63 percent in 2012; and a substantial decline in the share of households attached to agriculture. For instance, the share of the population in agricultural households fell by 10.5 percentage points; and those in diversified households fell by 5 percentage points. In 2012, less than

TABLE 34: Share of Different Types of Households in Urban and Rural Areas, 2007 and 2012

Share of population belonging to	Total		Rural		Urban		Change (percentage point)		
	2007	2012	2007	2012	2007	2012	Total	Rural	Urban
Non-agricultural household	79.03	82.90	47.08	63.38	91.96	91.91	3.87	16.30	-0.05
Agricultural household	7.92	5.27	24.60	14.10	1.16	1.20	-2.65	-10.50	0.04
Diversified household	7.34	6.02	20.66	15.52	1.95	1.63	-1.32	-5.14	-0.32
Non-employed household	5.71	5.81	7.65	7.01	4.92	5.26	0.10	-0.64	0.34

Source: Authors' calculations, IHSES 2007 and 2012.

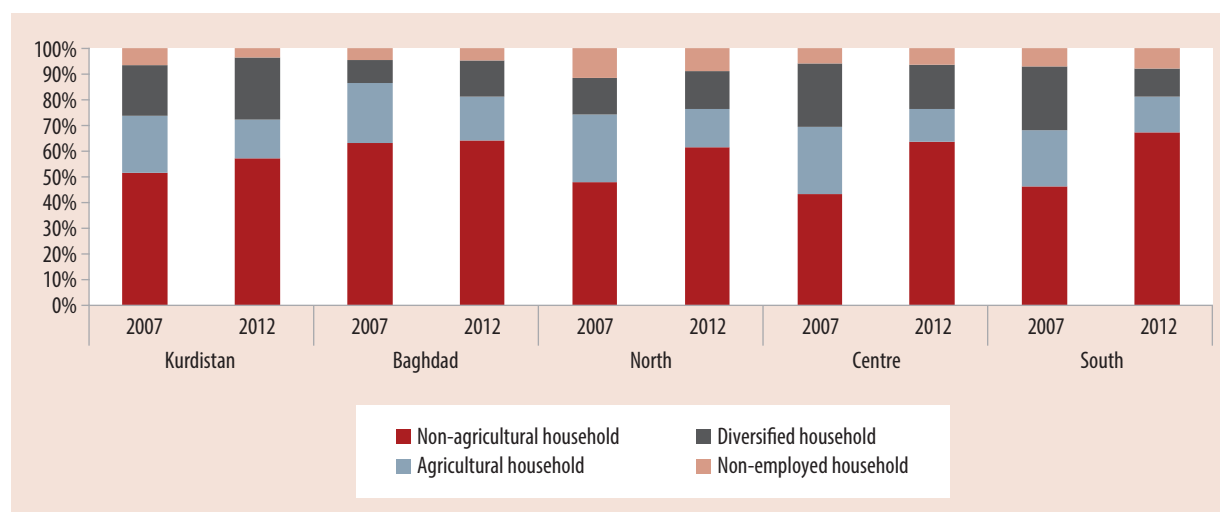
30 percent of the rural population belonged to a household where at least one member was employed in agriculture, compared to 45 percent in 2007. In addition, almost 6 percent of the population and 7 percent of the rural population in 2012 belonged to households where no member was employed.

The bulk of this declining dependence on agriculture occurred in the North, Centre and the South; which all recorded sharp declines in agricultural households accompanied by no change in or decreases in the share of diversified households (Figure 5). In the North, the share of the population in households where all employed members were working in agriculture fell by 11 percentage points while there was almost no change in diversified households. In the South and the Centre,

the shares of both these types of households fell, although the larger decline occurred among agricultural households in the Centre and among diversified households in the South. In contrast, in Baghdad and Kurdistan, while the share of non-agricultural households increased somewhat, the share of agricultural households fell, but the share of diversified households increased.

In rural areas, non-agricultural households had the lowest poverty rates in 2007 and in 2012, and their headcount rates fell by 4 percentage points in the intervening period (Table 35). However, because of a large increase in their share, they now make up 60 percent of the rural poor. Neither agricultural households nor non-employed households experienced substantial welfare improvements over the

FIGURE 180: Share of Different Types of Households in Each Division, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 35: Poverty Rates of Different Types of Households in Rural Areas, 2007 and 2012

Rural households	Headcount poverty rates		Share of the poor	
	2007	2012	2007	2012
Non-agricultural household	33%	29%	40.26	59.75
Agricultural household	41%	40%	25.71	18.22
Diversified household	50%	27%	26.33	13.45
Non-employed household	39%	37%	7.69	8.57

Source: Authors' calculations, IHSES 2007 and 2012.

five year period, and continue to have high rates of poverty in 2012, 40 percent and 37 percent respectively. The share of agricultural households among the rural poor has come down from 26 percent in 2007 to 18 percent in 2012 because their share in the population has shrunk. The largest welfare improvements occurred among diversified rural households, whose headcount rates almost halved, from 50 percent to 27 percent; as did their share in the rural poor, from 26 percent to 13 percent. Thus, it appears that the observed reduction in rural poverty

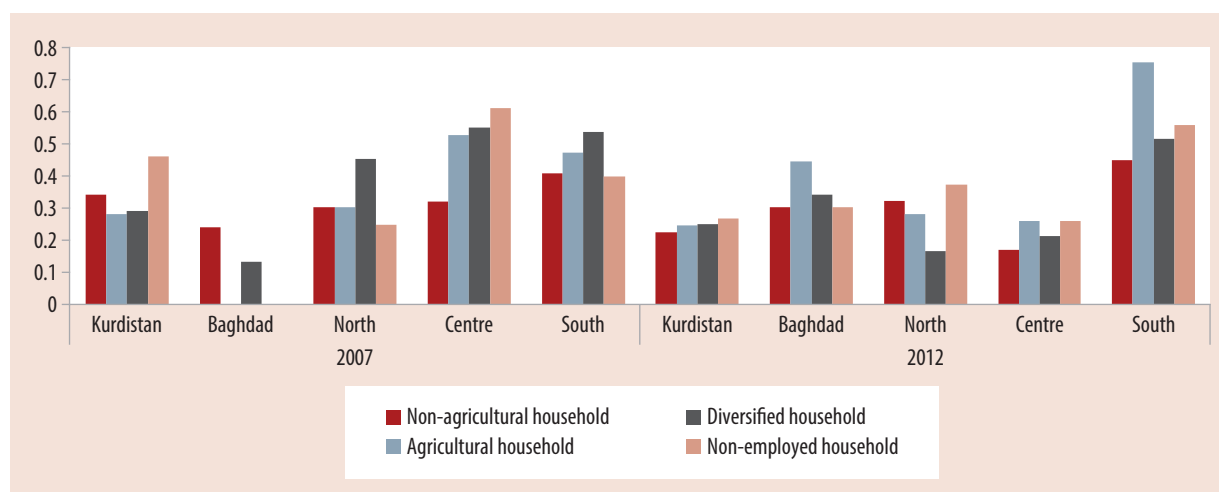
was driven by welfare improvements experienced by diversified households.

These overall trends mask significant improvement and worsening in different rural parts of the country (Figure 181):

- decline in poverty among all rural households in Kurdistan, and in particular among non-employed households;
- very large and significant declines in poverty rates (between 47 and 61 percent) among all rural households in the Central division;
- sharp decreases in headcount rates for diversified households and substantial increases in poverty for non-employed households in the rural North;
- increases in poverty in rural Baghdad; and
- large and significant increases in poverty headcount rates among rural agricultural and non-employed households in the South.

Thus, welfare improvements experienced by households who were diversified were limited to Kurdistan, the North and the Centre. In Baghdad and the South, poverty increased for almost all types of rural households, but especially among rural households in the South who were completely dependent on

FIGURE 181: Trends in Headcount Rates of Different Types of Households, by Division, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

agriculture for employment: from an already high 47 percent in 2007 to a whopping 75 percent in 2012.

These divisional trends in rural poverty are even more apparent when disaggregated to the governorate level (Table A.4). In the four southern governorates of Qadisiya, Missan, Thi Qar and Muthanna, more than 70 percent of agricultural households were poor in 2012. These represent a significant increase in poverty relative to 2007 among these households, more than 15 percentage points in Muthanna and Qadisiya, and more than 30 percentage points in Missan and Thi Qar. Even among non-agricultural and diversified households, headcount rates were above 50 percent in 2012 in each of these governorates, as a result of increases in poverty in Qadisiya, Thi Qar and Missan, and despite decreases in headcount rates among these households in Muthanna. Within the Central divisions, large decreases in poverty rates among agricultural and diversified households were experienced in all governorates, with the exception of Najaf, where poverty fell modestly from relatively low levels.

It is also not always the case that poverty is higher among agricultural households compared to those who diversify out of agriculture. In Najaf and Erbil, for instance, headcount rates among diversified households are almost twice those of households solely in agriculture. In contrast, in Basra, half of the households completely dependent on agriculture are poor, relative to a fifth of diversified households. It is also striking that almost without exception, overall rural poverty declined in governorates where the welfare of diversified households and non-agricultural households improved; while rural poverty increased when that was not the case (Table A 7.5).

Overall, within the 2007 to 2012 period, there appears to have been a shift in rural households away from agriculture. At the same time, poverty rates fell sharply (almost halved) among diversified households, while there was little change in the welfare of other types of households. Looking across Iraq, these patterns and trends mask significant variation: in the Centre for example, poverty declined among

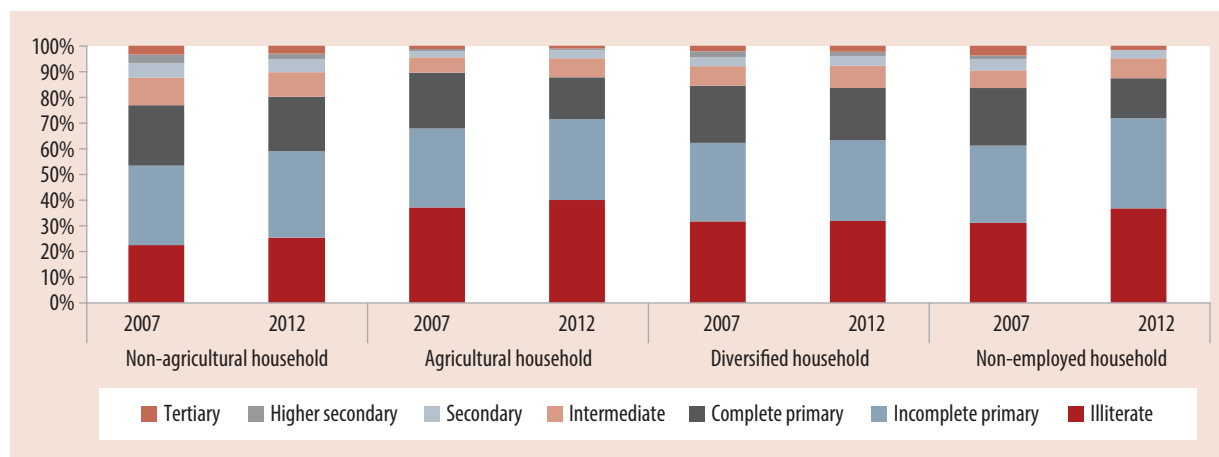
all rural households; while in the South the opposite was true, and especially for agricultural households. Next, we try to understand the factors behind some of these changes to the extent possible.

Human Capital: Education

Perhaps the patterns and trends in poverty are simply representing differences in the human capital endowments of these households. In other words, perhaps households dependent on agriculture are poorer because they are less educated; and the improvement in welfare among diversified households represents a shift in the composition of these households towards higher education. Among rural households, it does appear to be the case that agricultural households have on average lower education levels, with almost 90 percent having primary education or less (Figure 182). On the other hand, diversified households have relatively higher levels of education than agriculture households but lower than non-agriculture households. However, there does not appear to be a significant improvement in education levels among diversified households between 2007 and 2012.

Just as the overall picture on poverty and the role of agriculture in the rural economy hides significant spatial variation, so does education, with relatively better and improving education in Kurdistan, and with the lowest education levels in the South. In Kurdistan, there has been a significant improvement in the education levels of all types of rural households between 2007 and 2012, with shifts from primary education or less to intermediate education and higher. Among agricultural households in rural Kurdistan, the share of individuals with primary education or less was 82 percent in 2012, a decline of 8 percentage points since 2007, while in the other divisions, there has been little change. Rural agricultural households in the South have the lowest levels of education, with 50 percent of individuals illiterate, and another 30 percent with incomplete primary schooling in 2012. Thus, in the South, the increases in poverty among all types of rural households appear to be unrelated to changes in education.

FIGURE 182: Educational Attainment of Different Types of Rural Households, 2007 and 2012



Source: Authors' calculations, IHSES 2007 and 2012.

Sector of employment

Next, we turn to the sectors of employment among the rural individuals, and in particular, among diversified households, to understand whether non-farm diversification was concentrated in certain sectors. Among all rural employed individuals, the share working in agriculture fell from 44 percent to around a quarter between 2007 and 2012 (Table 36). This was compensated by an increase in employment in manufacturing, construction, financial, insurance and professional services and other services. In general, individuals from poor and non-poor households followed the same pattern. However, construction absorbed relatively more workers among the poor while financial, insurance and professional services absorbed more among non-poor households.

The share of agriculture in employment among individuals belonging to rural diversified households remained relatively steady at a little above 50 percent. Individuals belonging to poor diversified households were similar to other rural poor in that the relative importance of manufacturing and financial services in employment went up. In contrast, they were less likely to work in construction which is significantly correlated with higher poverty. In fact, the share of construction in employment among these diversified households declined. The difference in sectors of employment between

poor and non-poor diversified households appears primarily to be in a greater dependence on manufacturing and construction among the poor, compared to public administration, financial, insurance and other services, and commerce and retail among the non-poor. This is in line with the strengthened association between public sector employment and lower poverty in rural areas in 2012 in the probit regressions discussed earlier in the chapter.

In order to identify the role of different potentially correlated characteristics in predicting diversification or dependence on agriculture, we model first, the decision of individuals of choosing among sectors of employment; and second, the household's occupation type. Both models are conditioned on a range of individual and household characteristics and are estimated for 2007 and 2012. The sample is restricted to rural areas in all governorates excluding Baghdad (given its small rural sample).

The results in the Annex (Table 7.6a and 7.6b and 7.7a and 7.7b) are reported as relative risk ratios, i.e., for a unit change in the characteristic or predictor variable (such as age), by how much the relative risk of being in a certain category (for example, being a diversified household), relative to the reference group (agricultural household) is expected to change given all other characteristics are held constant.

TABLE 36: Sectors of Employment Individual in Rural Areas, 2007 and 2012

	Share of poor rural employed individuals			Share of poor rural employed individuals (diversified households)			Share of non-poor rural employed individuals (diversified households)		
	2007	2012	Difference	2007	2012	Difference	2007	2012	Difference
Agriculture & fishing	50.14	32.46	-17.68	55.79	53.02	-2.77	55.22	52.23	-2.99
Mining & quarrying	0.20	0.42	0.22	0.26	0.02	-0.24	0.26	0.42	0.16
Manufacturing	3.35	6.06	2.71	3.51	7.98	4.47	1.94	4.69	2.75
Utilities	0.85	1.74	0.89	0.41	0.93	0.52	0.87	1.09	0.22
Construction	16.51	21.89	5.38	15.88	14.09	-1.79	11.91	9.83	-2.08
Commerce and retail	4.02	5.95	1.93	2.84	2.46	-0.38	4.87	4.99	0.12
Transport, storage &	7.64	8.74	1.10	6.78	5.45	-1.33	5.31	6.25	0.94
Financial, insurance	3.12	8.45	5.33	1.89	7.39	5.50	3.40	9.38	5.98
Public administration	11.47	8.86	-2.61	10.85	6.04	-4.81	12.48	8.54	-3.94
Other services	1.53	5.43	3.90	1.79	2.62	0.83	3.72	2.57	-1.15

Source: Authors' calculations, IHSES 2007 and 2012.

Thus, a relative risk ratio of 1 implies that a unit increase in the characteristic increases the likelihood of being in the category by the same amount as of being in the reference category. Similarly, a relative risk ratio greater than 1 implies that for example, a unit increase in education increases the probability of being a diversified household relative to an agricultural household, and vice versa for a ratio less than 1.

The first model (Tables A 7.6a and A 7.6b) predicts the decision of the employed individual among different economic sectors conditioned on individual characteristics including age, education, gender and on household size and demographics, as well as household characteristics such as per capita land owned, cultivated and per capita public and private transfers.⁵² The reference or base category is agricultural employment.

The results suggest that agriculture is more likely to be the occupation for young females in rural areas, with low educational attainment, and who belong to the households with large dependency ratios. Individuals belonging to a household with a larger number of children have higher odds of being engaged in agriculture relative to any other sector in 2007 and in 2012; while age reduces the risk of being

engaged in agriculture relative to other sectors. Being male vastly increases the odds of employment in each sector relative to agriculture, especially in construction, transport, storage and communication, and other services.⁵³ Education significantly raises the odds of employment in every sector relative to agriculture; but especially in manufacturing, finance and public administration. Having higher per capita cultivated area in Kurdistan especially increases the odds of being employed in agriculture relative to all other sectors.

The second model (Tables A 7.7a and A 7.7b) predicts whether a household is non-agricultural, diversified, agricultural or non-employed based on several household head and household characteristics. The reference or base category is households where all members are employed in agriculture.

There appears to have been a shift in the effect of the demographic composition of different types

⁵² Mining and quarrying and utilities are excluded as they are very small

⁵³ The large increase in the male coefficient on finance, insurance and professional services in 2012 is in line with the significant increase in male employment in this sector.

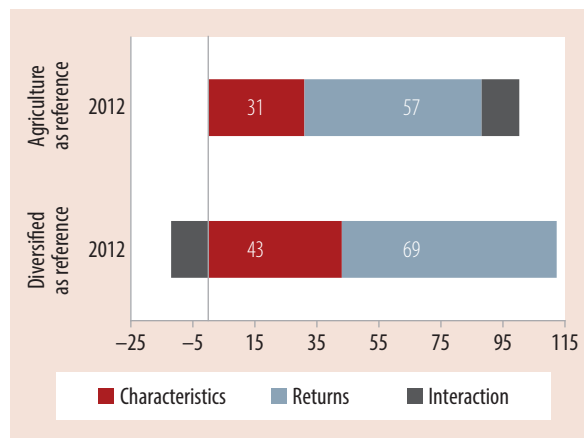
between 2007 and 2012. In 2007, an increase in household size raised the odds of a rural household being non-agricultural or diversified while an increase in the number of dependent members lowered the relative odds; by 2012, this relationship had been weakened. An increase in the educational attainment of the household head significantly increases the relative likelihood that a household would be non-agricultural rather than agricultural. While in 2007, having higher secondary and tertiary education for the head of household were the only education levels that distinctly increased the odds of diversification, in 2012, having primary and incomplete primary education also have the same effect. As with the individual level regressions, larger cultivated land per capita in Kurdistan appears to increase the relative likelihood of being agricultural households.

What Explains the Lower Poverty Rates of Diversified Households?

Starting from a situation in 2007 where diversified rural households experienced almost 10 percentage points higher poverty rates compared to households completely dependent on agriculture, by 2012, headcount rates among diversified households had halved while agricultural households remained at the same poverty levels. This differential pattern over the 2007 to 2012 period could be explained by differences in the endowments or characteristics of these types of households, or may be attributable to other factors. We again use the Oaxaca-Blinder decomposition method to explain the poverty headcount difference between agriculture and diversified households in 2012.

The results show that the primary reason why agriculture households are poorer than diversified households is largely explained by differences in the coefficients and not attributable to differences in characteristics (Figure 183). We find that only one-third of the difference in poverty among these types of households is explained by their characteristics in 2012. These results do not vary significantly if we change the reference category.

FIGURE 183: Decomposing Differences in Headcount Rates between Agriculture and Diversified Households – 2012



Source: Authors' calculations, IHSES 2012.

One reason why agricultural and diversified households may have different coefficients on similar levels of characteristics is that diversified households are engaged in different sectors of employment and these may be associated with different returns on the labor market. While we cannot directly introduce employment sectors in the regression models and the decomposition above, the coefficients associated with households or individual characteristics may change due to the indirect effects of changes in diversification sectors and the associated earnings. There is some evidence from descriptive data that this is the case. Table 37 focuses on the main employment sectors for individuals belonging to non-poor diversified households in rural areas. In terms of the non-agricultural employment sectors, there is a marked shift towards manufacturing and financial, insurance and professional services (an increase of 5.5 and 12 percentage points respectively); and a lower dependence on construction and public administration (a decline of 6 and 10 percentage points respectively) as sources of employment. The sectors into which the non-poor have moved, manufacturing and financial, insurance and professional services, have both been associated with a large increase in per capita labor earnings, 78 percent in the former and 68 percent in the latter. At the same time, earnings have increased

TABLE 37: Changes in Non-Agricultural Employment and Labor Earnings for Non-Poor Rural Diversified Households, 2007 and 2012

	Non-agricultural employment share		Median per capita labor earnings		Employment sector, change (Percentage point)	Earnings, change (Percent)
	2007	2012	2007	2012		
Manufacturing	4.34	9.82	63.9	113.7	5.48	77.84
Construction	26.59	20.57	125.1	121.7	-6.02	-2.66
Commerce and retail	10.87	10.44	105.5	125.1	-0.43	18.54
Transport, storage & communication	12.00	13.09	106.2	107.0	1.22	0.78
Financial, insurance & professional	7.60	19.64	79.5	133.6	12.04	67.99
Public administration, health & education	27.88	17.88	122.9	129.5	-10.00	5.43
Other services	8.31	5.39	85.5	109.3	-2.92	27.89

in almost every other non-agricultural sector. These patterns suggest that among diversified households, non-poor households were increasingly likely to be employed in certain sectors that were associated with higher earnings.⁵⁴ This in turn may well be evident in the magnitude and signs of coefficients on characteristics that predict poverty in the decomposition exercise.

To conclude, the labor market for the poor looks significantly different from that facing the non-poor in Iraq, and it varies considerably across rural and urban areas. Poverty is not only correlated with lower rates of employment and labor force participation, but also with important differences in the types of economic activities. These differences are compounded by lower levels of human capital and by urban-rural differences. Comparing urban and rural households, not only are the characteristics of rural households starkly different—larger household sizes and lower educational attainment, for instance—, but even for the same characteristics, poverty rates are much higher for rural households. This ‘characteristic deficit’ is accompanied by differences in the types of economic activity that rural and urban households are engaged in and how these are related to welfare. In urban areas, public sector employment is associated with lower poverty and correlated with higher labor earnings. Increases in public transfers,

especially pensions, in urban areas have also perhaps led to some limited welfare improvements.⁵⁵ But the largest section of the urban poor belong to the private sector, and here, the sectors where the poor work have seen an increase in head count rates; counteracted by the move of some poor urban household heads from private sector employment to public sector work, which has been associated with higher earnings.

While urban households as a whole have experienced limited welfare gains, rural poverty reduction has been more marked, and has been driven by a significant welfare improvement among households where individuals are employed in agriculture as well as in other types of economic activity. In contrast, households that are wholly dependent on agriculture have seen little welfare improvements. Here spatial differences are again salient: in some parts

⁵⁴ A similar comparison for poor rural diversified households also shows a shift towards manufacturing and financial, insurance and professional services which is associated with higher earnings. The difference between the poor and the non-poor within diversified households appears to be a greater dependence on construction and lower earnings within each employment sector, which are likely associated with differences in characteristics between these households.

⁵⁵ We take up the role of public and private transfers in greater detail in the next chapter.

of the country, people are leaving agriculture and being absorbed into other sectors, and diversification is associated with better returns. In other parts of the nation, notably the South, poverty has increased especially among those who have not diversified outside of agriculture, while at the same time,

employment in agriculture is declining along with male labor force participation. It appears as though the local labor market is barely creating adequate opportunities for diversification in the South, as even diversified and non-agricultural households continue to face high rates of poverty.

Transfers, Safety Nets, and Poverty

The poor in Iraq are disproportionately dependent on non-labor incomes, and lacking assets, in particular, on transfers including through the Public Distribution System (PDS). Despite an increase in the share of income from the labor market to 49 percent in 2012 from 42 percent in 2007, public and private transfers still account for 36 percent of total income for the bottom decile, of which more than 80 percent is comprised of public transfers.

The dependence on transfers as a source of income also varies widely across space, especially for the bottom decile. For instance, while labor incomes account for 58 percent of the total income of the bottom 10 percent in Kurdistan, its share falls to 42 percent for the bottom 10 percent living in the South. PDS transfer receipts as a source of non-labor income are also smaller in Kurdistan, accounting for less than 20 percent of non-labor incomes on average while it rise up to 48 percent of total non-labor incomes in the South. The relatively low share of ration transfers in Kurdistan is compensated by relatively high shares of pension and capital income.

Private transfers are relatively small in size and cover a minority of the poor. International remittances cover less than 1 percent of the poor and more than 90 percent of the recipients are non-poor. Zakat transfers cover only 2.4 percent of the poor, but a third of zakat recipients are below the poverty line. Domestic remittances comprise almost a third of poor and non-poor households; although only 20 percent of the recipients are poor.

With the exception of the PDS, public transfers also cover a small proportion of the poor. Pension incomes reach less than 20 percent of the poor; social protection network transfers cover only a tenth of the poor. Per capita ration receipts were higher among households with non-employed heads, and receipts decline steadily with the increases in the education of the head of household. Receipts are also higher for rural households, and in every division relative to Kurdistan, especially in the South. The bigger the household size, the less it receives from the PDS. However, rations do not decline evenly as household size increases. The loss in transfers received from rations gets up to 30 percent when households are bigger than 12 members. On the other hand, the richer the household, the more it receives irrespective of its size.

The Public Distribution System (PDS) remains the overwhelming source of calories for the poor and bottom 40 percent, accounting for 74 and 64 percent of their total caloric consumption respectively in 2012. At the same time, it accounts for 30 percent of food expenditures for the poorest 10 percent of Iraqi households, and 16 percent of total expenditures. In terms of the self-reported impact of the decline in rations, more than 80 percent of households reported experiencing a decline in incomes as a result, and while 80 percent reduced food stocks, and 70 percent cut back on food purchases, 20 percent had to increase food purchases to compensate for the lack of PDS items.

Overall, ration and free market items are essential in the consumption basket of Iraqis with the exception of

free market oils. In other words, Iraqi households are almost non-responsive in terms of altering demand to changes in food prices of ration items and their free market equivalents. Richer households are more responsive to variations in prices of ration items than poorer households while the opposite is for free market goods: less-well off households are more responsive to changes in prices of free market goods than those located in the upper part of the distribution. In general, most ration items are marginally “inferior” goods in the Kurdistan region irrespective of the level of per capita consumption. As the economy evolves and the levels of income increases across the distribution, and as the rest of the country approaches the higher welfare levels of Kurdistan, these types of ration goods will be less demanded in the short run. Eliminating the ration system would be approximately equivalent to increasing the price of ration items up to the market price levels given the low own price elasticities of ration goods and the positive income elasticities for these goods for much of the population. This will affect directly consumer’s welfare levels by reducing them by one-fifth to one-third for the upper quintiles in urban areas and up to 60% for the lowest quintile in urban areas. However, where income levels are higher, local markets are more evolved, and where rations are not universally consumed, as in Kurdistan and Egypt, the greater flexibility in consumer response suggests that welfare impacts may be smaller when a similar environment is created across the rest of the country.

Transfers, Safety Nets and Poverty

Faced with limited opportunities for employment and earnings in the labor market, the poor in Iraq are disproportionately dependent on non-labor incomes, and lacking assets, in particular, on transfers including through the Public Distribution System (PDS). In 2007, labor earnings accounted for 66 percent of total income for the average Iraqi, with another 20 percent from non-labor income (private and public transfers), and 14 percent from implicit rental income from owner occupied dwellings. Almost 80 percent of non-labor income was made up of public transfers. This pattern remained roughly unchanged

in 2012, with a small decrease in the share of non-labor incomes, and within non-labor income, a small decline in the importance of public transfers.

Among the poor, and especially among the bottom 10 percent of the consumption distribution, the dependence on non-labor incomes, especially on public transfers increases sharply. Despite an increase in the share of income from the labor market to 49 percent in 2012 from 42 percent in 2007, public and private transfers still account for 36 percent of total income for the bottom decile, of which more than 80 percent is comprised of public transfers. While the share of public transfers in non-labor incomes remains above four-fifths for each of the bottom 4 deciles, there is a distinct shift towards a higher share of labor income as households move out from the bottom 10 percent.

The dependence on transfers as a source of income also varies widely across space, especially for the bottom decile. For instance, while labor incomes account for 58 percent of the total income of the bottom 10 percent in Kurdistan, its share falls to 42 percent for

TABLE 38: Main Sources of Income (Share of Total), National Average and Bottom 4 Deciles, 2007 and 2012

Iraq	Labor	Non Labor	Imputed Rent	Non labor income	
				Public	Private
2007	66.18	19.49	14.34	78.41	21.59
Deciles					
1	42.29	40.73	16.98	91.22	8.78
2	55.20	29.46	15.34	87.79	12.21
3	60.20	24.74	15.06	87.70	12.30
4	60.77	23.92	15.31	87.01	12.99
2012	68.00	16.40	15.60	75.62	24.38
Deciles					
1	49.24	35.59	15.17	83.52	16.48
2	61.99	24.18	13.83	85.01	14.99
3	64.15	21.15	14.70	82.46	17.54
4	65.93	18.92	15.16	81.35	18.65

Source: Authors’ calculations, IHSES 2007 and 2012.

the bottom 10 percent living in the South. At the same time, ration or PDS transfer receipts as a source of non-labor income are also smaller in Kurdistan, accounting for less than 20 percent of non-labor incomes on average, and 42 percent of non-labor incomes among the bottom decile. In contrast, 48 percent of total non-labor incomes in the South accrue from implicit incomes associated with PDS receipts, and this share increases to 62 percent for the lowest 10 percent. The relatively low share of ration transfers in Kurdistan is compensated by relatively high shares of pension and capital income in Kurdistan. Overall, pensions make up between 22 to 30 percent of average non-labor incomes, but are roughly half as important for the bottom ten percent of the consumption distribution.

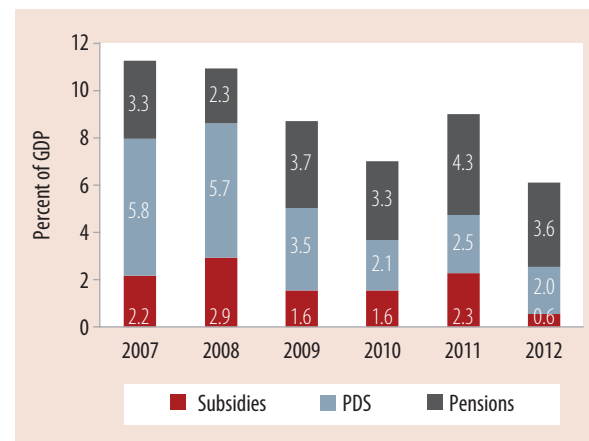
These spatial differences are also important because poverty increased in those parts of the country where the decline in implicit ration transfers between 2007 and 2012 was not compensated by increases in other public and private transfers (as Chapter 5 establishes). Between 2007 and 2012, while the size of pension transfers has steadily increased, following a policy change in the PDS that reduced the number of items to be distributed in 2008–09, expenditures on the PDS as a share of GDP have fallen from around 6 percent to 2 percent. In household level data, this change is reflected in a fall in the share

of ration incomes in non-labor income from almost 60 percent to less than 40 percent between 2007 and 2012. At the same time, there was an increase in absolute and relative terms in the contributions due to pension incomes and domestic remittances, which together accounted for more than 40 percent of non-labor incomes on average in 2012.

Who Receives Transfers?

In what follows, we consider in greater detail six different types of transfers and non-labor income:

FIGURE 184: PDS and Pensions as a Share of GDP, 2007 to 2012

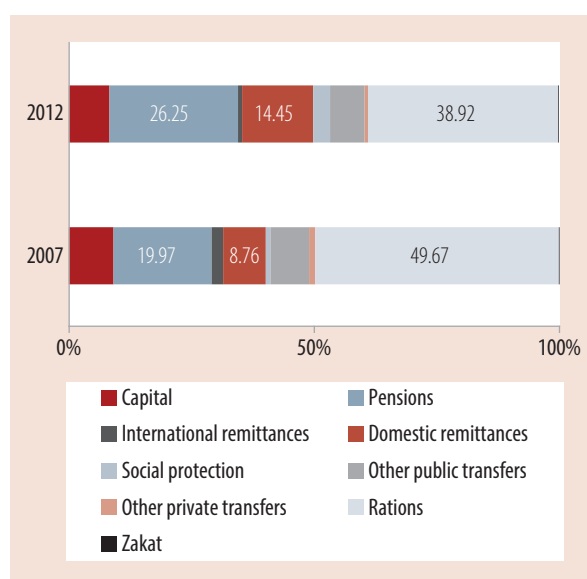


Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 39: Sources of Non-Labor Income Across Iraq, Overall and Bottom Decile, 2012

			Iraq	Kurdistan	Baghdad	North	Centre	South
Share in total income, 2012	Labor income	Overall	68.00	69.16	63.02	71.81	68.02	68.71
		Lowest decile	49.24	58.18	52.80	49.82	49.21	41.70
Share of non-labor income, 2012	Rations	Overall	38.92	19.72	41.45	42.20	38.69	48.21
		Lowest decile	59.96	42.04	53.72	64.09	59.53	62.10
	Pensions	Overall	26.25	30.40	33.33	23.87	24.39	21.78
		Lowest decile	13.27	19.40	18.10	9.72	16.86	11.43
	Domestic remittances	Overall	14.45	12.09	16.18	13.30	17.10	12.24
		Lowest decile	11.43	13.39	18.36	9.11	8.61	12.72
	Capital income	Overall	8.27	14.41	3.84	8.13	11.14	3.89
		Lowest decile	3.39	6.31	1.81	5.66	4.30	1.62

Source: Authors' calculations, IHSES 2007 and 2012.

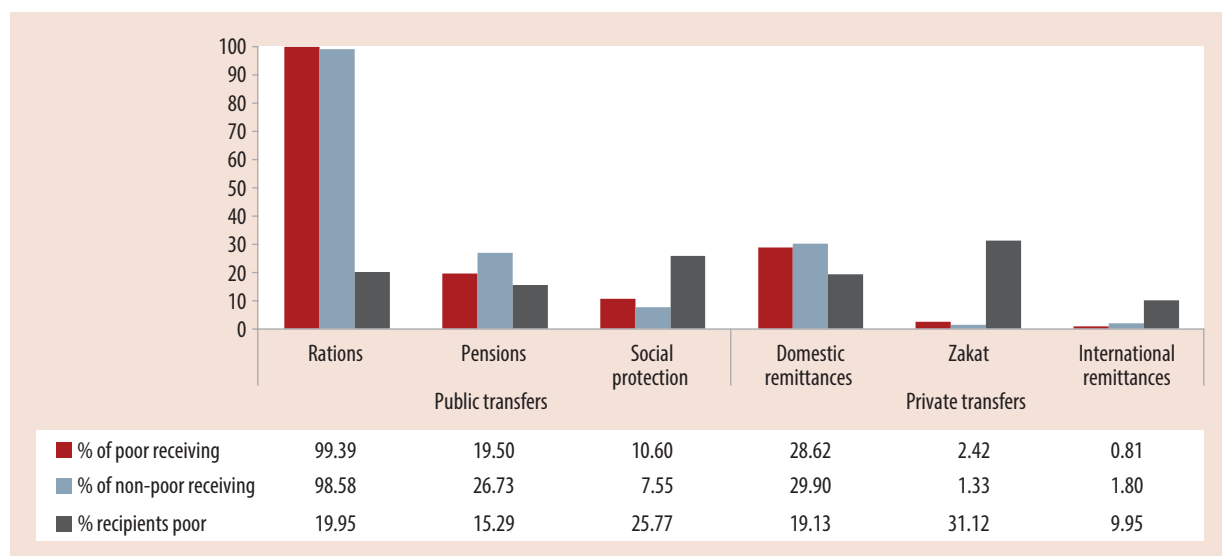
FIGURE 185: Sources of Non-Labor Income, 2007 and 2012

Source: Authors' calculations, IHSES 2007 and 2012.

private transfers—domestic and international remittances, and zakat receipts; as well as public transfers in the form of pensions, transfers from the social protection network, and implicit incomes associated with receipts of subsidized food items from the Public Distribution System (PDS).

In general, private transfers are relatively small in size and cover a minority of the poor. International remittances cover less than 1 percent of the poor and less than 2 percent of the non-poor; with more than 90 percent of the recipients being non-poor. Zakat transfers are also small, covering only 2.4 percent of the poor, but a third of zakat recipients are below the poverty line. Domestic remittances, which have become increasingly important over time, cover almost a third of poor and non-poor households; although only 20 percent of the recipients are poor (Figure 186).

Turning to public transfers, pension incomes, which are not explicitly designed to as an anti-poverty transfer, reach less than 20 percent of the poor, and more than a quarter of the non-poor. About 85 percent of pension recipients belong to non-poor households. Social protection network transfers, on the other hand, do involve some categorical targeting of households, and while a quarter of the poor receive some form of such transfers, the program still covers only a tenth of the poor. Transfers through the PDS are, in contrast, almost universal, and cover more than 99 percent of the poor. While less than a fifth of PDS beneficiaries are poor households; it

FIGURE 186: Share of Poor and Non-Poor Individuals Receiving Public and Private Transfers, 2012

Source: Authors' calculations, IHSES 2007 and 2012.

remains the only safety net that comprehensively covers Iraq's poor population.

In order to further understand the role of these private and public transfers in household welfare, we undertake multivariate analysis to identify the household characteristics associated with whether a household receives a particular transfer; and with the level of per capita receipts (results in the Annex Tables 8.1–8.6).

Private transfers

In general, female headed households and households with non-employed heads appear to be more likely to receive *international remittances*, and are also more likely to receive higher per capita amounts. While households living in Kurdistan are more likely to receive international remittances compared to those living in other divisions, in terms of the amount received per person, households in the South receive more, while those in the Centre receive less. While rural households are less likely to be recipients, among the ones who do receive these remittances, per capita receipts are on average, higher than among urban recipients.

Domestic remittances are more likely to go to households with higher dependency ratios, although larger households are less likely to be recipients and also receive less per capita, relative to households with 1 to 4 members. Households headed by females and by those not employed in the public sector are 5 and 10 percent more likely to receive these transfers; and receive larger per capita amounts. In 2012, households in rural areas were less likely to benefit from domestic remittances; while those with less educated heads were more likely to. While households in the Centre were 7 percent more likely to be recipients of domestic remittances relative to those in Kurdistan, and those in the South were 9 percent less likely; per capita receipts were the lowest in Kurdistan, and the highest in the South. However, overall, remittance amounts per person increase with wealth.

Zakat transfers, although very small, appear to be quite progressive and well-targeted. Larger

household sizes and dependency ratios, belonging to a household with a less educated head, a female head, and a non-employed head, all increase the likelihood of receiving zakat. Poorer households are also more likely to receive these transfers; although households everywhere except in the South are less likely to be beneficiaries compared to those living in Kurdistan. While per capita zakat receipts decline in general with household size in 2012, they are larger for very large households with more than 20 members, for female headed households and for households with heads employed in the private sector. Rural households and households living in Baghdad receive smaller zakat transfers on average; as do households with non-employed heads.

Public transfers

Pensions are not designed to be anti-poverty transfers, and as expected, the presence of a widow or a person of pensionable age in the household significantly increases the likelihood of the household receiving pensions by 12 and 23 percent respectively. Urban households are also, as one may expect, more likely to receive pensions; as are households living in the Kurdistan region; while households with less educated heads receive smaller amounts per person. Once these factors are taken into account, larger households are more likely to be receiving pensions (as these households tend to have more eligible members) but receive less per capita. Moreover, households with heads who are not employed in the public sector are more likely to have someone in the household who is receiving pensions; and also have higher receipts per person.

Transfers from the *social protection network*, while small, do appear to be relatively pro-poor. On average, the likelihood of receiving these transfers increases with household size, is higher for households whose heads are not employed in the public sector, whose heads are less educated, for households with a widow or eligible pensioner, and for households with lower consumption expenditures. However, per capita receipts decline with household size and increase with household consumption expenditure. On

the other hand, they are higher for households with less educated heads, for households with a widow, and for households with heads who are not employed in the public sector. While households in the Centre and Kurdistan appear to be more likely to receive such transfers; among recipients, per capita transfers are higher in Baghdad, the Centre and the South.

Finally, we examine the correlates of incomes received in the form of subsidized food through the *Public Distribution System* (PDS). Per capita ration receipts were higher among households with non-employed heads, and receipts decline steadily with the increases in the education of the head of household. Receipts are also higher for rural households, and in every division relative to Kurdistan, especially in the South. However, larger households receive lower receipts per capita, as do female headed households, and households belonging to the bottom 20 percent of the consumption distribution.

In principle, PDS rations are supposed to be allocated on a per person basis, so that per capita receipts should be invariant to household size, and in particular, to the number of people recorded on the household's ration cards. Therefore, we restrict attention to the majority of households for whom the number of members reported on the ration cards is identical to the number of household members. For this sample of households, per capita receipts decline with household size but increase with wealth (Annex Table 8.7). To explore this apparent regressivity, we interact household size with consumption in the final specification. The finding shows that the bigger the household size, the less it receives from the PDS. However, rations do not decline evenly as household size increases. The loss in transfers received from rations gets up to 30 percent when households are bigger than 12 members. On the other hand, the richer the household, the more it receives irrespective of its size.

Overall, most public and private transfers received by households tend to be small and cover a minority of the poor, with the important exception of the PDS. While very small in magnitude, zakat and

social protection transfers do appear to be relatively progressive. The coverage of the poor under these transfers however, is also in part an outcome of having received the transfer. For instance, domestic remittances may only cover a small proportion of the poor, because on average, the size of these transfers may be large enough so that the receipt of these transfers enables a household to consume above the poverty line. While causal inference of the poverty mitigating impact of these transfers are beyond the scope of the analysis here, we can try to get a sense of the correlation between the receipt of these transfers and the likelihood of a household being poor or belonging to the bottom two quintiles of the consumption distribution.

Annex Table 8.8 estimates the marginal effects, or the change in the likelihood of these two outcomes, associated with the receipt of transfers, in addition to a range of household characteristics. The relationship between household demographics and the education and labor market characteristics of the head with the two outcomes; as well as the relationship between place of residence and welfare are as expected; and in line with the diagnostic analysis in Chapter 2. Higher dependency, larger household sizes, the household head's employment in the private sector or the household head being non-employed, living in a rural area, living in any division other than Kurdistan and the Centre, are all associated with higher poverty odds.

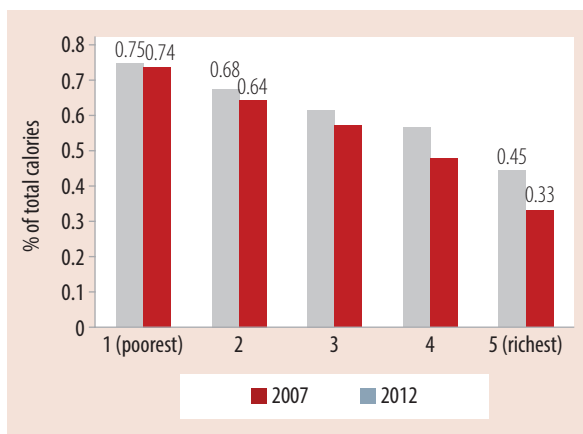
The receipt of pensions, international remittances and higher levels of per capita PDS receipts are all associated with lower likelihood of poverty and belonging to the bottom 40 percent. While this should not be causally interpreted, it may suggest that among otherwise similar households, the size of these transfers are large enough so that those who receive them are likely to have significantly higher welfare. In contrast, the relatively progressive zakat transfers and social protection payments do not lower the likelihood of being poor. In fact, they are associated with a higher likelihood of poverty and belonging to the bottom 40 percent. Again, this does not imply that the receipt of these transfers

increases poverty, but perhaps instead, that while these are associated with poorer households, they do not bridge the gap sufficiently.

The Public Distribution System

Iraq's Public Distribution System, the largest publicly subsidized food distribution system in the world, remains the only safety net covering the poor and vulnerable in the country. The reform in 2009–2010 that cut the number of items distributed through the PDS by and large left the caloric content of the PDS basket unchanged, dropping items such as detergents, soap, milk (for adults), tea, and tomato paste. Thus, much of any observed changes in caloric consumption attributable to the PDS reflect a reduction in consumption of ration items rather than a change due to the reduction in the number of items. Figure 187 plots the share of total food calories from the PDS for households, for each of the quintiles of the consumption distribution. In 2007, three-quarters of the calories of the bottom 20 percent came from consumption of PDS items; while for the top 20 percent, this share was 45 percent. Between 2007 and 2012, while dependence on the PDS as a source of calories has changed little for the bottom 40 percent, it has come down

FIGURE 187: Share of Calories from the PDS, by Consumption Quintile, 2007 and 2012

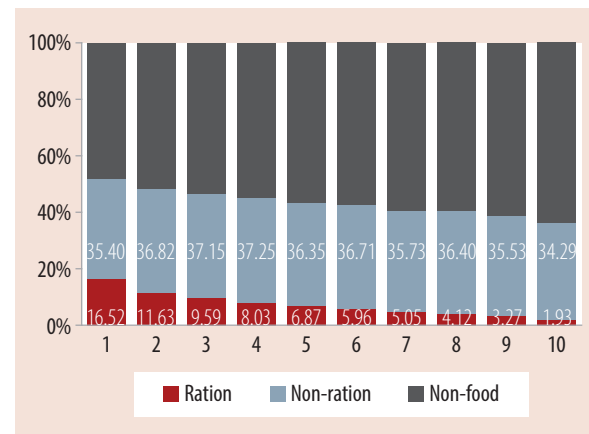


Source: Authors' calculations, IHSES 2007 and 2012.

among better off households, and especially among the top 2 quintiles. In 2012, PDS consumption accounted for only a third of calories consumed by the richest 20 percent of the consumption distribution. That being said, the PDS remains the overwhelming source of calories for the poor and bottom 40 percent, accounting for 74 and 64 percent of their total caloric consumption respectively in 2012.

PDS expenditures account for 30 percent of food expenditures for the poorest 10 percent of Iraqi households, and 16 percent of total expenditures (Figure 188). The share of PDS expenditures declines to 12 percent for the 2nd decile, to 7 percent among the 5th decile, and to less than 2 percent for the top decile. In the consumption aggregate, consumption of PDS items are valued at the national median of the prices reported by ration agents in response to the question: "If you could buy this [ITEM] in the market, how much would you have to pay for it?" Even though these prices are significantly higher than the official (subsidized) prices for ration items, they still represent a significant underestimate of the shadow cost of the ration bundle (See Box 5 for a brief description of some of the challenges in valuing PDS rations).

FIGURE 188: PDS Expenditures, Food and Non-Food Expenditures by Consumption Quintile, 2012*



Source: Authors' calculations, IHSES 2007 and 2012.

Note: Rations are valued at national median ration agent prices, which is a large underestimate of the shadow cost of the ration bundle

BOX 5: PDS Ration Items and the Valuation Problem

The IHSES surveys collect information about the quantity of ration items received, consumed and purchased. The 2007 methodology used a notion of 'net quantity received' and purchases of ration items recorded in the diary on a monthly basis (very few transactions) to measure the quantity of rations consumed. The former is the quantity of ration items received, net of amounts bartered, sold, or given away. However, this measure has no clearly defined recall period, such as the last week or the last month. Moreover, since receipts are not consumption, they may not reflect utility. Two households who receive the same amount of rations, but consume very different amounts, derive different utility from rations.

The IHSES surveys also include a direct question on consumption of ration items within the last 30 days. This is a more accurate measure of consumption, with a clear recall period, and equal consumption implies equal utility derived for households. This is the primary measure of consumption of ration items in the revised methodology. Purchases of ration items in the diary (over the last week) are converted into monthly equivalents, and also included, as households who purchase additional rations on the market must be assigned higher consumption and thereby utility.

How is this important component of food consumption to be valued? In principle, goods and services ought to be valued equal to their infra-marginal benefit; i.e., the market price faced for the marginal unit consumed. In the case of Iraq, ration items are rarely traded and in this sense, a market-equivalent price does not exist. A few transactions are recorded in the diary but these are insufficient to calculate unit values, and moreover, are associated with a select few households who are quantity constrained. So these unit values cannot be used to value all ration consumption.

Another possibility is to use official prices for ration items, which are very low, nominal prices paid by consumers. Using these heavily subsidized prices would artificially suppress the value of food expenditures stemming from rations. Moreover, rations should be valued at a price close to one at which we expect these items to be traded; and official prices are not the prices at which households can procure unlimited quantities.

Is there a close substitute to ration items that are traded in the market? In the case of Iraq, unit values for these substitutes are significantly higher for some items, especially rice, suggesting important quality differences. This implies that market prices for commercially available items cannot be used because they are not perfect substitutes.

The only remaining candidate to value rations is a question that asks households their opinion on how much they would pay for ration-equivalent items in the market. In practice, few households expressed an opinion, and enumerators approached the local ration agent in the cluster, in a manner akin to a price survey. However, there were variations in these prices that may reflect uncertainty, noise and local variations in supply, demand and quality. In order to ensure that all those who consume exactly the same amount of a ration item are assigned the same expenditure; and that this expenditure increases with higher consumption; it was decided to use the national median values of prices reported by ration agents to value ration items.

Source: Poverty in Iraq: 2007–2012—Methodological Note.

In this context, how did households cope with the decline in transfers in the form of implicit ration incomes? We begin by first broadly characterizing the shocks experienced by households in 2007 and 2012, and relate these to the main coping response. In particular, in 2012, the survey asks about whether a household experienced a shock due to the loss of rations, the loss of other government assistance, or due to a decline in remittances. Only 3 percent of households reported having experienced this type of shock, primarily driven by lower rations.

In 2007, 17 percent of all poor and non-poor Iraqi households reported having suffered from a shock in the past 12 months—these included the loss of a job or of wages, or of the closure of a business; sickness, injury or the death of a household member; theft, violence, kidnapping and other types of problems. Of each of these types of shocks—related

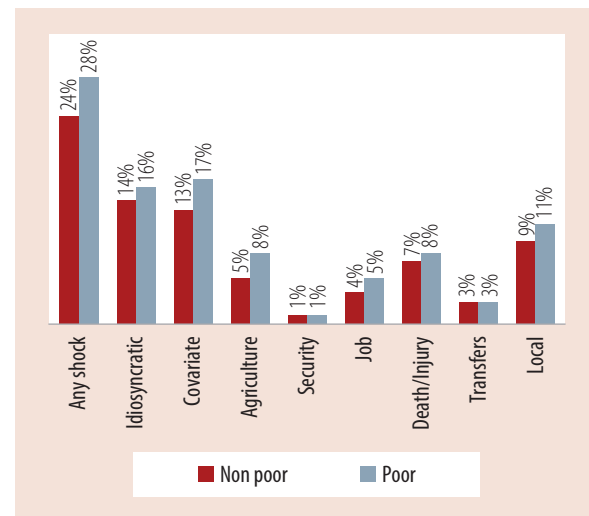
to jobs, death/injury, security, and other—jobs and security related shocks affected more than 9 percent and more than 7 percent of the population as whole; and prevalence did not vary by poverty status. In 2012, the incidence of these types of shocks had increased to 24 percent among the poor and 28 percent among the non-poor.⁵⁶ The higher incidence of shocks among the non-poor is related to households experience covariate shocks related to

⁵⁶ It should be noted that the questionnaires are not strictly comparable between 2007 and 2012. While the 2007 modules lists a possible set of 11 shocks, including “Another huge problem”, the 2012 module is more detailed, asking about 23 possible shocks, including in particular, agriculture-related shocks and shocks affecting the local economy and community. It is likely that the longer list of possible options in 2012 elicited a better response, and as a result 2012 prevalence rates are significantly higher.

agriculture—including drought, the loss of assets or livestock, reduced agricultural water quality, pests and diseases and reduced availability of grazing areas. These are also reflected in 15 percent of rural household reporting having experienced an agriculture related shock, especially in Kurdistan and the North, with prevalence rates of 8 and 10 percent respectively. These may be reflecting the drought experienced in northern Iraq and Syria between 2007 and 2009. In 2012, as in 2007, the prevalence of different types of shocks does not vary by poverty status, except as noted already, covariate shocks related to agriculture. While the prevalence of shocks was higher in urban areas in 2007, explained by higher job-related shocks, in 2012, rural areas experienced higher shocks, driven by agricultural shocks.

In 2012, households in Baghdad were most likely to report having experienced a shock in the last 12 months. About a third of households had experienced at least one shock, and a fifth reported a ‘local’ shock—an aggregation that includes reduced drinking water quality and availability; an unusually high level of human disease; or unusually high prices of food and other essential commodities. These local shocks were also quite high across the other divisions, and in addition, agriculture-related

FIGURE 190: Incidence of Shocks by Poverty Status, 2012

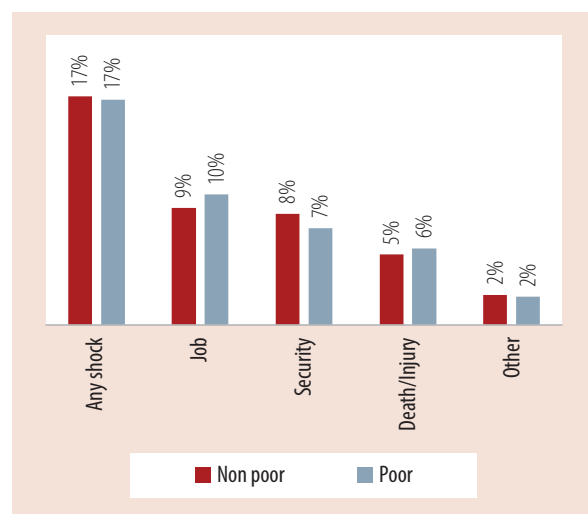


Source: Authors' calculations, IHSES 2007 and 2012.

shocks were relatively high in Kurdistan, the North and the Centre.

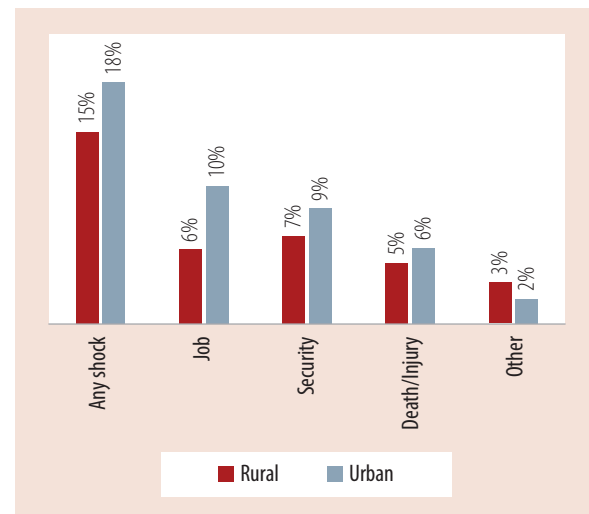
The 2012 IHSES data also includes information on the effect of the shocks on households, i.e., households report whether they increased, decreased or did not alter food purchases, food stocks, food production, assets and income as a result of each type

FIGURE 189: Incidence of Shocks by Poverty Status, 2007

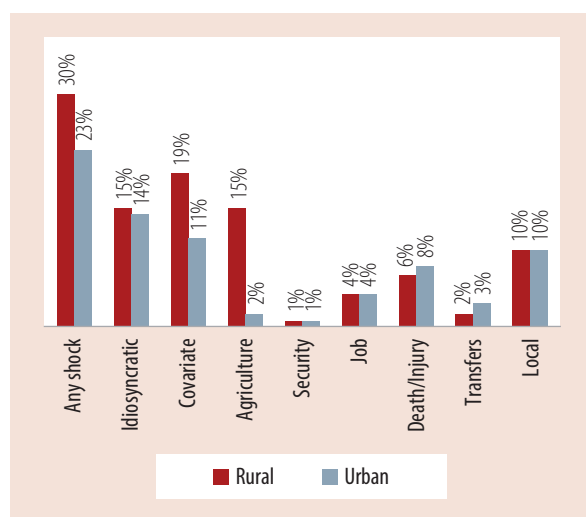


Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 191: Prevalence of Shocks in Urban and Rural Areas, 2007



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 192: Prevalence of Shocks in Urban and Rural Areas, 2012

Source: Authors' calculations, IHSES 2007 and 2012.

of shock. Irrespective of whether the shock was idiosyncratic, i.e., household or individual specific, or covariate, i.e., community or locality specific, around four-fifths of households reported a reduction in income, around two-thirds reported a reduction in food purchases, 60 percent reported reducing food stocks. Reduction in assets and food production was less likely, while 12 percent of households increased food purchases.

For households faced with agriculture-related shocks, around 60 percent reduced food purchases, stocks, and production; a similar proportion experienced a reduction in assets, and almost 90 percent experienced falling incomes. No other shock results in such a decrease across food, assets and income.

For most other types of shocks, in general, the primary impact seems to be in terms of a reduction in incomes and in food purchases, with food stocks, production and assets being less affected. While differences in food production effects are understandable (as those experiencing agricultural shocks are also likely to be those engaged in food production), on average, between 20 and 30 percent of households experience declining assets in the face of other types of shocks. In terms of transfer shocks, including the decline in rations, more than 80 percent of households reported experiencing a decline in incomes as a result, and while 80 percent reduced food stocks, and 70 percent cut back on food purchases, 20 percent had to increase food purchases to compensate for the lack of PDS items.

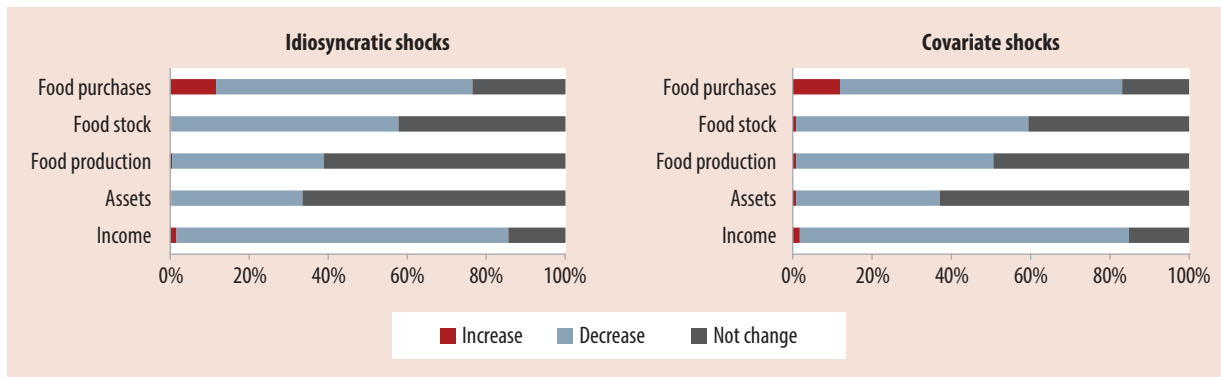
The main coping strategies of households appear to be fairly similar across idiosyncratic and covariate shocks, with about a third of households relying on their own savings, and less than a fifth doing nothing. One important difference, however, is that households were more likely to reduce the quantity, quality and variety of food or purchase food on credit in response to covariate shocks; whereas in response to individual or household specific shocks, loans, credit and assistance from friends and relatives becomes more important. These patterns are reflected in responses to agricultural and local shocks, which are primarily covariate shocks. In contrast, the dependence on social and family networks is more important in responding to individual or household level shocks including job-related shocks, or those related to death or injury of a family member. In the case of shocks related to transfers, rations and

TABLE 40: Prevalence of Shocks, 2012

	Any shock	Agriculture	Security	Job	Death/Injury	Transfers	Local
Kurdistan	24%	8%	2%	3%	10%	0%	8%
Baghdad	31%	2%	1%	5%	7%	3%	19%
North	27%	10%	2%	2%	6%	6%	8%
Centre	27%	7%	1%	6%	9%	3%	8%
South	15%	4%	0%	2%	6%	1%	6%

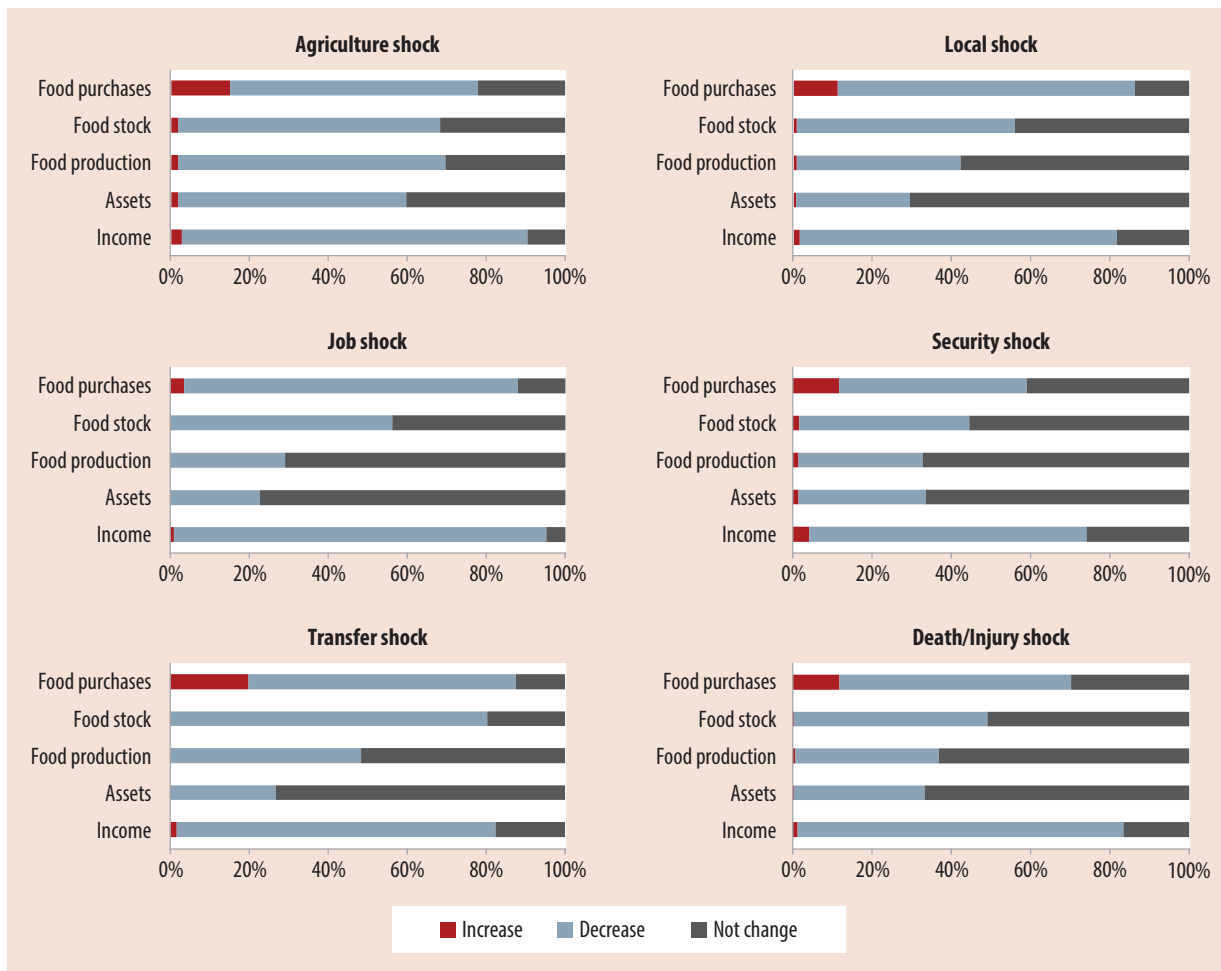
Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 193: Household Perceptions of the Effects of Different Shocks, 2012



Source: Authors' calculations, IHSES 2007 and 2012.

FIGURE 194: Household Perceptions of the Effects of Each Type of Shock, 2012

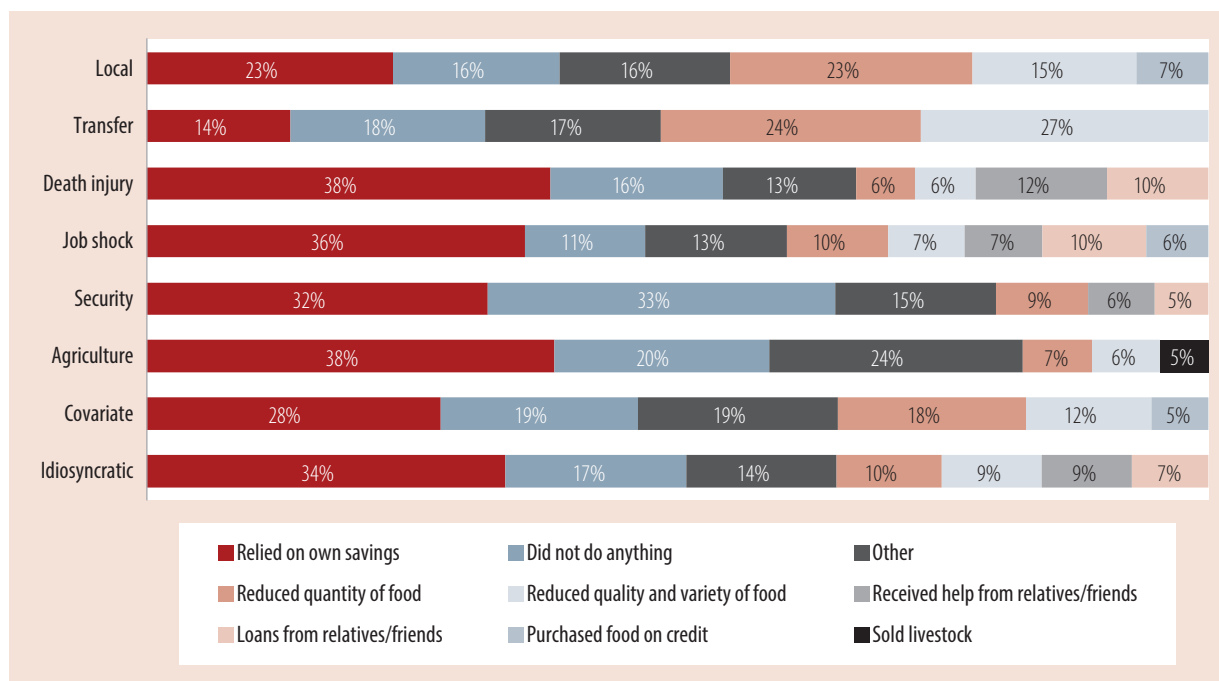


Source: Authors' calculations, IHSES 2007 and 2012.

remittances (which primarily comprises rations), the food response seems to be particularly important;

with households, with 50 percent of households reducing the quality and quantity of food in response;

FIGURE 195: Main Response to Each Shock, 2012



Source: Authors' calculations, IHSES 2007 and 2012.

and only 14 percent relying on savings. Thus, faced with declining ration items, many households further cut back on food consumption in terms of quantity, quality and variety.

Simulation of the Welfare Impact of the PDS

Even though the total expenditure on the Public Distribution System has reduced as a share of GDP over the last 5 year period (Figure 184), and the total amount expended by the government has decreased in real terms from 2.3 to 1.1 ID trillions, it still represents a fiscal burden for the government budget. While the PDS provides a level of broad food security to the poor and vulnerable in Iraq, it also covers more than 95 percent of the non-poor, and is therefore, a very expensive safety net program. Moreover, in its current form, it suffers from significant inefficiencies in procurement, distribution, and management, and implies significant macro-economic distortions because of its heavy reliance on food imports and its universal nature. For this and many other reasons, including the need for the introduction of a comprehensive safety net system

going beyond food subsidies, the government of Iraq is considering further reforms to the PDS.⁵⁷

In this section, we analyze the impacts of changes in the PDS on household welfare under different reform scenarios. To do that, we use a partial equilibrium setting which will allow us to estimate demand responses that are essential in predicting outcomes of various policy reforms and in undertaking projections of food demand. This framework will answer questions such as: how will consumers throughout the entire consumption distribution adjust their demand for rice and other food items if the effective price of rice is increased as a consequence of the reduction in PDS rice distribution?; or, what will be the effect on market demand of vegetable oil, brown flour or sugar?

The model we use for this analysis, the Mixed Demand model, attempts to capture the consumption

⁵⁷ The Government of Iraq is currently considering moving to a 'smart card' system of delivery of PDS entitlements, and potentially a means-targeted eligibility criterion for the PDS.

structure of Iraqi households, given the particular characteristics of ration items and the distortions these goods impose on their own markets and on those of other freely traded market goods.⁵⁸ The two major empirical difficulties tackled by this approach, relative to more traditional demand systems such as the Almost Ideal Demand System (AIDS) are the following: the lack of enough variability in the price of ration goods makes it impossible to identify price effects; and the identification of demand from observed purchases given that the quantity supplied to each household is fixed.⁵⁹

However, this methodological approach makes assumptions which are common to these types of demand systems in order to identify demand patterns. Among these, it assumes that all goods are purchased by households. This assumption has empirical implications: given that not all households within IHSES 2012 consumed or purchased all items, it generates an unbalanced sample across commodity groups. To solve this problem, we estimate the model at the stratum level for different quintiles in different geographic areas (i.e. urban and rural or Kurdistan and other regions), instead of household level. The choice of aggregating over the stratum level generates a loss in information in the data compared to an analysis at the household level, but it avoids the need to adopt more sophisticated procedures for dealing with multiple corner solutions in demand systems.⁶⁰

Another choice which is essential for this kind of analysis is the type and number of goods included. In the Iraqi case, the type of goods is easily defined by their nature: ration and non-ration items. It is the number of items which represents a problem. Larger demand systems are harder to deal with than smaller ones; the more goods, the greater the computational burden, and the harder it is to report the results.⁶¹ To avoid this problem, we firstly included four out of eight ration items with significant budget shares: rice, brown wheat, sugar and vegetable oil. Table 41 shows that these items contribute more than 98 percent of total rations expenditure across the entire distribution; and their share in total

TABLE 41: Budget Shares of Ration Items by Decile of Per-Capita Consumption, 2012

	Total rations (% of total expenditure)	Rice	Brown wheat	Sugar	Vegetable oil
1	16.52	6.43	2.67	3.95	3.28
2	11.63	4.41	1.91	2.78	2.31
3	9.59	3.64	1.58	2.31	1.95
4	8.03	2.99	1.26	1.99	1.67
5	6.87	2.58	1.08	1.69	1.42
6	5.96	2.15	0.93	1.50	1.26
7	5.05	1.79	0.78	1.32	1.10
8	4.12	1.41	0.63	1.09	0.93
9	3.27	1.11	0.47	0.88	0.77
10	1.93	0.58	0.26	0.56	0.49

Source: Authors' calculations, IHSES 2007 and 2012.

expenditure are larger than one percentage point in almost all deciles.

Secondly, we consider four goods which are substitutes or complements for the ration items which are traded in the free market. These are rice, cereals, sweets and oils, which are composite goods, i.e., goods for which prices within each group of commodities move in parallel, so that the corresponding group can be treated as a single good.⁶² In sum, our system is estimated for a total of eight items: four rations and four non-rations.

⁵⁸ The Almost Ideal Demand System (AIDS) is not the best methodological approach to use. This is essentially because the existence of food subsidies in the consumer demand system is associated with individual consumption quotas, which introduce nonlinearities in demand functions (see Annex for further details on the model).

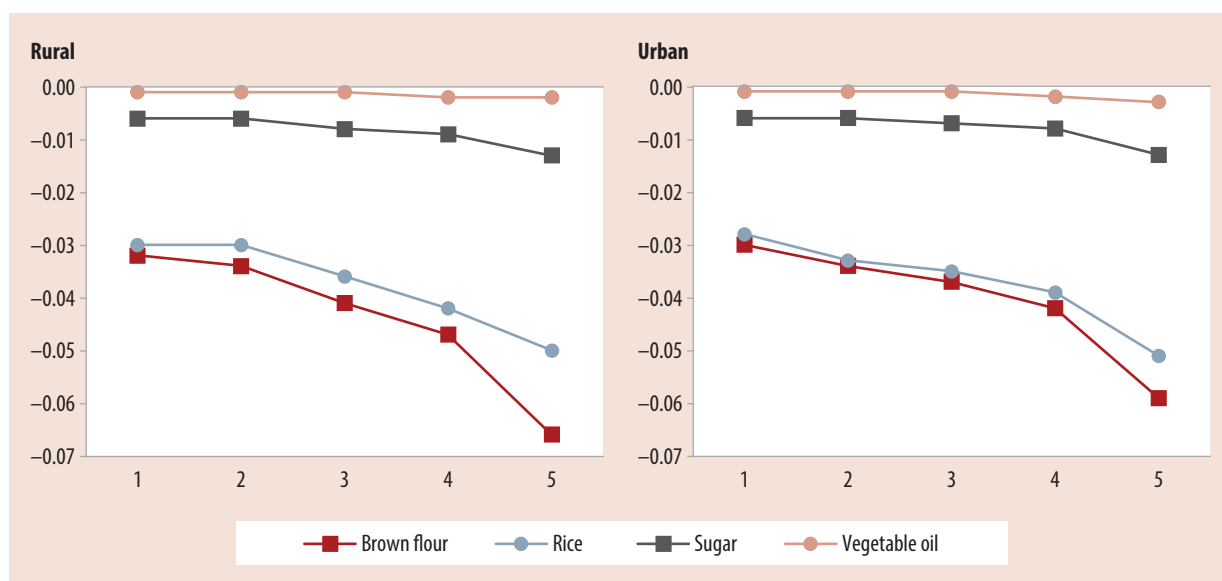
⁵⁹ In particular cases such as Iraq where rationing quotas are conditioned upon observed characteristics of the household, some degree of variability in purchased quantity is possible. However, we opted for the Mixed Demand Model.

⁶⁰ See Ramadan and Thomas (2011).

⁶¹ Deaton (1997).

⁶² Deaton and Muellbauer (1980).

FIGURE 196: Own-Price Elasticities of Ration Items by Quintile of Per Capita Consumption and Area, 2012



Source: Authors' calculations, IHSES 2007 and 2012.

Note this methodological approach is quite useful to simulate variations in prices and quantities which are not significant enough to make individuals shift from their initial utility levels. Thus, significant changes in prices will need a general equilibrium framework rather than this type of analysis, because it would include all links and implications between macro and micro levels sectors. However, its major constraint is the intense information demand which makes them difficult to apply in most developing countries. Another caveat of the mixed demand model is that requires a closed form expression of utility functions.⁶³ In other words, results depend on the assumed function used to represent households' satisfaction levels (i.e. utility).

How does household demand respond to changes in own prices?⁶⁴

In general, it is expected that quantities demanded of a particular good will decrease in response to an increase in its own price (law of demand) and these types of goods are classified as normal. Price elasticity of demand (own-price elasticity) gives the percentage change in quantity demanded in response to

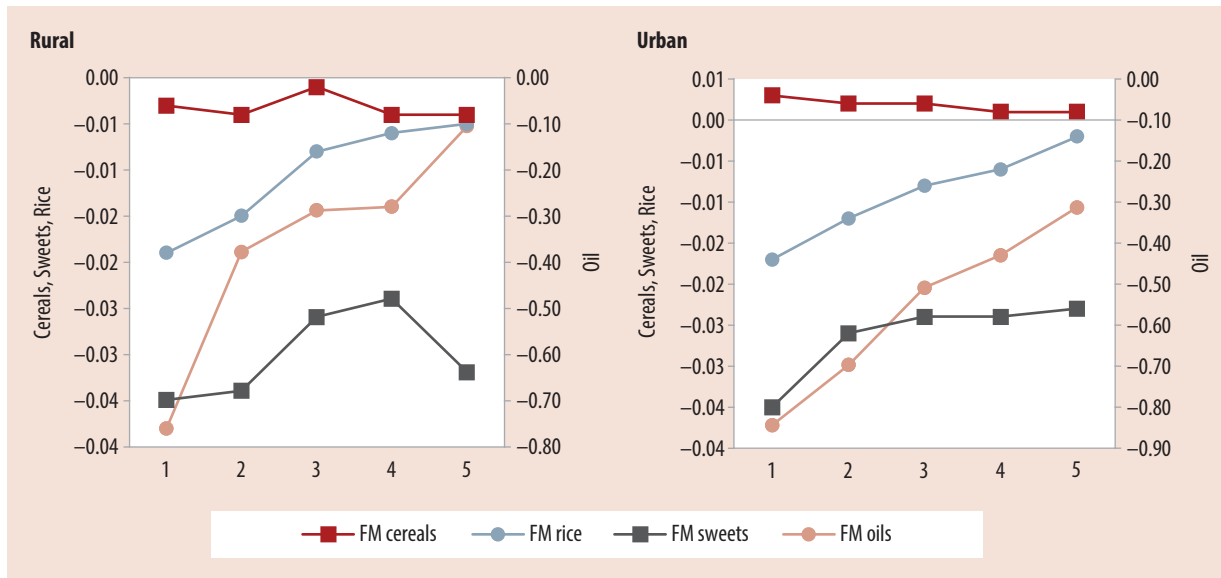
a one percentage change in price holding everything else constant. When this relationship is positive, then these goods are considered as luxury goods.

Figure 196 and Figure 197 present the own-price elasticities of the four ration and free market items in urban and rural Iraq respectively. Overall, the estimates suggest that these particular items are essential in the consumption basket of Iraqis with the exception of free market oils. In other words, Iraqi households are almost non-responsive in terms of altering demand to changes in food prices of ration items and their free market equivalents. If, for example, the price of ration brown flour increases 10 percent, consumers living in rural areas would decrease their demand for ration by 0.3 percent if they are in the bottom 40 percent of the consumption distribution. Similarly, if prices of sugar increase by

⁶³ We are using the Gorman Polar form suggested by Moschini and Rizzi (2007).

⁶⁴ Estimates of the cross-price elasticities are not presented in this report. See Ramadan, Krishnan and Olivieri (2014) for estimates of cross-price elasticities for 2012 IHSES and their interpretation.

FIGURE 197: Own-Price Elasticities of Free Market Goods by Quintile of Per Capita Consumption and Area, 2012



Source: Authors' calculations, IHSES 2007 and 2012.

10 percent, irrespective of consumption quintile or of living in rural or urban areas, consumers reduce their demand by only 1 percent or less. However, if the price of free market oil increases by 10 percent in rural areas, demand for oil by Iraqi consumers would decrease by 8 percent in the lowest quintile.

Having said this, there is some variation of elasticities levels across quintiles especially for free market goods (Figure 197). The elasticities of three out of four free market products (i.e. rice, sugar and oil) decrease as consumption per capita increases. In other words, less well-off households are more responsive to changes in prices of free market goods than those located in the upper part of the distribution. However, the opposite happens for ration items particularly for rice and brown flour. Richer households are more responsive to variations in prices of ration items than poorer households. Well-off households may have other options like selling their quotas in the market or substituting them for better quality goods than less well-off households. Finally, elasticity for ration oil and sugar and for free market cereals varies little by consumption quintile, and the demand response to changes in price are uniformly close to zero.

How does income affect consumption patterns?

After price and quantity adjustments (like substitution) have taken place, households may end up with net positive or negative income. The income or expenditure elasticity of demand measures the responsiveness of the demand for a good to a change in the income/expenditure of the people demanding that particular good, holding everything else constant. A negative expenditure elasticity of demand is associated with “inferior” goods while a positive value with “normal” goods.

Table 42 presents the expenditure or income elasticities of ration and free markets goods by area and quintiles. Overall, most products show a positive expenditure elasticity in both areas and across quintiles. This implies on the one hand that these are normal goods i.e. their consumption increases when expenditure increases, and on the other hand these are necessary goods, which are reflected by values less than one. Another takeaway is that more expensive food items such as free market goods have relatively high expenditure elasticities for all quintiles relative to ration items. At the same time, less well-off households

TABLE 42: Expenditure Elasticities by Quintile of Per Capita Consumption and Area, 2012

Quintiles	Ration Products				Equivalent Free Market Products			
	Brown Flour	Rice	Sugar	Oil	Brown Flour	Rice	Sugar	Oil
Rural								
1	0.015	-0.024	0.005	0.021	0.086	0.353	0.359	-0.017
2	0.084	-0.005	0.006	0.023	0.054	0.227	0.259	-0.021
3	0.059	-0.009	0.005	0.027	0.045	0.155	0.213	-0.022
4	0.027	0.003	0.005	0.030	0.037	0.118	0.180	-0.013
5	0.263	0.082	0.017	0.044	0.033	0.072	0.166	-0.046
Urban								
1	-0.057	-0.008	0.000	0.019	0.060	0.359	0.292	0.087
2	-0.073	-0.014	0.000	0.022	0.044	0.256	0.224	0.085
3	-0.093	-0.004	-0.001	0.025	0.035	0.175	0.187	0.061
4	-0.088	0.012	-0.001	0.028	0.029	0.129	0.162	0.042
5	-0.146	0.035	-0.002	0.041	0.023	0.082	0.152	0.017

Source: Authors' calculations, IHSES 2007 and 2012.

are more responsive than their well-off counterparts for free market goods, which is a common pattern.

However, there are exceptions like ration brown flour and free market oils. The expenditure elasticities for ration brown flour are negative in urban areas and positive in rural areas for all quintiles. This indicates that ration brown flour is a marginally “inferior” good in urban Iraq: if household incomes increased by 10 percent, demand for ration brown flour would decrease from 0.5 up to 1.5 percent in urban areas. The opposite happens for free market oil which is marginally a “normal” good in urban areas and the opposite in rural areas.

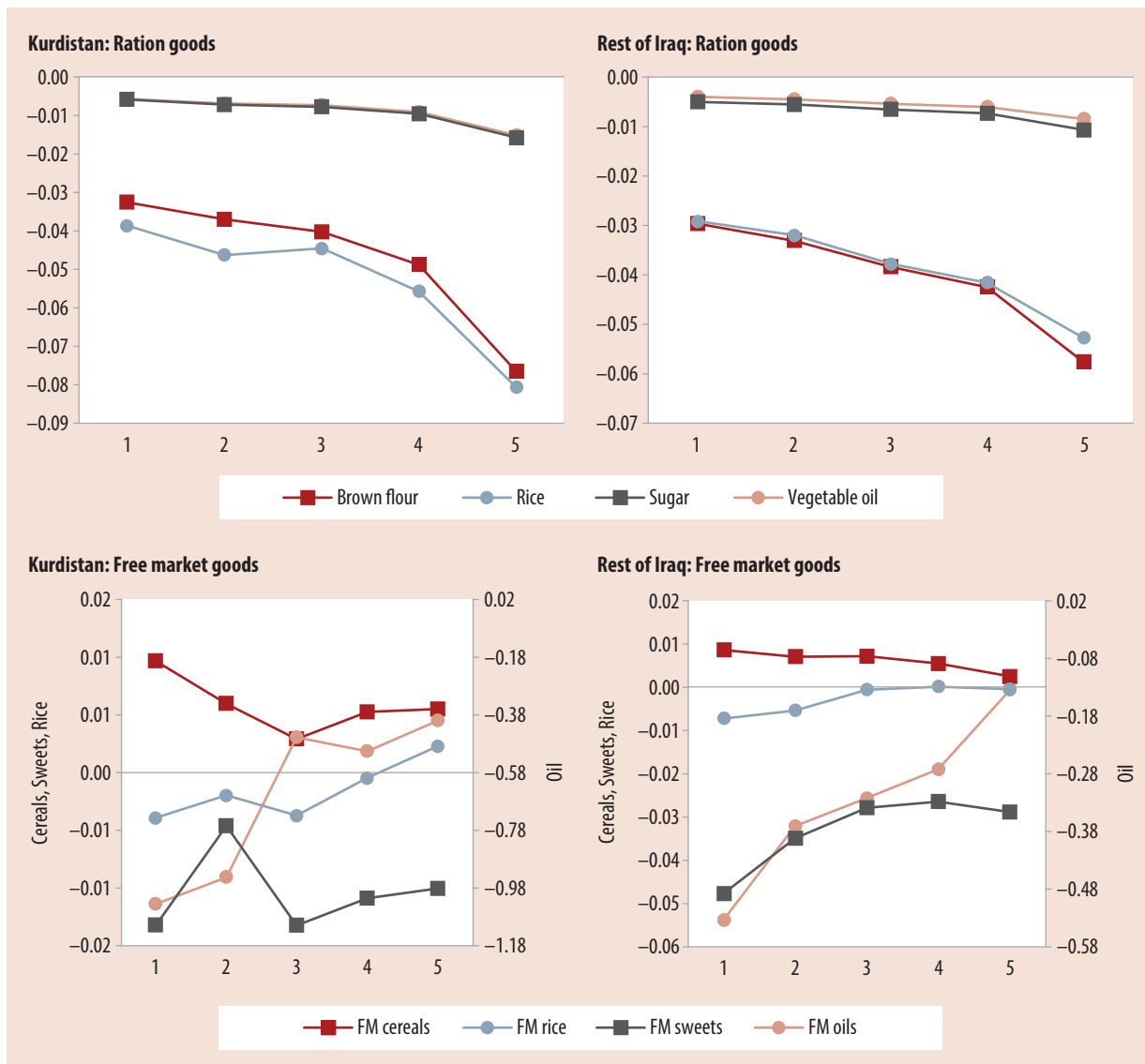
How would consumers adjust their consumption responses over time?

Given the lack of information of future consumer responses to changes in prices and expenditure, one way to understand behavior over time is by exploiting the rich and vast spatial disparities that Iraq has. In other words, consumer behavior in better off regions may be a rough approximation of how worse off regions today will behave in the future as their welfare levels improved, holding everything else

constant. Thus, we consider how households would adjust their consumption patterns over time, as welfare levels improved, by comparing current demand responses in Kurdistan and the rest of Iraq. We take Kurdistan as the reference region because their current consumption levels of ration items are the lowest in the country and because their per capita expenditure levels are the highest on average.

Similar consumption responses to changes in own-prices of ration and free market goods are seen for Kurdistan and for the rest of Iraq relative to previous findings for urban and rural area (Figure 198). Overall, most goods are ordinary goods meaning that demand for these type of goods decrease when there is an increase in their own prices. Not surprisingly, ration items are much less elastic than free market goods. However, all levels responses are higher in Kurdistan than in the rest of Iraq and also higher than the estimates for urban areas shown above. At the same time, well-off households in Kurdistan region are much more responsive to variations in prices of ration goods and the opposite for their free market equivalents than in the rest of Iraq and in urban Iraq. In other words, in line with higher welfare levels in Kurdistan relative to urban Iraq, and in urban

FIGURE 198: Own-Price Elasticities of Ration Items by Quintile of Per Capita Consumption and Area, 2012



Source: Authors' calculations, IHSES 2007 and 2012.

Iraq relative to rural Iraq, the flexibility of consumer demand to changes in prices increases. Thus, as the economy grows, consumers face greater options and ability to substitute away from ration items and increase their consumption of free market goods.

This pattern in consumer behavior is quite clear when inspecting demand responses for goods to variations in total household expenditure and income. In general, most rations items are marginally

“inferior” goods in the Kurdistan region irrespective of the level of per capita consumption. In other words, as household expenditures increase by 10 percent, demand will fall by between 0.4 and 3.4 percent for brown flour and by around 0.7 percent for rice. Opposite responses are obtained in the Rest of Iraq: ration items are considered “normal” goods. In sum, as the economy evolves and the levels of income increases across the distribution, and as the rest of the country approaches the higher welfare

TABLE 43: Expenditure Elasticities by Quintile of Per-Capita Consumption and Area, 2012

Quintiles	Ration Products				Free Market Equivalents			
	Brown Flour	Rice	Sugar	Oil	Brown Flour	Rice	Sugar	Oil
Kurdistan								
1	-0.04	-0.07	0.00	0.03	0.04	0.29	0.21	0.16
2	-0.10	-0.11	0.00	0.03	0.04	0.18	0.20	0.17
3	-0.02	-0.07	0.00	0.04	0.03	0.12	0.18	0.06
4	-0.13	-0.07	0.00	0.04	0.03	0.09	0.15	0.08
5	-0.34	-0.07	-0.01	0.07	0.02	0.06	0.14	0.05
Rest of Iraq								
1	0.03	0.01	0.00	0.02	0.09	0.46	0.37	-0.13
2	0.05	0.02	0.00	0.03	0.06	0.35	0.25	-0.09
3	0.00	0.02	0.00	0.03	0.04	0.25	0.21	-0.07
4	-0.02	0.03	0.00	0.03	0.03	0.20	0.17	-0.06
5	0.06	0.09	0.00	0.05	0.03	0.12	0.16	-0.06

Source: Authors' calculations, IHSES 2007 and 2012.

levels of Kurdistan, these types of ration goods will be less demanded in the short run.

Thus we see that in part, demand elasticities for ration items are likely to become larger as welfare levels improve allowing for a decline in consumption of ration items when faced with price increases and a greater consumption of free market goods as incomes rise. Another piece of the puzzle is how big these price elasticities would be in an economy where developed markets of ration goods exist. Given that ration goods are universally distributed in Iraq, the spatial framework used until now is relatively uninformative.

We obtain suggestive evidence by comparing Iraq with Egypt, where a public distribution system exists for food but it is not a universal system. Table 44 presents own-price elasticities for ration items in Egypt. There are several differences between the PDS system implemented in Egypt and in Iraq. For instance, while in Iraq, quantities of ration items are a function of the number of members included in the ration card, Egypt distributes fixed quotas and subsidies for cooking oil and sugar and consumers can complement them from the free market.⁶⁵ In

TABLE 44: Own Price Elasticities by Subsidy Products, Egypt 1997 and Iraq 2012

		Egypt	Iraq
Subsidy plus Quantity ration	Cooking oil	-0.030	-0.002
	Sugar	-0.120	-0.008
	Brown Flour		-0.042
	Rice		-0.037
Subsidy only	Wheat flour	-0.060	
	Bread	-0.120	

Source: Authors' calculations, IHSES 2007 and 2012.

addition, wheat flour and bread are subsidized universally, and there is no quantity rationing so that households can acquire as much as they would like to consume at the subsidized price. Perhaps because of these differences, Egypt has a far more developed market for ration items and own-price elasticities are far (almost 15 times) higher than in Iraq, where there is negligible trade in PDS items.

⁶⁵ Further details on the Egypt system: see Ramadan and Thomas (2011) and Ahmed, Bouis, Gutner and Lofgren (2001).

PDS reform scenarios and their simulated welfare impacts

The analysis so far suggests that faced with changes in the effective prices of ration items, households will, on average, have very limited change in their demand for these items. However, there are also some indications that ration goods slowly become less preferred at least for those households who have larger budgets. For instance, brown flour, which accounts for the largest share of expenditures within ration items, is an inferior good in urban areas as well as in Kurdistan. Moreover, rice from rations also is an inferior good in Kurdistan. On the other hand, as welfare levels improve in rural areas, people will not significantly lower their demand for ration brown flour, sugar and oil in the short run, which is also true for urban areas, Kurdistan and the Rest of Iraq. However, as a result of higher prevailing welfare levels in urban areas and particularly in Kurdistan region, as well as the presence of relatively well-functioning markets, consumers do exhibit more flexible consumption patterns.

Taking these into account, we propose two reform scenarios of the Public Distribution System which may minimize the social effort by removing ration items from those households who may need them the least or who could easily adjust their consumption or a combination of both. The first scenario (Scenario A) consists in targeting rations only to the bottom 60 percent of the urban (or Kurdistan) consumption distribution and entire rural (or Rest of Iraq) population. The second scenario (Scenario B) involves in targeting rations only to rural (or Rest of Iraq) areas. The simulation process is the same for both scenarios: we start removing ration items, from the smallest to the largest ration item, one by one according to the importance of the item measured by its share in the total expenditure.

Note, in both scenarios, simulations do not consider spillover effects and/or effects among and between households who live in the same or different geographic areas. These are strong assumptions, given that when such policies are implemented may result in black markets and leakages without simultaneous implementation of effective targeting policies.

Table 45 shows the average change in the welfare aggregate for both scenarios and each simulation step by quintile of the consumption aggregate in urban areas. According to the previous discussion, eliminating the ration system would be approximately equivalent to increasing the price of ration items up to the market price levels given the low response of consumers to variations in prices and expenditures. This will affect directly consumer's welfare levels by reducing them by one-fifth to one-third for the upper quintiles in Scenario A and up to 60% for the lowest quintile in urban areas in Scenario B.

As the country grows, households would become better-off and the demand for ration items would reduce as consequence of being "inferior" goods. To account for this possibility, we focus on the results based on the Kurdistan-Rest of Iraq comparison. Table 46 shows the average change in the welfare aggregate for both scenarios and each simulation step by quintile of the consumption aggregate in Kurdistan. Given the higher elasticities to changes in own prices and in incomes in Kurdistan, the welfare impact of this type of reform of the

TABLE 45: Average Change in Total Expenditure by Quintile in Urban Areas

Scenario A	Rice	Rice + Oil	Rice +	Rice +
			Sugar + Oil	Sugar + Oil + Wheat
1 (Poorest)	0%	0%	0%	0%
2	0%	0%	0%	0%
3	0%	0%	0%	0%
4	-8%	-14%	-23%	-34%
5 (Richest)	-7%	-10%	-17%	-20%
Scenario B	Rice	Rice + Oil	Rice +	Rice +
			Sugar + Oil	Sugar + Oil + Wheat
1 (Poorest)	-12%	-24%	-39%	-60%
2	-10%	-21%	-33%	-51%
3	-9%	-17%	-28%	-43%
4	-8%	-14%	-23%	-34%
5 (Richest)	-7%	-10%	-17%	-20%

Source: Authors' calculations, IHSES 2007 and 2012.

TABLE 46: Average Change in Total Expenditure by Quintile in Kurdistan Region

Scenario A	Rice	Rice + Oil	Rice + Sugar + Oil	Rice + Sugar + Oil + Wheat
1 (Poorest)	0%	0%	0%	0%
2	0%	0%	0%	0%
3	0%	0%	0%	0%
4	-8%	-11%	-18%	-27%
5 (Richest)	-7%	-6%	-10%	-12%

Scenario B	Rice	Rice + Oil	Rice + Sugar + Oil	Rice + Sugar + Oil + Wheat
1 (Poorest)	-11%	-20%	-32%	-46%
2	-10%	-18%	-28%	-42%
3	-8%	-14%	-23%	-34%
4	-8%	-11%	-18%	-27%
5 (Richest)	-7%	-6%	-10%	-12%

Source: Authors' calculations, IHSES 2007 and 2012.

PDS system is relatively smaller than what might be expected for urban areas as a whole. The largest impact is experienced by the poorest quintile in Scenario B, a reduction in welfare levels by half, compared to a 60 percent decrease in expenditures for the poorest 20 percent in urban areas. In Scenario A, where the top 40 percent are excluded from receiving PDS items, the welfare impact on the richest quintile in Kurdistan is a decline in average expenditures by 12 percent compared to 20 percent for the richest quintiles in urban Iraq. This may reflect the fact that consumers are less

impacted by PDS reforms because they already consume lower quantities in Kurdistan and can adjust their demand for ration items more easily when both initial levels of welfare are higher and markets are relatively well developed.

To conclude, the poorer segments of the consumption distribution in Iraq are disproportionately dependent on public and private transfers to supplement their relatively low earnings on the labor market. Most of these transfers are however, small, and cover a fraction of the poor. The single exception is the Public Distribution System, which guarantees a minimum amount of caloric consumption for not just the poor, but the whole population. Given its universal nature, large fiscal costs, and the significant distortions the PDS introduces in the economy as a whole, we try to estimate the welfare impact of reforming the PDS by targeting it to a section of the population. Given the universality of consumption, the lack of a market for ration items, and the low levels of income for much of the population, household consumption of PDS items is relatively inelastic to changes in price, and for much of the population, these goods are not inferior, but rather normal goods. However, there are some signs that with improvements in welfare levels, and faced with well-functioning markets, some segments of the population are substituting away from the PDS and increasing their consumption of market substitutes. Overall, this suggests that while any one-shot reform will have adverse and sizeable welfare impacts, over time, and with increases in incomes, some households may not be as significantly affected.

Policy Implications: Learning from the Past to Build a Better Future

More than in most countries, poverty and deprivation in Iraq are symptomatic of its daunting legacy of violence and fragility, of a skewed economy heavily dependent on oil and on public intervention, and of decades of lost development. Addressing the twin goals in this context and with continuing violence will require a concerted and multi-sectoral approach, combining short-term and medium-term efforts.

Establishing and maintaining peace and security across the nation is a pre-requisite for sustained and healthy economic growth. Moreover, Iraq will need to strengthen the natural links between growth and welfare through better management of oil resources, non-oil diversification of the economy, bridging spatial inequities, private sector development and implementing a well-designed and comprehensive safety net system. An economic growth process that creates employment and increases earnings, while maintaining incentives for labor participation and investments in education, is the least costly path to poverty reduction and inclusion. At the same time, Iraq faces a large deficit in infrastructure, services and human capital, which will need to be redressed. Moreover, targeted interventions are called for, to address long-standing inequities across space and groups.

In identifying areas for policy action, a few key principles are critical to keep in mind:

- Peace, security and economic growth are foundational pre-requisites for development, without

which welfare gains will be difficult to realize and sustain;

- Sequencing will be very important to secure gains from reform, and supply and demand side constraints will need to be relaxed simultaneously: for instance, investing in education access and quality will not bear fruit absent adequate productive employment opportunities that generate appropriate returns on the labor market;
- Taking advantage of spillovers and complementarities, such as spatially targeted public works programs to generate employment and increase incomes which also have the potential to redress the infrastructure deficit and build skills for future jobs;
- Finally, while there is clear scope for urgent action, other efforts are also needed that will require a medium to long term horizon.

A comprehensive policy framework for enhancing the welfare of Iraq's citizens will require a three-pronged approach:

- Establishing and maintaining peace and security is a fundamental pre-requisite.
- Maintaining economic growth, managing oil revenues, promoting the diversification of the economy in favor of non-oil and private sector led activities. While these will bear fruit in the medium and long terms, the seeds must be sown now.
- Implementing an effective and comprehensive system of safety nets to address the multiple deprivations and vulnerabilities of the population, while

redressing the human capital deficit and spatial inequities.

The analysis presented in this report thus far points to the myriad and deep-rooted challenges to poverty reduction and broad-based prosperity in Iraq. More than in most countries, poverty and deprivation in Iraq are symptomatic of its daunting legacy of violence and fragility, of a skewed economy heavily dependent on oil and on public intervention, and of decades of lost development. Addressing the twin goals in this context and with continuing violence will require a concerted and multi-sectoral approach, combining short-term and medium-term efforts.

Policy Imperatives

Establishing and maintaining peace and security across the nation is a pre-requisite for sustained and healthy economic growth. Moreover, Iraq will need to strengthen the natural links between growth and welfare through better management of oil resources, diversified development of the economy, enabling the private sector and implementing a well-designed and comprehensive safety net system. An economic growth process that creates employment and increases earnings, while maintaining incentives for labor participation and investments in education, is the least costly path to poverty reduction and inclusion. At the same time, Iraq faces a large deficit in infrastructure, services and human capital, which will need to be redressed. Moreover, targeted interventions are called for, to address long-standing inequities across space and groups.

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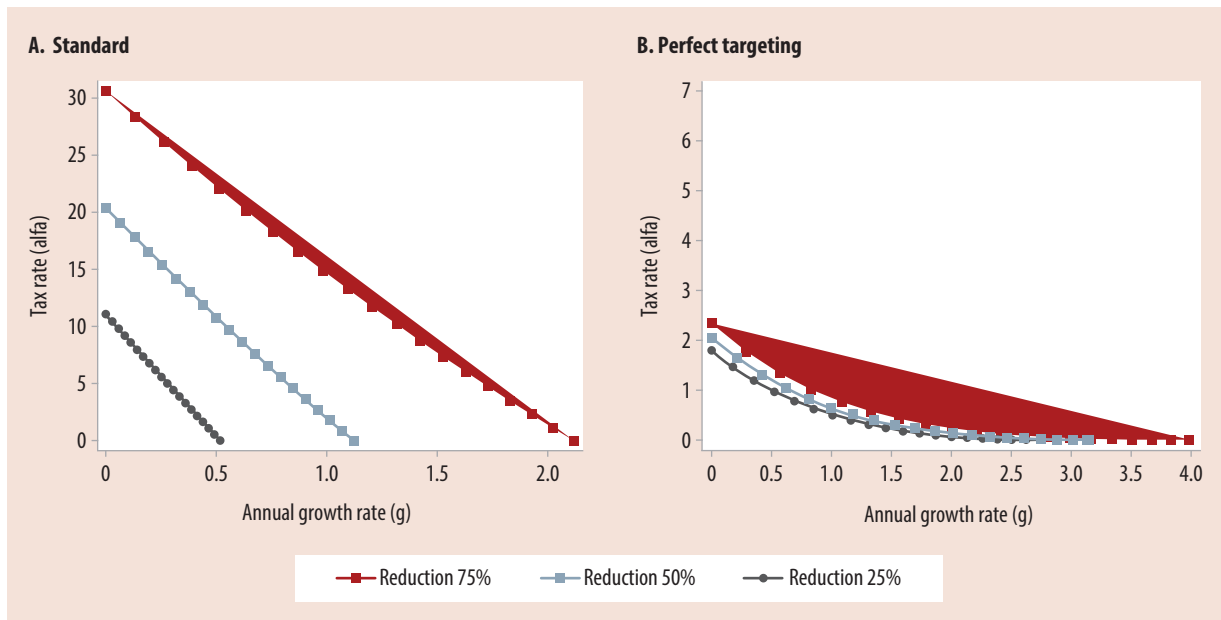
- Taking advantage of spillovers and complementarities, such as spatially targeted public works programs to generate employment and increase incomes which also have the potential to redress the infrastructure deficit and build skills for future jobs;
- Finally, while there is clear scope for urgent action, other efforts are also needed that will require a medium to long term horizon.

The current strategy towards poverty reduction depends overwhelmingly on public intervention, either through the creation of jobs in the public sector, or through the distribution of transfers, primarily universal food subsidies. This former approach is neither creating adequate jobs, nor promoting private sector development, and is in fact posing significant disincentives to labor force participation. The Public Distribution System remains the only safety net that adequately covers the poor, and while it does provide a base level of food security, childhood malnutrition remains a concern, and the PDS is inadequate to address the multiple deprivations in human capital and labor market opportunities faced by the less well-off segments of the Iraqi population. If the status quo—the current relationship between, growth, redistribution and poverty reduction—remains unchanged, it will take a sustained and significant effort in terms of growth and/or redistribution to achieve meaningful poverty reduction in the medium term.

Growth, Redistribution and Poverty Reduction

In order to understand the relationship between consumption growth, redistribution and poverty reduction, we undertake a micro-simulation exercise that illustrates the combinations of redistribution-neutral consumption growth and redistribution needed to attain certain hypothetical poverty-reduction targets. The roads leading to sustainable poverty reduction can be varied. For the purposes of this

FIGURE 199: Isopoverty Curves



Source: Authors' calculations, IHSES 2012.

exercise, we simplify the issue by thinking of poverty reduction as the result of either neutral per capita income (or consumption) growth, or redistributive policies, or a combination of both. Of course, reality is much more complex: there might be no policy instrument that increases productivity proportionally for all the population, while redistributive policies may take a significant toll on efficiency, and hence on incomes. However, it is still illustrative to know what the effort is needed in terms of neutral consumption growth and simple non-distortionary redistributive policies to attain a certain poverty target. This information is useful at least to have an idea of the 'distance' of the country from the poverty target in terms of consumption growth and redistribution.⁶⁶

In Figure 199, we present three *isopoverty* curves, combinations of distribution-neutral growth rates of consumption and simple redistributive policies, corresponding to the goals of reducing poverty 25, 50 and 75 percent from the current levels over the next eighteen years. In all cases, we take the official poverty line in Iraq, and we use household per capita consumption as the individual well-being measure. The vertical axis measures the consumption tax rate

(α), while the horizontal axis measures the annual consumption growth rate between 2012 and 2030 (g). Each point in the *isopoverty* curve corresponds to a combination of redistribution policy with a tax rate α and neutral growth at rate g needed to reduce poverty (25, 50 or 75 percent) from 2012 to 2030.⁶⁷

The curves in Figure 199 panel B are relatively 'flatter' than those of panel A, implying that the

⁶⁶ See Annex for details on the methodology.

⁶⁷ The position of an *isopoverty* curve shows how easy or difficult is for Iraq to meet the poverty-reduction target: the closer to the origin an *isopoverty* curve lies, the less consumption growth and income transfers are required to reach the target. The *isopoverty* curves are negatively sloped, indicating that it is possible to substitute or trade off consumption growth for income redistribution, and convex, indicating that the marginal rate of substitution between consumption growth and consumption redistribution is decreasing. The horizontal intercept indicates how much consumption growth the country needs in order to meet the poverty target with no additional consumption redistribution. The vertical intercept informs how much consumption redistribution the country needs in order to achieve the poverty target with no growth in consumption.

poverty-reduction impact of even a small transfer program is equivalent to that of many percentage points in accumulated consumption growth. For instance, an annual growth rate of almost 4 per cent between 2012 and 2030 is equal, in terms of poverty reduction, to an income transfer to poor people of more than two percentage points of the non-poor individuals' consumption (under the perfect scheme). In general, the curves are flatter for targeted transfer policies than for a simple redistributive policy, as the latter imply a greater fiscal effort to achieve the poverty-reduction goal.

Columns (i) and (ii) of Table 47 show the intercepts of the *isopoverty* curves with the horizontal and vertical axis for every kind of transfer program. Halving poverty through a simple redistributive linear policy demands an incremental tax rate of 20 percent of everyone's consumption and then distributing the revenues equally across the population, or alternatively an annual rate of consumption growth of 1.12 percent. On the other hand, if Iraq were able to implement a perfectly targeted system of transfers, the fiscal effort to halve poverty would be a much smaller by taxing 2 percent of non-poor's consumption.

Column (iii) shows the amount of consumption transferred from non-poor individuals to poor individuals as a percentage of the country's total consumption,

assuming no growth in consumption ($g=0$). For instance, in order to halve poverty, Iraq would need to transfer almost 2 per cent of non-poor individuals' total consumption to the poor people under the targeted scheme, if consumption were not to grow between 2012 and 2030. The same poverty-reducing effect could be achieved with no income redistribution along with an average annual consumption growth rate of 3 per cent between 2012 and 2030.

Although the effort required through consumption growth seems relatively small, over the last five years, consumption growth among the bottom 40 percent of the distribution has hovered around 1 percent, and has been below 2 percent for the population as a whole. This has occurred despite significant rates of GDP growth, on average, 7 percent per annum between 2008 and 2012. In other words, if nothing else were to change, and Iraq wanted to halve poverty by 2030, an average annual rate of GDP growth of roughly 7 percent would have to be maintained over the next 15 years, which is a challenge for any country. If a more ambitious target were conceived, GDP would have to grow even faster. The fundamental challenge is that the relationship between GDP growth and consumption growth is weak; and strengthening the relationship between the two, which will require a change in the composition and drivers of growth, will translate into larger gains in terms of poverty reduction for the same rate of GDP growth.

TABLE 47: Trading Off Consumption Growth and Redistribution for Poverty Reduction

	X axis ($\alpha = 0$)	Y axis ($g = 0$)	Cost ($g = 0$) (% of national consumption)
Standard			
25	0.52	11.09	
50	1.12	20.38	
75	2.12	30.63	
Targeted Transfer			
25	2.74	1.79	1.63
50	3.15	2.05	1.86
75	3.99	2.34	2.13

Strengthening the Relationship between Growth and Welfare

The foundational pre-requisite to economic growth and how and whether it translates into shared prosperity and poverty reduction is the establishment and maintenance of peace and security. That being said, an inclusive and broad-based development process can mitigate the risks of recurring violence, and vice versa, the deterioration of socio-economic conditions can severely test a fragile peace. The governorate of Nineveh, which had witnessed significant sectarian violence since 2003, and where poverty

headcount rates have increased by 11 percentage points between 2007 and 2012, is now reeling under an insurgency, and half a million people have fled the conflict there.

A comprehensive policy framework for enhancing the welfare of Iraq's citizens will require a three-pronged approach:

1. Establishing and maintaining peace and security is a fundamental pre-requisite
2. Maintaining economic growth, managing oil revenues, promoting the diversification of the economy in favor of non-oil and private sector led activities. While these will bear fruit in the medium and long terms, the seeds must be sown now.
3. Implementing an effective and comprehensive system of safety nets to address the multiple deprivations and vulnerabilities of the population, while redressing the human capital deficit.

Economic Growth, Oil Management and Diversification

Over and above the restoration of peace and security, the achievement of significant and sustained welfare gains will be predicated on economic growth and the diversification of the economy away from oil. In Iraq, as in many other developing countries, the heavy reliance on oil for growth, exports and government revenues also occurs within the context of a narrow and non-inclusive power structure that privileges 'short-term private enrichment over longer-term collective welfare enhancement'.⁶⁸ As a World Bank (2012) report highlights, the translation of natural resource rents into development gains will require credible intertemporal commitment on the part of government to both extractive companies and its citizens, as well as a more inclusive process of decision making and public accountability so that resource rents are allocated towards investments in service delivery and public good provision.

A first key step is greater oil revenue transparency, and in 2008, the Government of Iraq indeed committed

to publish all revenues from the oil sector under the Extractive Industries Transparency Initiative (EITI). Further, the 2012 Iraq Country Economic Memorandum and Public Expenditure Review recommend the creation of a sovereign "parking fund" and a fiscal stabilization fund to minimize the impact of oil revenue volatility on expenditure policy; improving the strategic orientation of public expenditure and enhancing the links between macro-fiscal policies and resource allocation; reorienting spending towards capital investment, and increasing the efficiency of current capital expenditure.

Moreover, while Iraq's major challenges are medium term, government response has been primarily short-term, pushing for a rapid expansion of oil production, without an accompanying vision for diversification of the economy. To address the multiple development challenges facing the country, an expansion in job creation led by a diversified private sector will be essential, which in turn requires a favorable investment climate, the availability of finance on competitive terms, and flexible labor market mechanisms and institutions.

While Iraq does have some of the key elements for a diversified economy—varied geography and climate, natural agglomeration centers, and a fairly large domestic market—these prospects have been eroded over time. That being said, there are opportunities for an expanded role of the private sector in construction, banking, industry and tourism, if the appropriate enabling environment is made available. Agriculture, which has long been neglected, will require significant investments in infrastructure, technology and extension services, but has the potential to protect rural livelihoods and stimulate the local economy. In time, these investments can lay the foundation for future competitiveness. Finally, the linkages between the oil sector and manufacturing can be strengthened, by encouraging, for instance, private producers of light manufacturing or less sophisticated industrial machinery used in the oil industry.

⁶⁸ Rents to Riches? The Political Economy of Natural-Resource Led Development. World Bank 2012.

It will be imperative for the public sector not to crowd out the private sector in being able to compete for talent and business. Rather, the key challenge for government is to put its significant revenues to efficient use, making critical investments in health, education, infrastructure and regional development, and in creating a well-targeted and comprehensive system of safety nets for the poor and vulnerable (World Bank, 2012, Iraq PER).

In the latter context, direct distribution of resource rents to citizens has sometimes been advocated, which require the presence of mechanisms to identify beneficiaries and guarantee payment procedures. For instance, Mongolia's Motherland Gift Fund pays dividends from its mining revenues to its citizens, while Alaska's Permanent Fund distributes USD 1 billion annually to its 600,000 citizens. These types of Direct Dividend Payments (DDP) are being increasingly advocated because improvements in technology have made large scale transfers increasingly feasible, because these are potentially more effective at enhancing welfare and less distortionary than other types of transfers, and because they could strengthen the citizen-state relationship when coupled with taxation.⁶⁹ However, given the current social contract where the state is seen as the sole provider of jobs and subsidies, these types of transfers may further weaken the relationship between the Iraqi state and its citizens. Moreover, the success of these types of dividend distributions will depend on the capacity of local markets and the local economy to translate the cash influx into improved welfare as opposed to a purely inflationary effect.

Private Sector Led Job Creation

The creation of a large and diversified set of jobs remains one of the fundamental development challenges for Iraq. Across the world, poverty reduction is most often driven by an expansion in employment and increases in labor earnings; and the private sector is usually the primary engine of job creation. The fundamental constraint to private sector growth in many parts of the country is the environment of insecurity and instability; which combines

with concerns about corruption and the lack of a level playing field to hinder investment and growth.

Barriers to firm entry and competition derive, as in many other countries in the region, from regulatory barriers and discriminatory implementation and enforcement of rules and regulations. These also create opportunities for corruption and rent-seeking. The 2012 Investment Climate assessment recommends the clarification and simplification of existing rules, the strengthening of transparency in public procurement, and enhancing the accountability of public institutions that deal with the private sector to promote rules over discretion in the implementation of policies and regulation.

Iraq's large informal sector also poses an important challenge. Streamlining registration and licensing procedures will reduce the regulatory burden of entry into the formal sector; as will a reform of the tax and regulatory regime to assure ease of entry and compliance for small firms. Moreover, expanding the access to finance and business support services will enable informal firms to compete in the formal economy. In the end, firms choose to formalize based on a rational comparison of costs and benefits; and the formal economy can grow when these benefits outweigh the costs.

Private sector growth has also been impeded by the lack of power and transport infrastructure; limited access to land and financing, and the absence of a skilled labor force. There is a strong potential role for the private sector to play in partnership with the public sector to enhance infrastructure quality and access, but this will require reforms of the regulatory environment to attract adequate investment. Similarly, financial sector reforms will be needed to expand access to competitive financing for private businesses. Easing the regulations governing land and facilitating registration and the use of property as collateral will also be important.

⁶⁹ Devarajan et al, The Case for Direct Transfers of Resource Revenues in Africa, Centre for Global Development, Working Paper 333, July 2012.

Agglomeration economies in Iraq are on the one hand being stymied by the insecure local environment in many parts of the country, and on the other, by the uneven implementation of regulations and the severe infrastructure deficit. In part a consequence of insecurity and violence, individuals in Iraq seem to find it difficult to move across the country to earn the appropriate returns on their characteristics. Rather, the inability to migrate in search of remunerative work, implies that otherwise equally capable individuals earn significantly less because of where they live.

Strengthening the education and vocational training system in partnership with the private sector and curricula reform to better reflect the technical skills sought by the private sector will be important in bridging the skills gap. As it stands now, the pay, hours and benefits premium earned by public sector employees relative to those who work in the private sector inhibits the ability of the latter to attract and retain talent. In the short term, a combination of tax incentives, wage credits and on the job skills training and internship programs can encourage the private sector to expand hiring; but in the medium term, there is no substitute for easing firm entry and exit, promoting competition, guaranteeing a level playing field and putting in place the enabling infrastructure for growth.

The overarching context for private sector development is fragility and conflict. Manifestations of this in terms of spatial fragmentation of the country and infrastructure deficiencies have already been highlighted. It is important therefore to tap knowledge gained from private sector development projects in other FCS. Given Iraq's vast oil and gas endowment, the "resource corridor" approach holds particular promise, especially as lessons emerge from a resource corridor approach in Afghanistan. The key idea is to use a set of complementary investments by international and domestic private investors and the government to manage natural resource development in a way that generates spillover activities. Of course, parallel interventions are necessary to maintain security and promote an inclusive mode of

natural resource development. Iraq has strong potential for this approach as there are large resource endowments adjacent to high poverty governorates. In addition, the country is historically aligned along its rivers, while oil and gas fields are more dispersed vis-à-vis the major population centers (Baghdad and Mosul). A resource corridor approach can focus on mapping the oil and gas value chain into the demographic and geographic structure of Iraq in a way that allows the domestic private sector to leverage large scale investments by international companies and the government into downstream entrepreneurship and job opportunities. The resource corridor approach will also help Iraq capitalize on activity spillovers from key trade routes, though of course the full benefits of land trade can only be realized when historically important routes to Syria and the Gulf are reopened. Where political risk is impeding investment, guarantees may be an effective way to induce potentially transformative investments from the private sector.

Enhancing Inclusion and Social Protection

Intergovernmental Fiscal Relations

The spatial variations in poverty outcomes points to the impact of the relationship between layers of government in Iraq. As noted in Chapter 1, the current model is asymmetric devolution: a unitary state with one semi-autonomous region. Governorates not in a region are mostly managed by and accountable to, the central government. Iraq has been moving in the direction of greater decentralization, but the powers for governorates envisaged in a 2013 law have not been actualized. The spatial differentials are a warning sign that simply giving more powers to governorates will not necessarily be equalizing. These differentials (especially those related to service delivery) seem associated with variation in capacity at the governorate level, e.g. for the historically weak and disempowered governorates in southern Iraq. On the other hand, the central government also lacks the instruments to play an equalizing role. While the PDS is an

effective national subsistence program, there is no analogous instrument capable of targeting common outcomes in terms of service delivery or transfers. Iraq does not have a tax and transfer system of the depth needed to protect the poor, nor has it been able to address capacity deficiencies at the front-line service level.

Although prospects for implementation of the 2013 provincial powers law are uncertain, there are a number of tracks along which the layers of government could be strengthened and coordination between them improved. First, “bottom-up” accountability can be improved by providing citizens with more relevant information about budget flows from allocation to facility level, so that they can have a better understanding of the relationship between funding and needs. Second, “top-down” accountability can be strengthened by a joint commitment from the central government, governorates, and governorate councils to address the most glaring gaps on social and public services; this should include a consensus on targets and budgets needed to achieve them. Third, the central government should revamp its current capacity-building efforts to make them more operational, for example by linking capacity building directly to spending activities or the development of targets; too often, capacity building has taken the form of training or workshops delinked from day-to-day tasks. Finally, existing initiatives to provide more funding to the governorates should be reassessed for consistency with spending capacity. There is a clear risk in the current “petrodollar” distribution to the governorates (US \$1 per barrel produced in a governorate, with a proposed increase to US\$5) that funding will outstrip capacity to spend. It would be preferable to agree a set of spending assignments for all governorates based on capacity and need, and then have funding follow these assignments. At a later stage, revenue assignments could be reconsidered when the fiscal system is better developed. As expenditure and revenue assignments should be aligned with accountability mechanisms, the assignments can be designed in conjunction with the implementation of the provincial powers law.

Redressing the Human Capital Deficit

As a consequence of decades of violence and instability, Iraq has suffered from a significant depletion of its human capital stock, and with it, the loss of cadres of skilled teachers, academics and medical professionals. Moreover, the deterioration and destruction of education infrastructure, the financial constraints faced by many households, the lack of interest in education expressed by many, and the limited returns on the labor market have meant many Iraqi children do not go beyond primary schooling. This represents a significant erosion of Iraq’s once promising human capital endowment. The health sector has not fared much better: institutional arrangements were directly affected by the sanctions regime, and the system, overwhelmed by the ensuing violence, remains in crisis. Despite universal food distribution, a third of children belonging to poor families are born stunted. Other aspects of service delivery remain hampered, with less than half the population covered by garbage collection and sewage services, and very few rural households.

Significant investments are needed to invest in health, education and service infrastructure to guarantee a basic level of access for all Iraqi citizens, and these need to be staffed by qualified personnel. The expressed lack of interest of many children in continuing their education is worrying and suggests that education quality may have deteriorated, that curriculum may need to be revised to be relevant to the needs of today, and that investments are needed in teacher training and improved teaching methods.

A more nuanced approach will need to be put in place to ensure girls enroll in school and stay in school. Over and above understandable concerns about safety, the oft-cited ‘social reasons’ to not go to school or to drop out suggest that norms about the value of educating girls and concerns about their honor and reputation play a role in limiting girls’ education. Simply building a school will not ensure that girls go to school: there may be a need in addition for gender-sensitive design of the schooling system including developing a cadre of qualified female teachers, separate toilets for girls and boys, and

where necessary, the provision of safe and reliable transportation. Absent an adequate cadre of trained female teachers, the skills of local educated women could be developed to serve as supplementary teachers. For instance, the Community Support Program (CSP) in rural Balochistan in Pakistan relaxed the educational requirement for teachers in government schools to ensure an adequate supply of female teachers. These teachers were given additional training to help bridge the gap, and as a result, the program raised girls' enrolment rates (Kim, Alderman and Orazem, 1998 and World Bank 2005).

The fact that many children, especially boys, do not attend school or drop out because of inadequate financial resources or to find work to help their families, suggests that there may be a role for financial incentives conditional on school attendance, and on completing different levels of education. Similarly, targeted interventions may also be needed to keep girls in school and overcome norms that place little value on girls' education. A range of conditional cash transfer (CCT) programs have been found to have had significant and, in some cases, large effects on school enrollment and attendance; and to some extent, increases in the use of preventive health services.

Mexico's *Oportunidades* program, for instance, was effective in ensuring more children transitioned from primary to secondary school in rural areas, and also appears to have positive spillovers, with school enrollments increasing even among ineligible children.⁷⁰ Moreover, these types of CCT programs may disproportionately benefit poorer households, who begin with lower educational attainment, face significant financial constraints, and potentially higher returns to schooling at the margin. Several studies find this to be the case. In Cambodia, a program that gave scholarships to girls between the last year of primary school and the first year of secondary school (the Japan Fund for Poverty Reduction) increased enrollment by approximately 50 percentage points for girls from less well-off families, compared with 15 percentage points for girls in the richest families (Filmer and Schady, 2008).⁷¹

In terms of the impact of CCTs on improving child health outcomes the evidence is mixed: they reduced the incidence of low child height for age or stunting only in some countries and only among some populations. Nicaragua's *Red de Protección Social*, which increased by about 0.17 points the height-for-age Z score for children younger than 5 years of age; and Colombia's *Familias en Acción*, which improved the Z scores of treated children younger than 2 years of age by 0.16 points, implying a 7-percentage point reduction in the probability of stunting are two examples of success (Maluccio and Flores, 2005 and Attanasio et al., 2005). Other evaluations of programs in Honduras, Ecuador and Nicaragua find no effects (Macours, Schady, and Vakis, 2008, Hoddinott, 2008 and Paxson and Schady, 2008).

Finally, some CCT programs that have successfully incentivized girls to stay in school have also either explicitly conditioned benefits on girls remaining unmarried or have led to lower rates of early marriage. In 1994, Bangladesh introduced the *Female Stipend Program* (FSP), a conditional cash transfer program that gives a monthly stipend to female secondary school students contingent on maintaining a minimum attendance rate and test score, and remaining unmarried. Over the next ten years, girls' enrollment in secondary schools almost quadrupled, enabling Bangladesh to achieve gender parity in education. The *Zomba Cash Transfer* program in Malawi, which offers cash transfers conditional on girls attending school is another good example. The evaluation found that adolescent girls who were not in school at the beginning of the program, and were

⁷⁰ Bobonis and Finan (2008) argue that the increase was a result of peer effects—barely ineligible children in *Oportunidades* communities were more likely to enroll because their eligible peers were in school.

⁷¹ In Mexico, Behrman, Sengupta, and Todd (2005) argue that *Oportunidades* program effects are largest for children with the lowest propensities to enroll in school at baseline. Finally, Oosterbeek, Ponce, and Schady (2008) show that the BDH program in Ecuador had a significant effect on enrollment for children around the 20th percentile of the proxy means, but no effect among children around the 40th percentile.

offered conditional cash transfers, were 40 percent less likely to marry after one year than girls in the control group which did not receive the transfers. This indicates that in this setting, schooling did have a protective effect for girls who are at higher risk of early marriage. These links between extending girls' education and lower rates of early marriage may also imply that girls, when they get married, are better able to care for themselves and their children. Given the positive correlation between early motherhood and adverse child malnutrition outcomes in Iraq, this may have spillover effects on the next generation.

However, investing in human development will only reap dividends in the medium term when it is accompanied by the generation of a large and diversified set of productive job opportunities that rewards these investments in the labor market. The current policy of absorbing less educated workers into the public sector and the expansion of jobs in the security sector have stalled the returns to education at primary level, and therefore, the incentives to invest in further schooling.

Public Works and Spatially Targeted Programs

The Public Distribution System is currently the only safety net covering the poor, and therefore, has been politically very difficult to reform. This is in large part due to the absence of any other viable system of social protection, which has made large parts of the population very dependent on food rations, and resistant to reform. Meanwhile, the continuing instability and insecurity in the country have made it difficult to put in place alternative means of securing livelihoods, either through public intervention or through the revival of local economic activity. As a result, without putting other programs in place, any one-shot reform to the PDS including targeting, will have adverse consequences on welfare, and will be hard to implement.

Therefore, there is need for a phased implementation of a comprehensive safety net system which includes a variety of programs to address different dimensions of deprivation. These must include

interventions to bridge the gap in human capital and to ensure equitable access to basic services. Moreover, some parts of the country have suffered from decades of neglect, and spatially targeted poverty reduction programs will be essential to address welfare and vulnerability. All of these must be in place before a reform of the PDS is considered.

A nationwide public works program, with spatially differentiated components has the potential to provide employment and incomes in the immediate term, to rebuild local infrastructure and service delivery and skills for future employment. Certain key design and implementation elements are critical for success. First, the wage must be set appropriately, low enough that the wage that does not crowd out the private sector, and effectively self-targets those who need supplementary income the most. While in rural areas, the focus of the program could be to rebuild and restore local infrastructure, in urban areas, physical labor works could be supplemented by basic service delivery. Public works may include the creation, maintenance, or reconstruction of existing infrastructures, like roads, schools, health posts, sanitation improvements; environmental and agricultural projects such as, irrigation, soil conservation and watershed development; cleaning roads and other public facilities; and social services including day care, food preparation and so on.

In general, the high rate of joblessness in Iraq, especially among the youth, and the lack of visible improvements in day to day life despite massive revenues from oil, has the potential to further marginalize segments of Iraqi society. In other post-conflict and fragile contexts, programs have deliberately targeted young at-risk groups to limit the risks of their reverting to violence. The Government of Liberia, in collaboration with an NGO, Action on Armed Violence and the United Nations successfully helped ex-combatants move into full-time farm work by offering them training, start-up capital and counselling. Men who participated in the program were more likely to spend more time farming, and less time in illegal activities; however, the combination of capital and training was critical to generate

impact.⁷² An evaluation of Uganda's Youth Opportunities Program, which offered cash transfers to groups of youth to increase employment and reduce conflict, generated a shift from agricultural work towards skilled trades and strong increases in income.⁷³

In Iraq as well, similar programs could be designed to specifically target young men who have the highest rates of joblessness, and should prepare them for future employment in formal labor markets. As part of the program, young people may be encouraged or required to complete training in vocational or professional skills or apprentice and intern with businesses. Women must also be integrated into improving local service delivery, and offered training as supplementary teachers and basic health service providers. The program will have to be simple and transparent in design to enable easy roll-out and monitoring in a low-capacity context. It should not provide permanent employment but rather the option of temporary work when needed. An effective monitoring system, perhaps linked to the proposed transition to 'smart cards' for PDS entitlements, will be essential in this regard.

In areas where poverty rates are very high, especially in rural parts of the South, universal programs would have enormous benefits. The poverty map exercise that is underway will help identify pockets of severe poverty where spatially targeted programs can be implemented. Given the higher prevalence

of malnutrition and the greater dependence on the PDS as a source of calories in these parts of the country, nutritional supplements and enhancing the nutritional content of food rations, may be considered as well.

The Government of Iraq is considering a transition to 'smart cards' linked to biometric identification to deliver PDS entitlements. If well-conceived and implemented, the series of programs proposed above which involve a combination of investments in infrastructure and service delivery and individually or spatially targeted cash transfers conditional on health, education or work, could be integrated into a unified delivery system based on a universal registry. This will be fundamental to track beneficiaries, ensure the systems of delivery are working, and prevent corruption and leakages. However, this will not guarantee that benefits accrue to those who need it most; this remains a critical design challenge.

⁷² Can Employment Reduce Lawlessness and Rebellion? A Field Experiment with High-Risk Youth in a Fragile State," May 2014, Christopher Blattman (Columbia University) and Jeannie Annan (International Rescue Committee).

⁷³ Blattman, Christopher and Fiala, Nathan and Martinez, Sebastian, Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda (November 14, 2013). *Quarterly Journal of Economics*, Forthcoming. Available at SSRN: <http://ssrn.com/abstract=2268552> or <http://dx.doi.org/10.2139/ssrn.2268552>.



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