

Changing Perceptions of Institutions and Standard of Living in Iraq

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Abstract

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are more likely than women in the post-ISIS period to report lower country leadership approval ratings, a weaker standard of living, and depressed job prospects. The analysis finds that self-identified Shias, Kurds, and adults living in Baghdad are significantly more likely to have a poorer quality of life, compared with Sunnis, in the post-ISIS period. Nearly all ethno-religious groups, in all periods, perceive the government to be corrupt.

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1. Introduction

Previous literature (Stewart 2002) identifies two dimensions of inequality: inequality among individuals or households (vertical inequality) and inequality among regional, ethnic, and other categorical groups (horizontal inequality). There is evidence that horizontal inequality poses a greater risk for violent conflict, as compared to vertical inequality (Østby 2013). Although the relationship between inequality and conflict is not clear or direct, there is reason to believe that reducing inequality may help ease conflict between groups and thereby lower the risk of violence (United Nations and World Bank 2018). Earlier research (Celiku 2018) studies how social groups coalesce—around identity, status, feelings of humiliation, and the perception they are being politically shortchanged, among others—and the conditions under which their grievances can be mobilized. This research also argues that that reducing inequality and exclusion—particularly of women and young people—is fundamental to forging sustainable peace.

The history of Iraq over the past decade is a stark example of increasing vertical and horizontal inequalities, preceding and following a period of violent conflict. Research explores ethnic inequality with the help of night lights emissions from time-varying satellite data from 1990 through 2013 (Bormann et al. 2021). It finds Iraq exhibiting typical attributes of a weak state during the 1990s. At the start of the decade, Sunni Arab regions emitted slightly fewer nightlights per capita than the excluded Shia and Kurdish areas. But over the years, ethnic power relations and vulnerability to oil marginalized the Sunnis. This was further exacerbated post-2003, when the ethno-sectarian power-sharing arrangement designed to ensure communal stability further sustained an elite pact in which political parties captured and compromised formal state institutions. This was often facilitated by the ruling coalition's direct appointments of senior civil servants and bureaucrats, leading to higher institutional corruption (Dodge and Mansour 2021).

Past research also finds that horizontal inequality may reinforce individual-level inequality and cause various negative outcomes, including limited public goods provision and armed conflict (Bormann et al. 2021). The Islamic State, also known as ISIS, emerged from the Iraqi offshoot of the global Al-Qaeda terrorist organization. ISIS rose to prominence in 2011, taking advantage of instability in both Iraq and the Syrian Arab Republic to carry out attacks and strengthen their positions. In June 2014, ISIS seized the Iraqi cities of Mosul and Tikrit and announced the formation of a caliphate stretching from Aleppo in

Syria to Diyala in Iraq (Wilson Center 2019). According to the Wilson Center, ISIS held about a third of Syria and 40 percent of Iraq's territory at their peak of control. By December 2017, the terrorist organization had lost 95 percent of their territory, including their two biggest cities (Mosul in Iraq and Raqqa in Syria) Mosul (Iraq's second largest city) and Raqqa in northern Syria, following attacks from the Iraqi military, Popular Mobilization Forces formed by an Iraqi sponsored coalition of Shia Muslim and other minority groups, and an international military coalition. Despite reclaiming territories from ISIS, the war brought long-term and deep-rooted consequences for Iraq.

We use a cross-section of individual-level nationally representative survey data to study relationships in how adults in Iraq report confidence in institutions, the quality of service delivery, and expectations of future economic performance. To understand the influence of ISIS on overall perceptions, the paper looks at three time periods: pre-ISIS (2010-2012), ISIS-control (2014-2016), and post-ISIS (2018-2019). It measures vertical inequality as the relative perceptions of women and poorer adults (defined as adults in the bottom 40 percent of the income distribution), and adults living in rural areas, and measure horizontal inequality by ethno-religious categories including Shias, Sunnis, Kurdish Muslims, and Baghdad residents (see more detail in Appendix A).¹ The analysis finds that positive perceptions across these ethno-religious categories declined during ISIS-control and has slowly picked up in the recent years. The poor are more likely to be food insecure and have a poorer outlook on standard of living over the last decade throughout the three time periods. Men are less likely than women to report higher leadership approval ratings, a better standard of living, and improved job prospects in the post-ISIS period. The results find that Shias, Kurds, and adults in living in Baghdad are significantly more likely to have a poorer quality of life, over time, and in contrast to Sunnis, in the post-ISIS period. Nearly all ethno-religious groups, during all periods, perceive the government to be corrupt.

2. Data

Our empirical analysis uses individual-level microdata from the Gallup World Poll (Gallup Inc., 2019). Importantly, the data are randomized at the individual level, which allows us to summarize the data by individual characteristics, including age (identified as young for adults ages 15-24 and older for adults age

¹ Other religious groups, including Christians, constitute only 1% of the resident Iraqi population.

25 and above) gender (identified as male or female), income (identified as poor for adults living in the poorest 40 percent of households and rich for adults living in the richest 60 percent of households), employment (identified as wage employed, self-employed, unemployed, or out of the workforce), and ethno-religious groups. To explore the religious and geographic complexities in our data, we assign adults to one of four categories, based on self-reported religious identification and place of residence: Shia, Sunni, Kurds, and Baghdad. See Appendix A for additional information.

The Gallup World Poll conducts annual surveys covering about 150,000 people in more than 140 economies around the world. The data for Iraq is available for years 2010-2019 for 1,000 adults annually (age 15 and above). The surveys were conducted over the phone in Arabic and Kurdish for all years, except 2010, 2011, 2012, 2018 and 2019 where they were conducted face-to-face. We also bring complementary data from the Arab Barometer, which has conducted public opinion surveys in the Middle East and North Africa (MENA) since 2006. The most recent Arab Barometer survey of Iraq was carried out in 2018 and surveyed 2,461 adults (age 18 and above). The surveys were conducted face-to-face.

This paper only makes use of quantitative data sets, which are limited in their ability to provide additional insight into the complex relationships highlighted in many ethnographic and qualitative studies done on the shifting roles and power dynamics over the last couple of decades in Iraq. Its main goal is to support additional research by providing a quantitative background on vertical and horizontal inequalities.

3. Quality of Life

Basic needs such as food and shelter, happiness, and belief that the future can be better than the present, affect the degree of social cohesion between different groups—and a lack of social cohesion and trust can trigger conflict.

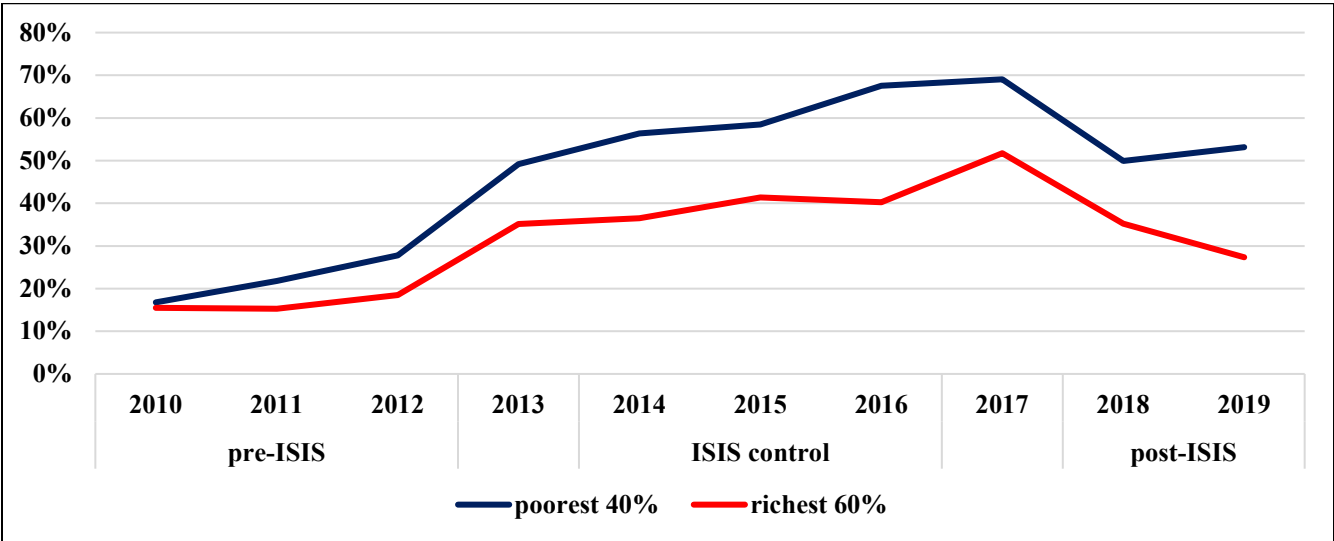
3.1 Food and shelter

Food and shelter are proxies for basic survival needs. Gallup constructs a simple average to determine if there were times in the past 12 months when there was not enough money to afford food or shelter. The period between 2010-2017 saw this average decline by nearly 32 points implying that large shares of Iraqi

adults are increasingly unable to satisfy their basic needs. While the numbers have rebounded in recent years, in 2019, roughly 40 percent of adults still reported that they did not have enough money to buy food or provide adequate shelter or housing for themselves and their families in the last 12 months.

In 2019, roughly half of poorer adults did not have enough money at times to buy food or provide shelter in the last 12 months. Men and women were equally likely to report this. More specifically, among adults who report not having enough money to buy food in the last 12 months, the gap between those in the richest 60 percent and the poorest 40 percent of households was insignificant in 2010 (figure 1). But that gap has grown by more than 15 percentage points in the last decade.

Figure 1: Did not have enough money to buy food for your family in the last 12 months (% of adults)

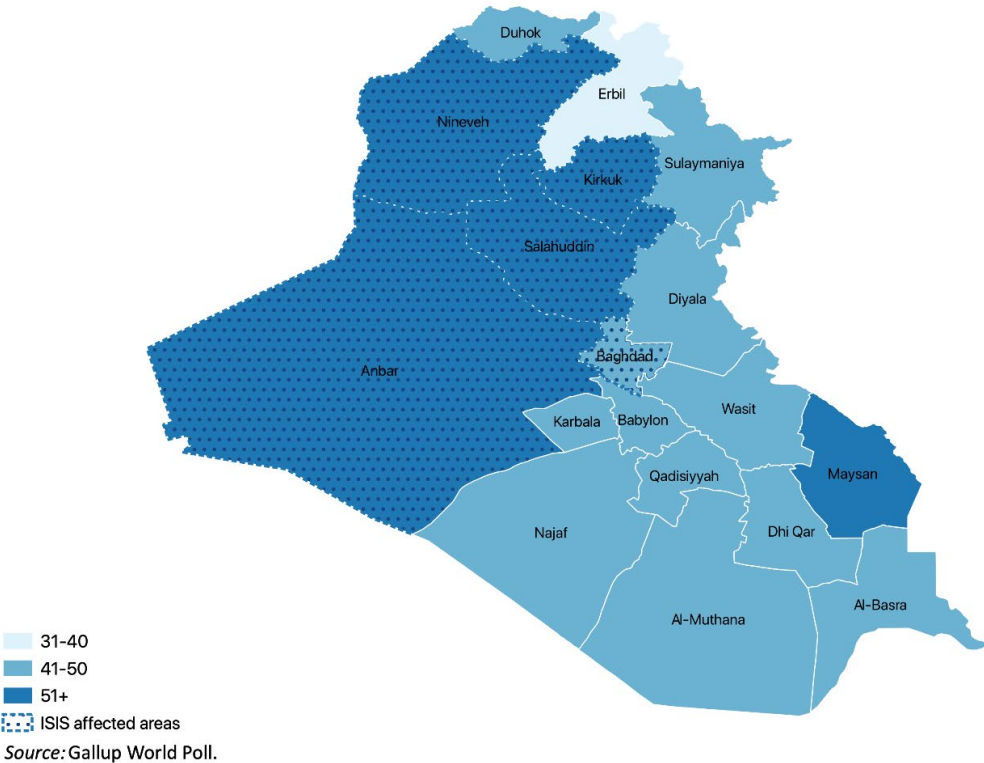


Source: Gallup World Poll, 2019.

ISIS control has strongly influenced the regional food insecurity map today. At their peak in late 2014 and early 2015, ISIS occupied large parts of the Iraqi governorates of Anbar, Nineveh, Saladin and Kirkuk, all in the west and north-west of the country, including their major cities and population centers. They also had some control in the governorates of Diyala and Babylon in central Iraq. ISIS briefly reached Baghdad's outskirts before being pushed back by Iraqi armed forces and Popular Mobilization Forces as well as the international anti-ISIS coalition. These developments have been a key driver in the regional variation observed in the data.

Not surprisingly, Anbar has the greatest share of adults who, at times, did not have enough money to buy food in the past 12 months (figure 2). Pooling data from 2013-2019, the data find that 57 percent of adults in Anbar report that they did not have enough money to buy food for their family in the past 12 months. Other western governorates that were also directly inflicted by the ISIS conflict show low food security. The traditionally poorer southern region is a close second. By contrast, about a third of adults in Erbil struggled to afford food in the past 12 months.

Figure 2: Did not have enough money to buy food for your family in the last 12 months (% of adults, pooled data for 2013-2019)



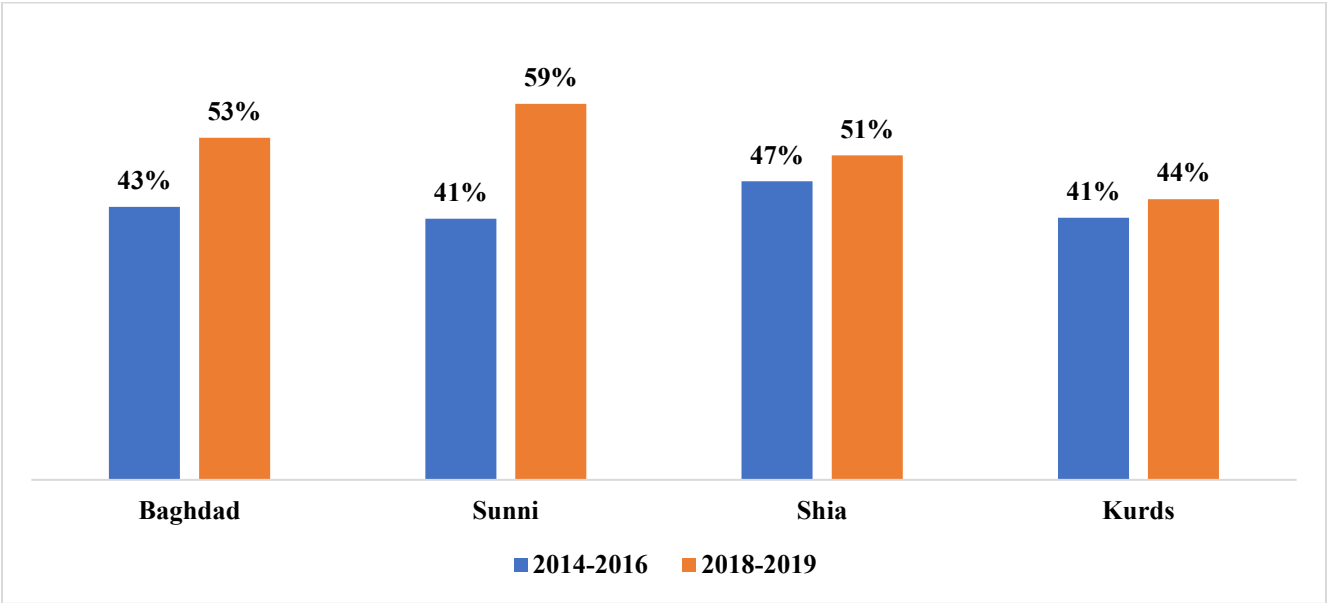
3.2 Standard of living

Public optimism about future economic prospects plummeted after ISIS launched attacks. In 2013, 43 percent of adults believed that the national economy was improving—but this declined to 28 percent by 2016. Perceptions of living standards dropped during the period of ISIS-control, but have started to rebound. In 2016, only 39 percent of adults in Iraq believed their living standards were improving, the lowest share on record. As of 2019, that number has increased to 52 percent (figure 3). In 2019, young

adults were more positive about their future living standards than the older adults: While 59 percent of young adults believed that the standard of living is getting better, 47 percent of older adults agreed.

In the post-ISIS period, more Sunnis and adults living in Baghdad reported that their living standards were improving. By contrast, Kurds and Shias report no improvement since the end of ISIS-control.

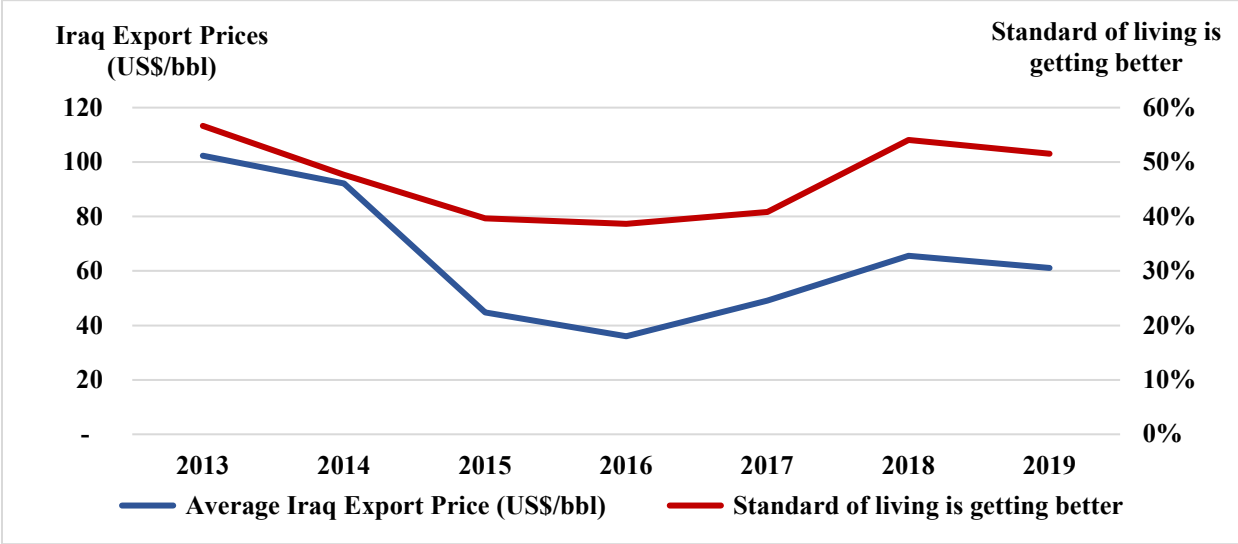
Figure 3: Standard of living is getting better
(% of adults)



Source: Gallup World Poll.

While the relationship may be highly endogenous, data show that changes in perceived standards of living mirror fluctuations in oil prices in Iraq (figure 4). By 2016, both followed an upward trend and 54 percent of Iraqi adults reported that their standard of living was improving, at par with other oil exporting economies. This also reflected an expansionary fiscal policy fueled by the rise in public spending. However, with the price of Iraqi oil exports dropping to US \$38 per barrel during 2020, confidence in the economy may have dropped further. As of February 2021, oil export prices rebounded and surpassed US \$60 per barrel for the first time in a year, but the impact of this on confidence is yet to be assessed.

Figure 4: Oil prices and perception of standard of living (% of adults)



Sources: Gallup World Poll, 2019, and Iraq Ministry of Oil.

3.3 Job prospects

Consistent with perception of declining living standards, adults in Iraq are pessimistic about their job prospects. By 2019, only 3 in 10 believed that it was a good time to find a job. Job perceptions vary by ethno-religious groups. Only 17 percent of Shia adults believe that it is a good time to find a job, while the share is 24 percent among Kurds and 34 percent among Sunnis. There are no significant age or gender gaps. Almost all Iraqi youth (95 percent) believe that personal connections, or *wasta*, shape one’s employment opportunities—the highest rate in the region (World Bank 2020, Raz 2019). Public concern about the government’s capacity to address this demand for jobs may be aggravated by a general feeling that one’s “situation can only improve with government assistance or salaries,” expressed by 70 percent of respondents (National Democratic Institute 2019).

4. National Institutions

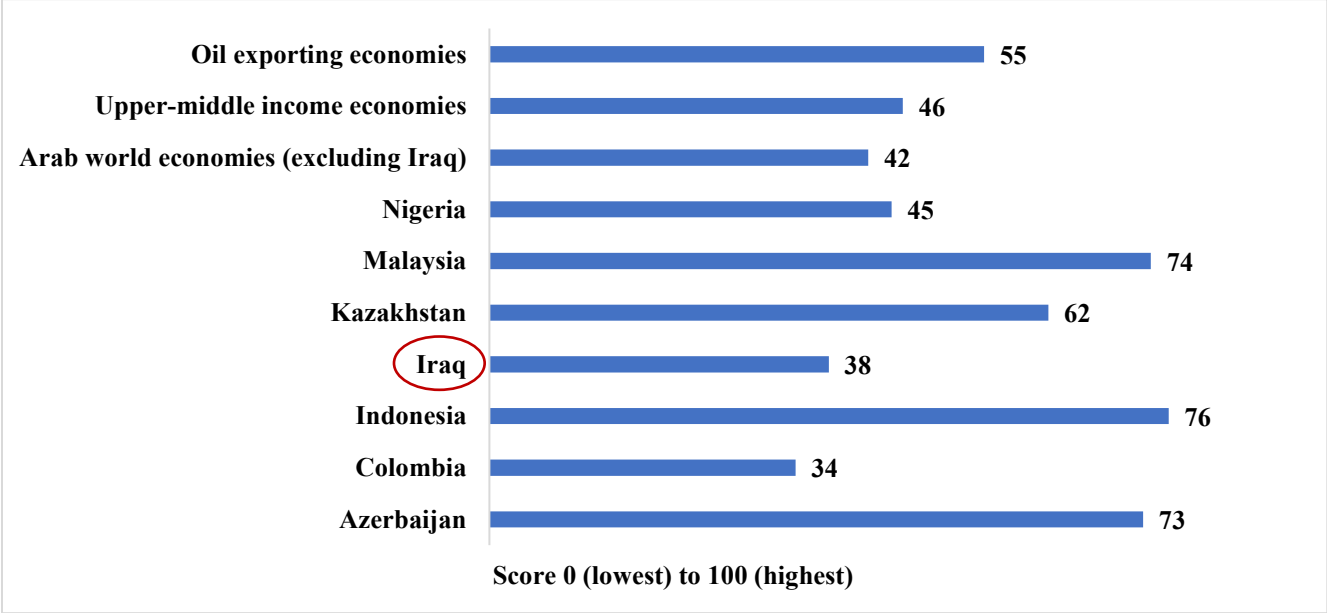
Frustration with perceived corruption, insecurity, and economic instability can be key in determining accountability and confidence in the state. Certain populations, especially those who are traditionally

marginalized, have a greater likelihood of being excluded from public services and economic opportunities.

4.1 National institution index

First, we look at Gallup's National Institution Index, which measures the percentage of adults expressing confidence in a variety of institutions, including the national government, military, judicial system, and financial institutions. On average, only 38 percent of adults in Iraq express confidence in national institutions, which is well below the level of comparator countries (figure 5). The data find no statistically significant gaps between men and women. Interestingly, the gap between the rich and poor has reversed over the last decade. Initially, wealthier adults were more confident in national institutions; by 2019, the poor were about 16 percentage points more likely than the rich to have a higher score for national institutions.

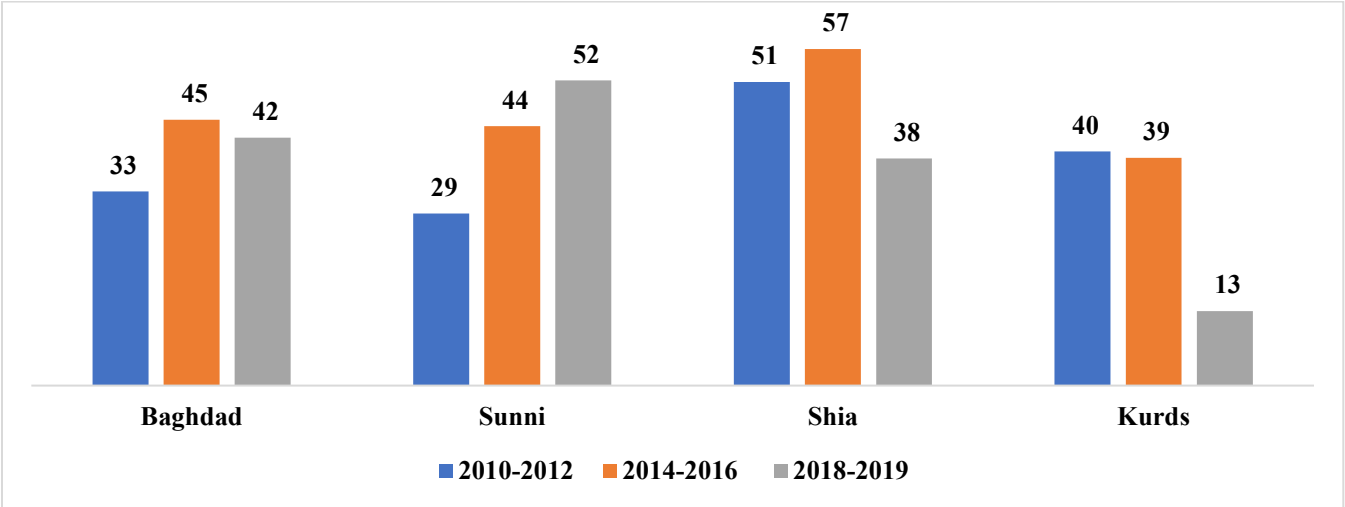
Figure 5: National Institutions Index, 2019 (% of adults)



Source: Gallup World Poll, 2019.
Note: Data are unavailable for Djibouti, Oman, Qatar, Somalia, Sudan, Syrian Arab Republic. Oil exporting economies, Arab world economies, and Upper-middle income economies are defined using World Bank classifications (available at: <https://datahelpdesk.worldbank.org/knowledgebase/topics/19280-country-classification>). Arab world economies exclude Iraq.

All ethno-religious groups except for Sunnis show declining confidence in national institutions (figure 6). Shias and Kurds, who reported higher averages before ISIS-control, reported the largest decline in national institutions over the decade. This is also consistent with the gradual deterioration in governance indicators for Iraq, especially those related to corruption and service delivery.² Such deterioration culminated in October 2019 with popular protests led by Iraqi youth and which were strongest in Baghdad and the southern governorates.

Figure 6: National Institutions Index by ethno-religious groups and time (% of adults)

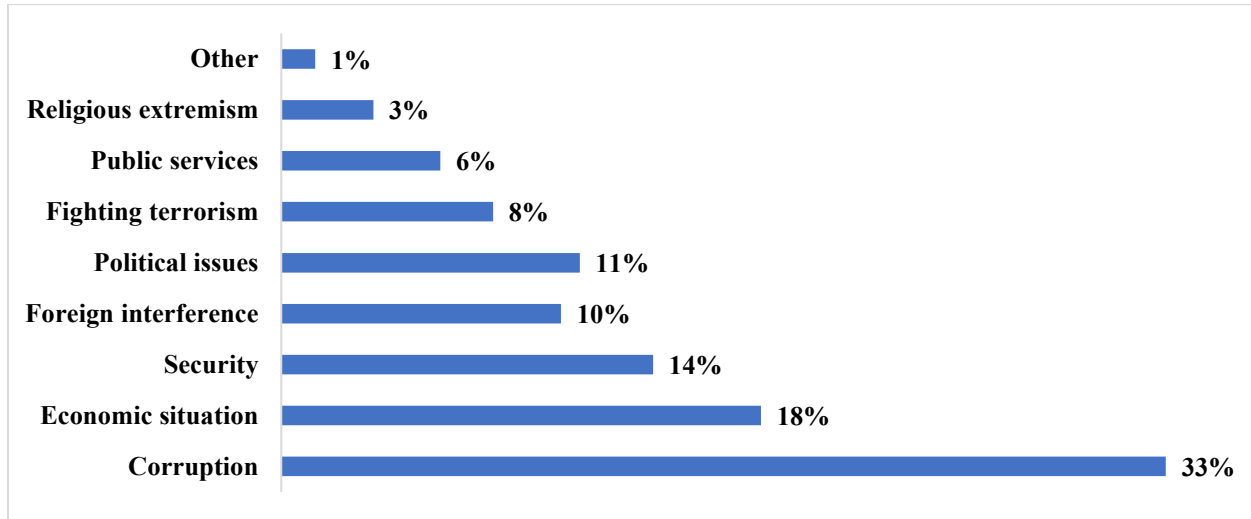


Source: Gallup World Poll.

Next, we unpack this measure of perceptions of national institutions. In 2019, more than a third of adults in Iraq list financial and administrative corruption as Iraq’s biggest challenge (figure 7). Twice as many adults reported this as the main challenge than the economic situation. In addition, 14 percent of adults reported security as Iraq's most important challenge, while fewer than 5 percent of adults reported religious extremism.

² According to the Worldwide Governance Indicators <https://info.worldbank.org/governance/wgi/>, Iraq deteriorated in most indices, especially Control of Corruption, Rule of Law, and Government Effectiveness. See also *Breaking Out of Fragility, a Country Economic Memorandum for Diversification and Growth in Iraq*, World Bank, 2020 for a more detailed discussion.

Figure 7: Perceptions of Iraq's biggest challenge
(% of adults)



Source: Arab Barometer 2018, Wave V.

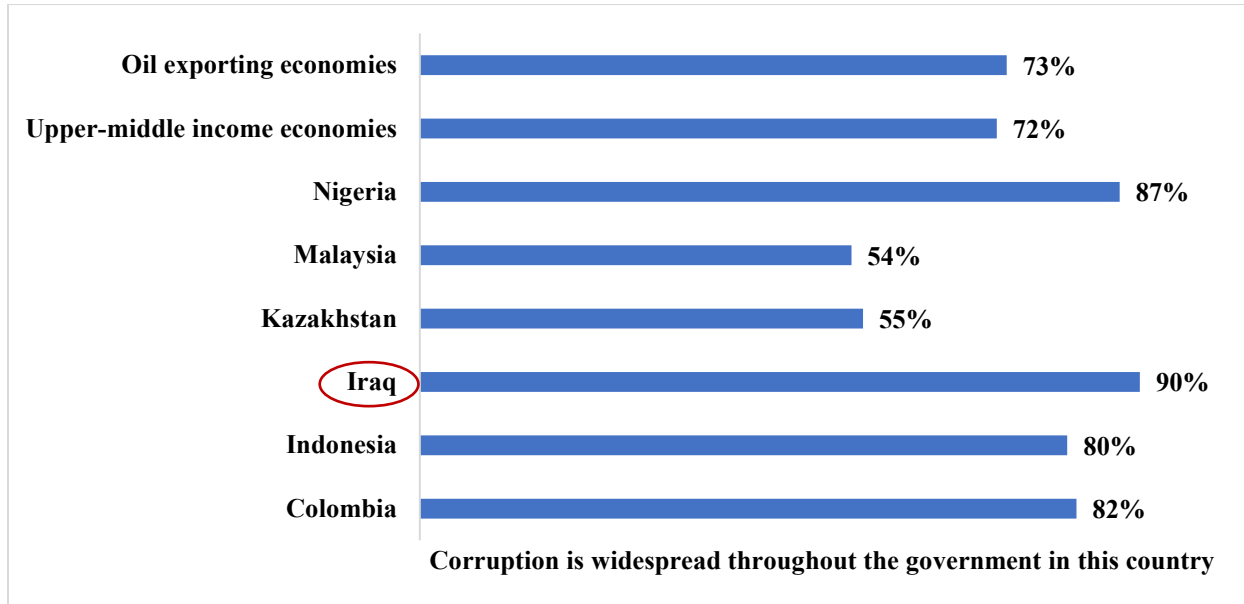
4.2 Perceptions of corruption

Perceptions of corruption are relatively high in Iraq compared to other countries. In Iraq, 90 percent of adults believe that corruption is widespread throughout their government, which is about 15 percentage points higher than the average in oil-exporting countries (Figure 8).

Adults in Iraq believe that corruption is widespread in businesses and government. While perceptions of private and public corruption have both increased since 2013, more adults in Iraq believe the government is corrupt than believe businesses are corrupt (figure 9).

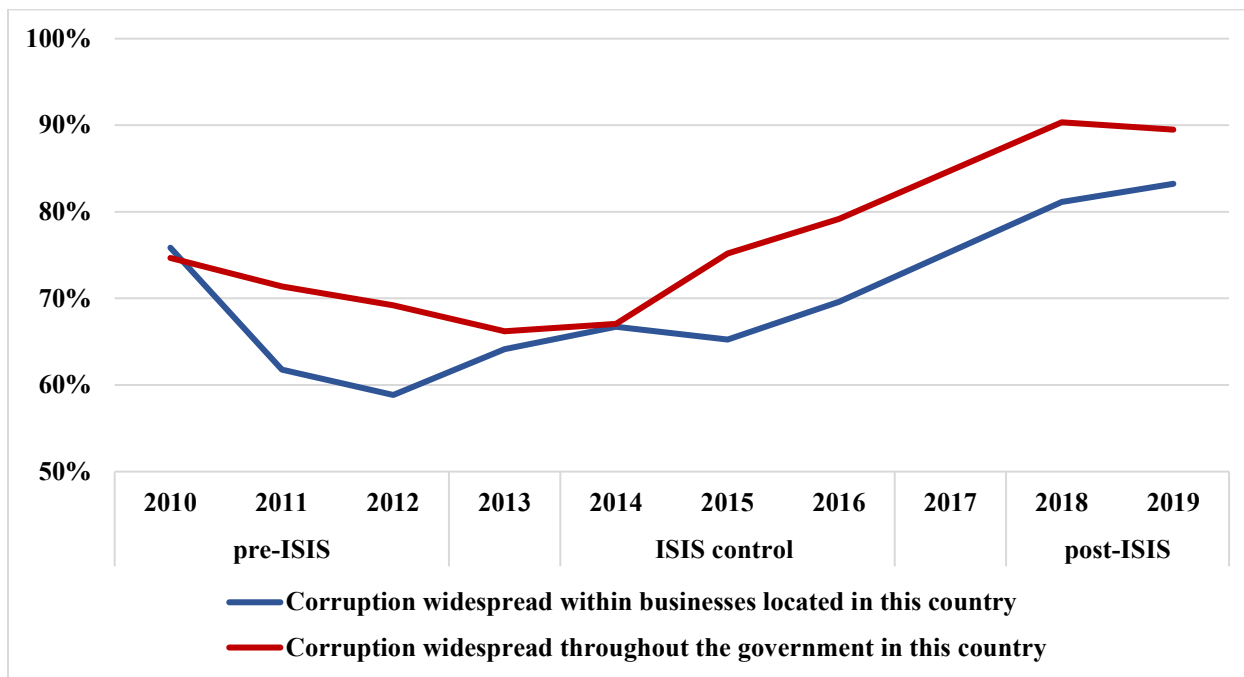
Overall, men are about 5 percentage points more likely than women to believe that the government is corrupt, while the poor and rich are equally likely to believe this. All ethno-religious groups believe government corruption is widespread (figure 10), and that perception has deepened over time.

**Figure 8: Perception of corruption in the government, 2019
(% of Adults)**



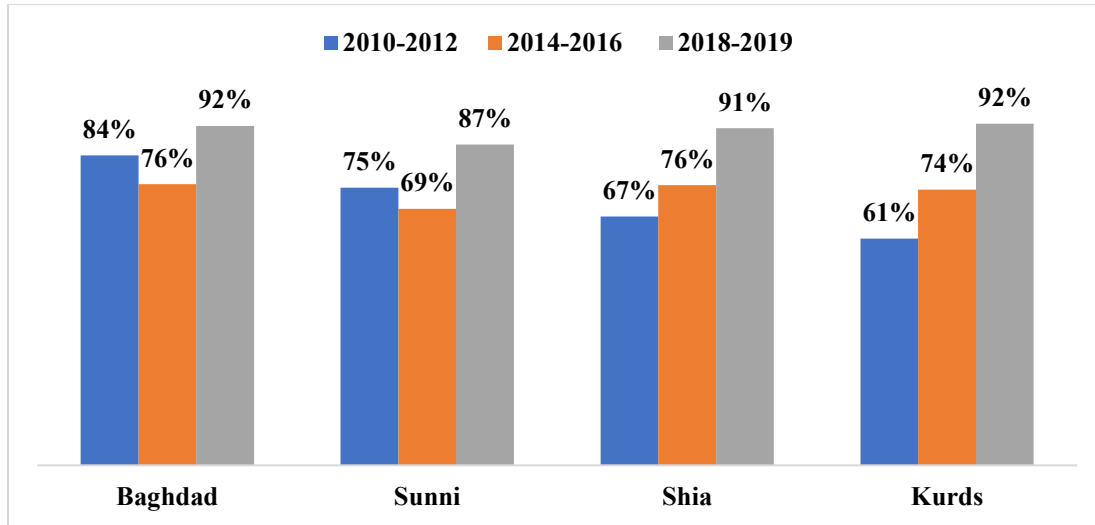
Source: Gallup World Poll, 2019.

**Figure 9: Perceptions of corruption in government and business over time
(% of adults)**



Source: Gallup World Poll, 2019.

Figure 10: Perception of corruption within government by ethno-religious groups and time (% of adults)



Source: Gallup World Poll.

4.3 Leadership approval rating

Recent years saw most adults in Iraq lose confidence in the job performance of national leadership. In 2013, 46 percent of adults in Iraq approved of the national leadership's job performance; by 2019, the share dropped to 13 percent, which is the lowest share among comparator countries. By contrast, approval ratings were 70 percent in Indonesia, 65 percent in Malaysia, and about 34 percent in Nigeria. Again, this is consistent with the calls from popular protests, which started in October 2019 and pushed for the resignation of the incumbent government and for early parliamentary elections. In Iraq, approval ratings fell among all groups except Sunnis, whose approval rose from 13 percent in 2010 to 21 percent in 2019 (figure 11).

While approval ratings fell among both the rich and poor, the drop was deeper among wealthier adults. In 2010, 52 percent of adults in the richest 60 percent of households approved of national leadership. By 2019, this share had fallen to 9 percent. By contrast, the approval ratings among adults in the poorest 40 percent of households fell from 25 percent in 2010 to 17 percent in 2019.

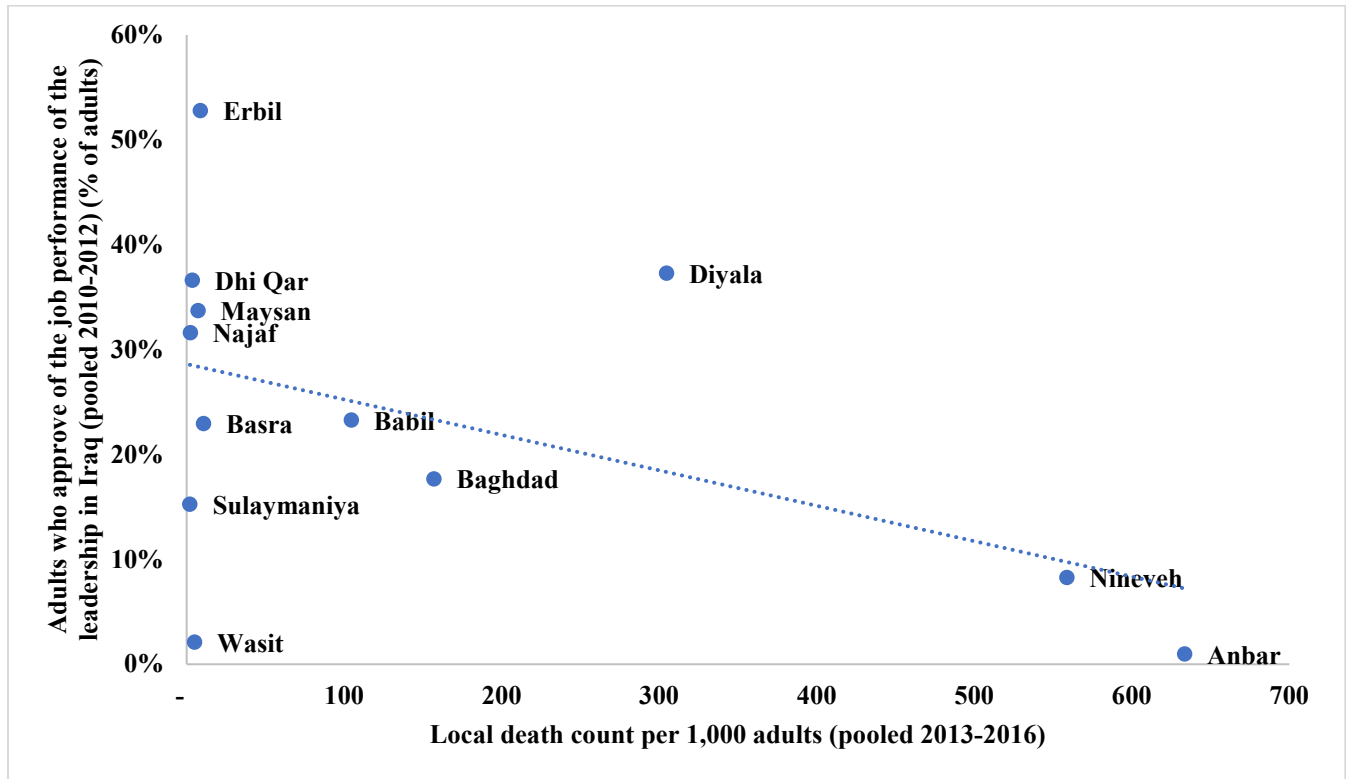
Figure 11: "Do you approve of the job performance of the leadership of your country?"
 (% of adults)

	2010	2019
Baghdad	33%	12%
Sunni	13%	21%
Shia	62%	6%
Kurds	50%	11%

Source: Gallup World Poll, 2019.

We conduct a preliminary analysis to see if Iraqi governorates with lower approval ratings of the country’s leadership were also more likely to see violence during the ISIS conflict (figure 12). Data from Iraq Body Count provides us with governorate-level death counts for years between 2010 and 2016. The death count soars in 2013 (our proxy for the transition period before ISIS control) in the Western governorates where ISIS gained control. We pool the death count between 2013 and 2016, and cross-tabulate it with governorate-level approval ratings in the preceding years (2010-2012). While there may be several factors at play, the data find that these governorates also had poorer approval ratings and witnessed higher death rates in the ISIS years.

Figure 12: Leadership approval ratings & local death count



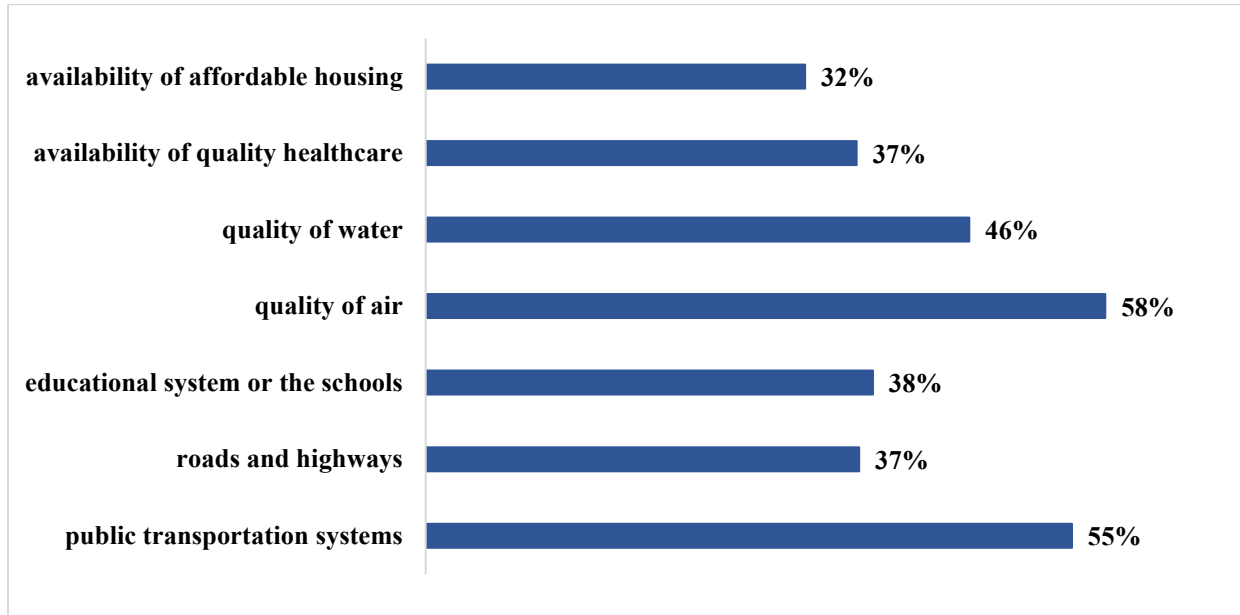
Source: Gallup World Poll and Iraq Body Count (IBC).³

5. Quality of Service Delivery

The Gallup World Poll includes questions on local public services. Among adults in Iraq, 71 percent are satisfied with services in the city or area where they live as of 2019, up from 59 percent in 2010 (figure 13). This trend holds across all ethno-religious groups. For each of the public services featured in the survey, women are significantly less likely than men to report satisfaction, and the poor are significantly less likely to be satisfied than the rich. Some of the largest income and gender gaps are reported for health care and quality of air.

³ Gallup World Poll data are only available for 13 of the 19 regions. Halabja was pooled with data from Sulaymaniya.

Figure 13: “In the city or area where you live, are you satisfied with...” (2019)
(% of adults)

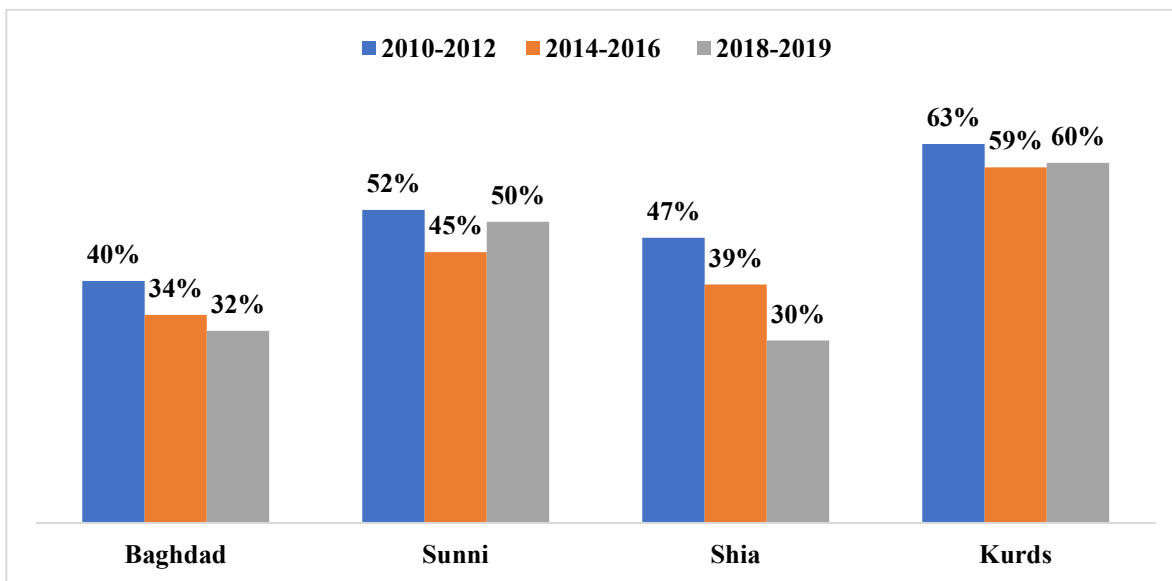


Source: Gallup World Poll, 2019.

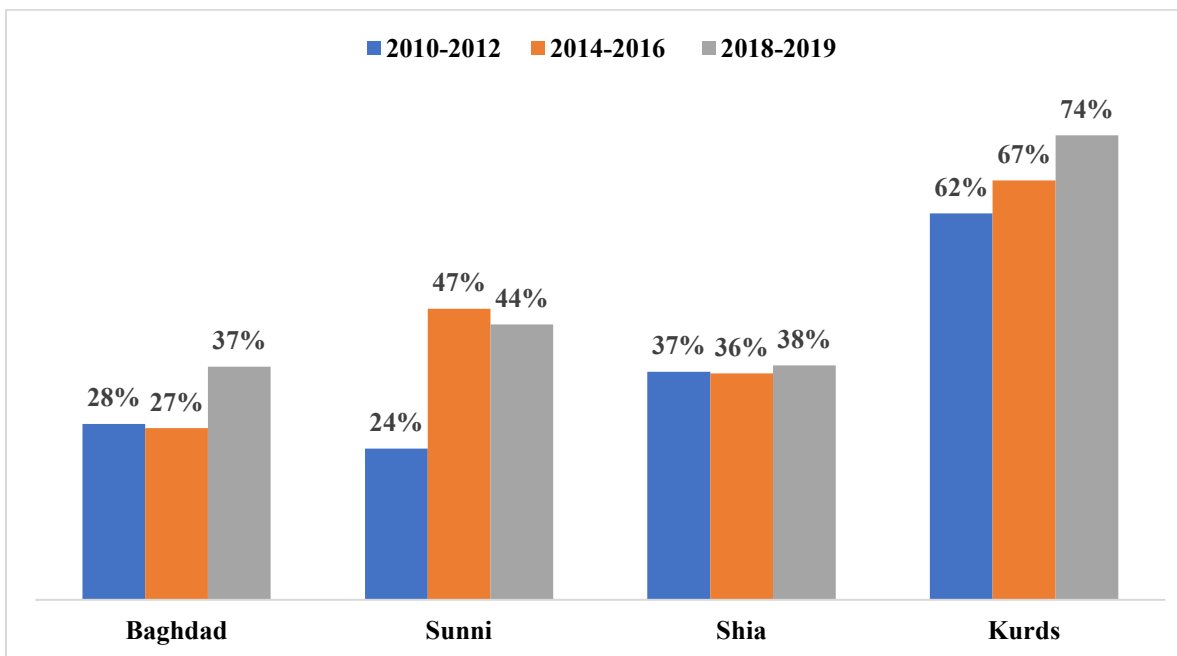
Kurds have low confidence in national institutions—but they are mostly satisfied with public services in the city or area where they live (figure 14). Kurds and Sunnis are about 30 percentage points more likely than Shias to be satisfied with the quality of water services. Perceptions of local health services have improved among adults living in Baghdad. Among Kurds, the share of adults satisfied with the quality of health care dropped by 10 percentage points from 2010-2019; among Shias, the share dropped by 21 percentage points. Satisfaction with the quality of education remains relatively unchanged for Sunnis and Kurds, but declines over time for Shias and adults living in Baghdad.

Figure 14: “In the city or area where you live, are you satisfied with the quality of the school system, water, and healthcare in your area” (by time and ethno-religious groups) (% of adults)

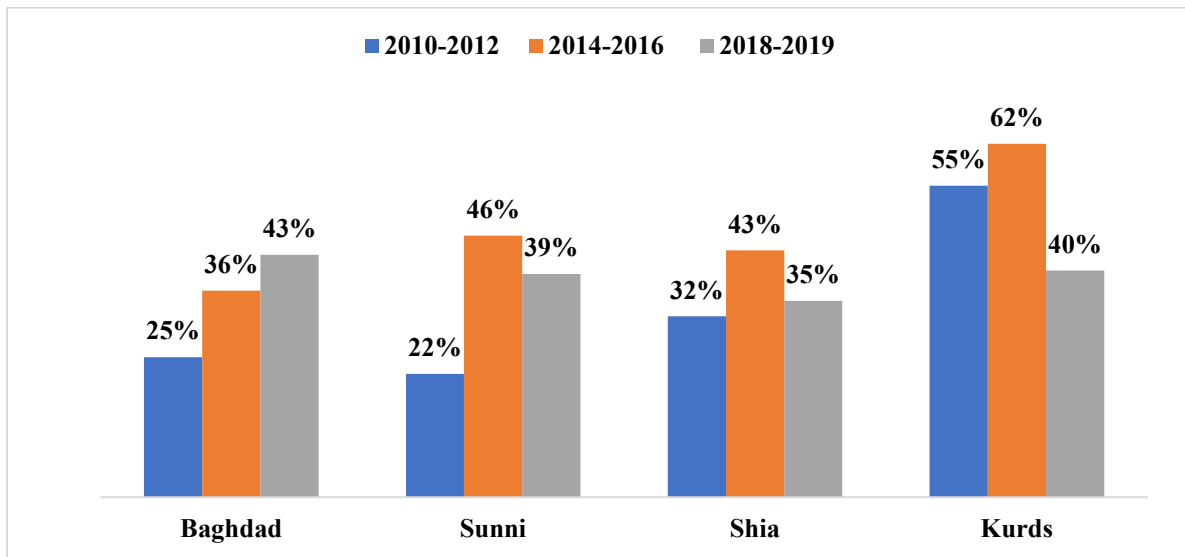
A: Education or school system



B: Water



C: Healthcare



Source: Gallup World Poll, 2019.

6. Regression Analysis

Our regression analysis estimates the relationship of socio-economic characteristics and three broad categories of variables measuring respondents' perceptions of: 1) their quality of life, 2) national institutions, and 3) quality of service delivery. We control for individual-level characteristics including gender, income, and ethno-religious group classifications (shown), plus employment, education level, marital status, rural classification, and age (not shown). We include these variables to relate perceptions with vertical and horizontal inequality. We assume that ethno-religious groups proxy for regions and therefore we do not include governorate level fixed effects. The regression analysis explores this relationship over our three time-periods: pre-ISIS (2010-12), ISIS-control (2014-16), and post-ISIS (2018-2019). Results are shown in the tables in the Appendix.

Vertical inequality

Individual-level characteristics such as gender, age, education, and income can play an important role in determining perceptions. Among those, we specifically look at two characteristics discussed in the previous section: gender and income, measured as adults living in the poorest 40 percent of households.

In Panel A, we find that poor adults are more likely to be food insecure, especially in the post-ISIS period. This is in contrast to the Iraqi national accounts figures that indicate a yearly average real growth for the agriculture sector of 7.3 percent over the three periods. This signals problems in access to the food distribution networks, as opposed to availability of food. Poor adults also have a weaker outlook on their standard of living improving. During the ISIS period, women are more likely than men to report not having enough money to purchase food. At the same time, men—who are more likely to be the household earner—are more likely to report weak job prospects. In the post-ISIS period, men are significantly more likely to report weaker job prospects and standards of living.

Panel B shows that men are more likely to report perceived corruption in government. In the pre-ISIS period, poor adults were less likely, relative to wealthy adults, to report confidence in national institutions or to approve leadership's job performance. This flips in the post-ISIS period, when wealthy adults appear to lose confidence in government and leadership performance, and poor adults are relatively more supportive of the government and leadership.

Panel C reports that women are generally more satisfied than men with the education system and health care. The results find no relationship with income—both poor and wealthy adults are generally unsatisfied with the quality of government services.

Horizontal inequality

Aside from controlling for individual-level characteristics, our estimations also consider a set of ethno-religious group classifications to explore changing perceptions among Iraqi adults. During the pre-ISIS period, there were no significantly different perceptions about the quality of life. However, during the period of ISIS-control and post-ISIS, Shias, Kurds, and adults in living in Baghdad were significantly more likely to report a poorer quality of life, as compared to Sunnis (Panel A).

Sunnis' confidence in national government and leadership approval was generally significantly lower than those of other ethno-religious groups in the pre-ISIS period and during ISIS control—but significantly higher than all other ethno-religious groups in the post-ISIS period. Notably, nearly all ethno-religious groups perceive the government to be corrupt, in all time-periods (Panel B).

Adults living in Baghdad are significantly less likely to be satisfied with the quality of education and water in their area. However, this might reflect the relatively higher income and education of adults living in Baghdad, who might have higher expectations of government services. The perceptions of government services among Kurds are typically higher. The Kurds, with an autonomous history of local governance, are satisfied with these services throughout the decade, and even during the period of ISIS control. Perceptions of the quality of health care delivery are not significantly different between ethno-religious groups. This is echoed by the findings of the World Bank's Iraq Human Development Public Expenditure Review (2021) that found deteriorating outcomes in health care services across the board in the past two decades and limited availability of quality services, even for upper income groups (Panel C).

7. Conclusion

The history of Iraq over the past decade is a stark example of increasing vertical and horizontal inequalities, preceding and following a period of violent conflict. This paper uses cross-sectional individual-level nationally representative survey data to study how adults in Iraq report confidence in national institutions, quality of life, and quality of service delivery. The analysis finds that positive perceptions across these categories declined during ISIS-control of parts of Iraq and are slowly picking up in recent years. Over the last decade, poor adults are more likely to be food insecure and have a weaker outlook on the standard of living. Men are more likely than women to report lower country leadership approval ratings, a lower standard of living, and weaker job prospects in the post-ISIS period. The findings show that Shias, Kurds, and adults in living in Baghdad have significantly deteriorating quality of life, over time, and a lower quality of life than Sunnis in the post-ISIS period. This is largely driven by the marginalization of the Sunnis in the last couple of decades (Bormann et al. 2021). Nearly all ethno-religious groups perceive the government to be corrupt. Additional research (Dodge and Mansour 2021) finds this to be politically sanctioned government corruption and a key barrier to reform.

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Appendix A: Ethno-religious categories

Iraq is predominantly Muslim but is comprised of different Islamic sects, including Shia and Sunnis. These groups also include a large ethnic minority, Kurds, who make up between 15-20 percent of the country’s population and are 90 percent Sunni. Arab Barometer and the Gallup World Poll include survey the respondents about their religion and ethnicity. The respondents can choose from different categories, including Shia, Sunni, other religions, or ‘just Muslim’. Data in both surveys find that most adults, likely due to confidentiality, choose ‘just Muslim’. This prohibits us from any substantive analysis on how religious background makes up for any differences in perception.

The survey also collects data on governorates in Iraq. We believe that certain governorates can act as proxies for different Shia and Sunni sects. For example, Anbar, Diyala, Kirkuk, Ninawa and Salahuddin are predominantly Sunni. By contrast, Babil, Basra, Dhi Qar, Karbala, Maysan, Muthanna, Najaf, Qadisiyy, and Wasit are predominantly Shia. To explore the nuances in perception between Sunnis and Sunnis of Kurdish origin, we created a third category for Sunni Kurds. Residents of Erbil, Duhok, Halabja, and Sulamaniya are predominantly Sunnis with Kurdish background. Baghdad is diverse and does not have a clear distinction for a majority religion, making it different from other governorates. According to the Arab Barometer, about half of its residents are Shias. For this reason, the analysis assigns Baghdad its own category.

For the purpose of any analysis in this note, we first assign Baghdad to all its residents. We then use the geographic proxies for Sunni Kurds and assign any respondents living in Kurd-dominated governates into that category. To assign Shia and Sunni to an adult, we first choose their given category for example, Shia or Sunni from their responses to the question on religion. Adults who chose ‘just Muslim’ are assigned a category based on their geographic proxies. Less than 1 percent of adults choose other religions. The final distribution is shown in the table below.

Ethno-religious groups

Baghdad	26.69
Sunni	23.36
Shia	36.44
Kurds	13.5

Appendix B: Survey methodology

Year	Data Collection Date	Number of Interviews	Design Effect	Margin of Error	Mode of Interviewing	Languages
<u>Gallup World Poll Survey</u>						
2010	Feb 17 to Feb 27	1,000	1.33	3.6	Face-to-Face	Arabic, Kurdish
	Sep 2 to Oct 8	1,000	1.34	3.6	Face-to-Face	Arabic, Kurdish
2011	Feb 21 to Mar 3	1,000	1.39	3.7	Face-to-Face	Arabic, Kurdish
	Sep 13 to Sep 25	1,000	1.51	3.8	Face-to-Face	Arabic, Kurdish
2012	Mar 8 to Mar 27	1,000	1.40	3.7	Face-to-Face	Arabic, Kurdish
	Oct 8 to Oct 22	1,000	1.56	3.9	Face-to-Face	Arabic, Kurdish
2013	Sep 23 to Oct 14	1,003	1.61	3.9	Landline and Mobile Telephone	Arabic, Kurdish
2014	May 20 to Jun 5	1,007	1.55	3.8	Landline and Mobile Telephone	Arabic, Kurdish
	Nov 12 to Dec 23	1,003	1.52	3.8	Landline and Mobile Telephone	Arabic, Kurdish
2015	Oct 8 to Oct 27	1,009	1.69	4.0	Landline and Mobile Telephone	Arabic, Kurdish
2016	Apr 2 to Apr 21	1,011	1.61	3.9	Landline and Mobile Telephone	Arabic, Kurdish
2017	Apr 4 to May 26	1,000	1.66	4.0	Landline and Mobile Telephone	Arabic, Kurdish
2018	Nov 3 to Jan 6	1,000	1.24	3.5	Face-to-Face and Telephone	Arabic, Kurdish
2019	Nov 27 to Dec 28	1,097	1.36	3.4	Face-to-Face and Telephone	Arabic, Kurdish
<u>Arab Barometer</u>						
2013	June 6 to June 29	1215		3.0	Face-to-Face	Arabic
2018	Dec 24 to Jan 27	2462		3.0	Face-to-Face	Arabic

Appendix C: Summary statistics

Variables	Mean	Std. Dev.
Good time to find a job (0/1)	0.28	0.45
Not enough money for food (0/1)	0.46	0.50
Standard of living getting better (0/1)	0.47	0.50
Confidence in national government (0/1)	0.43	0.49
Corruption in government (0/1)	0.77	0.42
Approval of leadership's job performance (0/1)	0.35	0.48
Satisfied with education system (0/1)	0.43	0.49
Satisfied with quality of water (0/1)	0.43	0.49
Satisfied with quality of healthcare (0/1)	0.43	0.49

Source: Gallup World Poll

Appendix D: Regression analysis

Panels A-C report regression results of individual level OLS regressions. All regressions include dummy variables indicating individual characteristics. Shown: gender, income (lowest 40% of households), and ethno-religious groups: Baghdad resident, Shia, Kurds, and Sunnis (omitted category). Not shown: age categories, rural residence (vs urban residence), education (primary, secondary, or post-secondary), employment (wage employed, self-employed, unemployed, or out of the workforce), and marital status (married, single, divorced, widowed). The “Pre-ISIS” period is 2010-2012; the “ISIS” period is 2014-2016; and the “Post-ISIS” period is 2018-2019. Data on “Standard of living” is not available before 2014. All dependent variables are dummies and summarized in Appendix C. Standard errors are in the parenthesis. Asterisks ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Panel A: Quality of Life

	Not enough money for food			Good time to find a job			Standard of living getting better	
	Pre ISIS	ISIS	Post ISIS	Pre ISIS	ISIS	Post ISIS	ISIS	Post ISIS
Female	-0.0129 (0.0171)	0.0854*** (0.0213)	0.0199 (0.0256)	-0.0117 (0.0157)	0.0362* (0.0218)	0.0818*** (0.0229)	0.0224 (0.0211)	0.0587** (0.0281)
Poorest 40% of households	0.0461** (0.0188)	0.144*** (0.0219)	0.149*** (0.0284)	0.0114 (0.0261)	-0.00708 (0.0222)	-0.0194 (0.0233)	-0.166*** (0.0213)	-0.0937*** (0.0268)
Baghdad	0.0296 (0.0381)	-0.0510* (0.0274)	-0.0657* (0.0364)	-0.163 (0.102)	-0.0263 (0.0296)	-0.0766** (0.0346)	-0.0115 (0.0270)	-0.0720* (0.0368)
Shia	-0.000743 (0.0382)	-0.0510** (0.0252)	-0.0619* (0.0336)	-0.0763 (0.0920)	-0.0318 (0.0271)	-0.164*** (0.0284)	0.0488** (0.0247)	-0.122*** (0.0348)
Kurds	0.0209 (0.0390)	-0.0831** (0.0330)	-0.0164 (0.0409)	0.0830 (0.101)	0.0356 (0.0380)	-0.175*** (0.0386)	-0.0584* (0.0332)	-0.191*** (0.0483)
Constant	0.193*** (0.0424)	0.381*** (0.0379)	0.376*** (0.0437)	0.278*** (0.0814)	0.268*** (0.0410)	0.272*** (0.0386)	0.445*** (0.0381)	0.560*** (0.0480)
Observations	5,923	4,022	2,094	5,924	3,016	2,094	4,022	2,094
R-squared	0.012	0.090	0.094	0.042	0.013	0.039	0.064	0.047

Panel B: National Institutions

	Confidence in national government			Corruption in government			Approval of leadership's job performance		
	Pre ISIS	ISIS	Post ISIS	Pre ISIS	ISIS	Post ISIS	ISIS	Post ISIS	Pre ISIS
Female	0.0164 (0.0250)	0.0287 (0.0222)	0.0260 (0.0234)	-0.0480** (0.0180)	-0.0576** (0.0227)	-0.0367* (0.0203)	0.0232 (0.0264)	-0.000437 (0.0255)	0.0586*** (0.0181)
Poorest 40% of households	-0.0492* (0.0250)	0.0188 (0.0219)	0.106*** (0.0257)	0.0233 (0.0263)	-0.0158 (0.0231)	-0.0180 (0.0207)	-0.0547** (0.0237)	0.0325 (0.0251)	0.0546** (0.0224)
Baghdad	0.0475 (0.0705)	0.0503* (0.0283)	-0.0818** (0.0366)	0.102** (0.0388)	0.0557* (0.0307)	0.0324 (0.0233)	0.103** (0.0424)	0.0385 (0.0330)	-0.0512* (0.0292)
Shia	0.268*** (0.0706)	0.122*** (0.0256)	-0.191*** (0.0323)	-0.0696 (0.0477)	0.0614** (0.0280)	0.0291 (0.0218)	0.270*** (0.0403)	0.0742** (0.0302)	-0.102*** (0.0282)
Kurds	0.106 (0.106)	0.0490 (0.0344)	-0.271*** (0.0477)	-0.119 (0.0749)	0.0342 (0.0379)	0.0354 (0.0258)	0.343** (0.136)	-0.0924** (0.0392)	-0.0689 (0.0437)
Constant	0.175** (0.0779)	0.404*** (0.0390)	0.369*** (0.0446)	0.752*** (0.0400)	0.686*** (0.0410)	0.903*** (0.0283)	0.101* (0.0494)	0.384*** (0.0452)	0.149*** (0.0388)
Observations	3,962	4,022	2,094	4,924	3,016	2,094	3,924	3,016	2,094
R-squared	0.089	0.031	0.116	0.047	0.023	0.023	0.091	0.024	0.048

Panel C: Quality of Service Delivery

	Satisfied with quality of education system			Satisfied with quality of water			Satisfied with quality of healthcare		
	Pre ISIS	ISIS	Post ISIS	Pre ISIS	ISIS	Post ISIS	ISIS	Post ISIS	Pre ISIS
Female	0.0528***	0.0922***	0.0815***	0.00919	0.0431*	0.00689	0.0106	0.0661***	0.0989***
	(0.0152)	(0.0253)	(0.0272)	(0.0186)	(0.0250)	(0.0301)	(0.0217)	(0.0256)	(0.0293)
Poorest 40% of households	-0.0513	0.0115	0.0309	-0.0646	0.0129	0.0198	-0.0480	-0.0377	0.0260
	(0.0319)	(0.0248)	(0.0272)	(0.0382)	(0.0243)	(0.0266)	(0.0324)	(0.0249)	(0.0278)
Baghdad	-0.156***	-0.103***	-0.160***	0.0249	-0.197***	-0.0689*	0.0113	-0.110***	0.0518
	(0.0529)	(0.0328)	(0.0437)	(0.0672)	(0.0319)	(0.0412)	(0.0430)	(0.0328)	(0.0350)
Shia	-0.0633	-0.0539*	-0.178***	0.103	-0.105***	-0.0620	0.0856	-0.0271	-0.0371
	(0.0430)	(0.0302)	(0.0367)	(0.0697)	(0.0302)	(0.0388)	(0.0522)	(0.0302)	(0.0292)
Kurds	0.0967	0.149***	0.124**	0.372***	0.200***	0.320***	0.332***	0.139***	0.0347
	(0.0599)	(0.0394)	(0.0510)	(0.0660)	(0.0389)	(0.0526)	(0.0941)	(0.0399)	(0.0370)
Constant	0.526***	0.458***	0.442***	0.281***	0.480***	0.454***	0.234***	0.504***	0.317***
	(0.0451)	(0.0451)	(0.0491)	(0.0599)	(0.0447)	(0.0522)	(0.0525)	(0.0450)	(0.0412)
Observations	5,924	3,016	2,094	3,951	3,016	2,094	3,951	3,016	2,094
R-squared	0.040	0.047	0.068	0.072	0.070	0.073	0.061	0.036	0.019