Kurdistan Region Government
Ministry of Planning
Kurdistan Region Statistics Office

Labour Force Survey
Kurdistan Region
2021

Population and Labor Force Statistics Department 2022

Kurdistan Regional Government

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Report on the Labour Force Survey 2021 Kurdistan Region of Iraq

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Acknowledgements

The Labour Force Survey (LFS) was jointly conducted by the Central Statistical Organization (CSO) and the Kurdistan Region Statistics Office (KRSO) in Iraq in 2021 with the full technical and financial support of the International Labour Organization (ILO) Regional Office for Arab States.

The LFS is the first survey of its kind to produce estimates at the national, and subnational governorate levels, covering a broad array of indicators of the labour market and demographic characteristics of residents in Iraq.

Further to the published Iraq LFS 2021 results, an additional analysis of the Kurdistan region was drawn. The survey estimates for the Kurdistan Region are based, in total, on data from 3648 probability sample households, covering people living in residential dwellings. The KRSO recognizes and acknowledges the efforts, professional inputs and contribution of the partners, experts, and staff who were involved in the preparation and the implementation of the national survey and the development of the Kurdistan region report.

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Foreword

Labor force is one of the important sectors to Kurdistan region government. Under the agenda of the nineth cabinet of KRG, ministry of planning (MOP) undertook the responsibility to organize regulations and policies pertaining to labor force in Kurdistan region (KR) in collaboration with relevant ministries.

In the last 11 years, Kurdistan region statistics office (KRSO) was able to provide indicators of labor force and were used to draw number of policies and programs. However, many changes occurred in the last 5 years that made it necessary to reevaluate the situation following the crises happened.

Therefore, KRSO in coordination with Central statistics office (CSO) in Iraq and collaboration with international labor organization (ILO) started planning to conduct labor force survey in 2019 in Iraq and KR using the updated definitions adopted in the 19th conference of labor statisticians 2013 (ICLS).

Employment and unemployment are closely correlated with economic growth in any country and to human resources and therefore, obtaining newest data will feed into the updating of policies serving development and to monitor changes over time and specially achieving sustainable development goals (SDGs 2030).

It was planned to conduct this survey in 2020 but the outbreak of COVID 19 postponed it to the year 2021 when after the first half of it, field work commenced followed by preparation of indicators and the detailed report on both Iraq and KR levels that needed enormous efforts till the end of 2022.

It's worth mentioning, both KRSO and CSO needed that time to go through the results of this survey in details as it utilized the latest definitions of labor force for the first time and lead to changes specially in employment and unemployment rates as stated in the report in more details.

I take this opportunity to thank ILO team in Geneva, Beirut and Iraq for their efforts and cooperation with both CSO and KRSO in preparing and conducting this important survey at this time and making the much-needed results and indicators available to Iraq and KR governments and hope this cooperation continues for the upcoming years.

Special thanks to KRSO and its directorates team for their efforts in the last 3 years which lead to this important product.

Dr. Dara Rasheed
Minister of planning

Preamble

In 2012, Kurdistan region statistics office (KRSO) in cooperation with RAND implemented the first labor force survey in Kurdistan region (KR) and its governorates utilizing the internationally adopted methodology and KRSO continued for the years 2013-2015 to implement LFS. By conducting 4 rounds of LFS, Kurdistan region government (KRG) was in possession of newest data and indicators in terms of structure of labor force, participation rates, demographic specifications, et.

2021 survey holds a special significance as it utilized 2013 adopted methodology where 2012 used 1982 ones related to defining employment and unemployment and because after 2015, it was anticipated to see big changes because of economic and COVID 19 crises.

This survey sheds light on indicators like, employment, income from labor in addition to other important ones. This survey was conducted on a sample size of 1748 HHs divided equally on KR four governorates.

The report indicates that labor force participation rate increased to 45% in working age group from nearly 39% in 2015 of which, 73,5% where male and 16,5% female. One of the indictors reflects employment to population ratio which is 37,6% and This indicates that a little more than one-third of the working age population in the Kurdistan Region were employed in 2021 which often used as an indicator of the performance of the national economy in providing employment to its population.

Information obtained from this survey quantity and quality wise are worth to be considered of high importance and to be used by ministries to build their policies and programs.

KRSO will continue to provide new data and indictors in order to enable KRG, private sector and international organizations plan better.

Serwan Mohamed
President
KRSO

Executive Summary

In 2021, the International Labour Organization (ILO) partnered with the Central Statistical Organization (CSO) and the Kurdistan Region Statistical Office (KRSO) in Iraq, to implement the first national Labour Force Survey (LFS) in a decade. The LFS was jointly conducted by both CSO and KRSO in 2021 and both financial funding and technical assistance were provided by the ILO Regional Office for Arab States.

The Iraq LFS 2021[2] was the first survey of its kind to produce estimates on the national, governorate and urban/rural levels of Iraq, covering a broad array of indicators on the labour market and demographic characteristics of residents in Iraq. Reliable survey results are of critical importance to establish a much-needed baseline of current labour market data to analyse for policy development and to contribute to a better implementation of the appropriate employment policies.

The structure of the Iraq LFS 2021 questionnaire included the following themes: demographic characteristics (description of household members, education, migration, and disability status), labour force status, main job and second job characteristics, job search, social benefits (transfers/assistance), and union engagement. The data were collected using computer assisted questionnaires (Computer Assisted Personal Interviewing – CAPI model).

The main objective of the survey was to collect updated data on the size and characteristics of the labour force, employment, unemployment and other labour market characteristics of the population, including working time, income from employment of employees at main job and informality of employment. The survey was also designed to measure different components of labour underutilization, including time-related underemployment and potential labour force, and other forms of work, in particular, own-use production of goods and services, in line with the latest international standards, adopted by the 19th International Conference of Labour Statisticians.[3] The survey was further used to collect additional data on disability, union membership, social security coverage, and social assistance and pension benefits received by the population.

Further to the published Iraq LFS 2021 results, an additional analysis of the Kurdistan region was drawn. This report presents and analyses the results of the survey on the Kurdistan Region, covering the governorates of Erbil, Sulaymaniyah, Duhok, and Halabja, not recognized as a separate governorate by the Iraqi government. The results of the survey shed light on the current employment situation in the Kurdistan region and the main differences with the rest of the country. The results provide also a base for an assessment of the changes that have occurred over the past ten years,

[2] Iraq Labour Force Survey 2021 (ilo.org)
[3] ILO *Resolution concerning statistics of work, employment, and labour underutilization*, 19th International Conference of Labour Statisticians, Geneva, 2013.

as labour force surveys were conducted in the Kurdistan Region during the period 2012-2015.4

The Iraq LFS 2021 report concentrated on the presentation of the results at the national level, with a few results at the governorate level. Iraq's population of more than 40 million inhabitants in 2020, was distributed among 18 Governorates (Duhok, Nineveh, Arbil, Al-Sulaymaniyah, Kirkuk, Salah Al-Deen, Diyala, Baghdad, Al-Anbar, Karbala, Babil, Wasit, Misan, Thi Qar, Al-Qadisiya, Al-Najaf, Al-Muthanna, and Al-Basra). According to population estimates of KRSO, the Kurdistan Region contained an estimated population of about 5'941'000 persons in 2020 excluding Makhmur district in Erbil, representing around 15 percent of the total population of Iraq.

The sample coverage is the same as in the Iraq LFS 2021, and that is the population living in regular dwellings, excluding persons living in non-residential units such as construction and agriculture sites, shops, stores, factories, unfinished buildings, army barracks, refugee camps or adjacent gatherings and settlements, and so on. The survey estimates for the Kurdistan Region are based, in total, on data from 1648 probability sample households.

The labour force participation rate (LFPR) in the Kurdistan Region was about 45.0 percent, that is almost half of the working age population in the Kurdistan Region were engaged in the labour force, either working for pay or profit or seeking and currently available for employment in 2021. The male LFPR in 2021 was 73.5 percent, significantly higher than the female rate of 16.5 percent. As expected, the labour force participation rate of young people was significantly lower (33.4 percent) than that of adults (50.3 percent). Young people tend to be in the school system preparing themselves to enter the labour force later in their life cycle. It is instructive to note that the labour force participation rates in the Kurdistan Region were higher than the corresponding figures in other parts of Iraq, by more than 6 percentage points for both male and female populations, and by more than 8 percentage points for the youth population.

The employment-to-population ratio, often used as an indicator of the performance of the national economy in providing employment to its population, stood at 37.6 percent in the Kurdistan Region in 2021. This indicates that a little more than one-third of the working age population in the Kurdistan Region were employed in 2021. The ratio was considerably higher among men (63.5 percent) than among women (11.6 percent), and lower among youth (21.0 percent) relative to adults (45.2 percent). For all the sex and age categories, the employment-to-population ratio was higher in the Kurdistan Region than in the rest of Iraq.

The data show that the unemployment rate (LU1), which represents the percentage of the labour force that is unemployed, stood at about 16.5 percent in the Kurdistan Region in 2021. The female unemployment rate (29.6 percent) was more than twice

[4] Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force

the male rate (13.6 percent) and that the youth unemployment rate (37.2 percent) was more than three time the adults' rate (10.2 percent). Other indicators of labour underutilization provide a broader understanding of the extent of the unmet needs for employment in the national economy. The combined rate of unemployment and time-related underemployment (LU2) was 25.5 percent of the labour force, significantly higher than the unemployment rate. The combined rate of unemployment and potential labour force (LU3) was slightly higher at 29.5 percent. The composite measure of labour underutilization (LU4) that combines unemployment, time-related underemployment and potential labour force was 37.1 percent, indicating that more than one-third of the extended labour force was affected by some form of labour underutilization in the Kurdistan Region. In general, labour underutilization affected women much more (60.7 percent) than men (29.0 percent), and youth (59.9 percent) much more than adults (28.6 percent).

According to the results, the estimated number of persons reporting to have more than one job during the reference week was 97'800, representing about 6.8 percent of total employment in the Kurdistan Region. Multiple jobholding was significantly higher among men (7.7 percent) than among women (2.1 percent).

Collected data on employment characteristics also cover the branch of economic activity, occupation, status in employment and sector of employment. The data show essentially the same pattern in the four governorates of the Kurdistan Region: more than 70 percent of employment in services, less than 20 percent in industry; and the rest in agriculture. The data also show a steady decline of the share of employment in services at main job from 77.3 percent in 2012 to 72.3 percent in 2021. Correspondingly, the share of industrial employment at main job has generally increased from 16.6 percent in 2012 to 18.5 percent in 2021. Similarly, the share of agricultural employment has generally increased from 6.1 percent in 2012 to 7.9 percent in 2021.

The data allows to present the distribution of the employed population by sector of employment at main job. The data reveals that slightly more than one-third of employment was in the public sector (38.4 percent). According to these results, the share of employment in the private sector was about 60.6 percent, and the remaining share in households (0.1 percent), non-profit institutions (0.7 percent) and international institutions (0.2 percent). According to the data, the share of public sector employment (including government employees and those of public sector and mixed sector enterprises) has substantially decreased from 50.5 percent in 2012 to 38.4 percent in 2021. Correspondingly, the share of private sector employment has generally increased from 48.6 percent in 2012 to 60.6 percent in 2021.

The survey measures the informality of employment both in terms of the characteristics of the type of job of the employed person, that is informal employment, as well as in terms of the characteristics of the establishment in which

the person works, that is informal sector. The results show that the number of persons with informal jobs represented 65.4 percent of the total employment. The results also show that around 36.5 percent of total employment was in the informal sector in the Kurdistan Region in 2021.

The distribution of the employed population by occupation category at main job is also observed based on the international standard classification of occupations (ISCO-08). The data indicates a certain degree of segregation of occupations between men and women. Professionals formed about 38.7 percent of female employment at main job, while the corresponding value for male employment was about 5.9 percent. Similarly, about 11.5 percent of female employment were clerical support workers while the corresponding value for male employment was 3.1 percent. By contrast, the data show three significant male-dominated occupational categories: services and sales workers with 29.1 percent of male employment at main job against 7.1 percent for female employment; plant and machine operators and assembles with 10.2 percent of male employment at main job against essentially no female employment; and armed forces occupations with 11.6 percent of male employment at main job against 1.0 percent for female employment.

The distribution of the employed population by status in employment is observed based on the ICSE-93[5]. According to the results, more than two-third of the employed population in the Kurdistan Region (68.7 percent) were employees or paid apprentices or trainees at their main job. Some 22.0 percent were own-account workers without employees, and the remaining were about equally employers (4.7 percent) and contributing family workers (4.6 percent). The data show that the employment structure of the Kurdistan Region by status in employment is almost identical to that of the country as a whole.

The employed population is analysed in terms of working time and income from employment, in order to distinguish the various intensities of employment, and differentiate between the different categories of employed persons. The survey results show that the average number of hours usually worked per week at main job in the Kurdistan Region was about 44.3 hours in 2021, considerably higher among men (46.8 hours) than among women (30.2 hours). The average number of hours actually worked during the reference week in the Kurdistan Region was about 38.7 hours. The main reason that the hours usually worked per week are generally higher than the hours actually worked during the reference week is due to temporary absence from work.

It can be observed from the results that most employed persons in the Kurdistan Region usually worked between 30 and 59 hours per week at their jobs (55.0 percent). The number of persons usually working short hours, i.e., less than 30 hours per week,

[5] ILO, International Standard Classification of Status in Employment, ISCE-93, adopted at the 15th International Conference of Labour Statisticians, 1993.

was about 19.3 percent, significantly higher among women (46.0 percent) in comparison with men (14.5 percent). In addition, the survey results show that some 25.6 percent of employed persons in the Kurdistan Region were usually working long hours, more than 60 hours per week, much higher among men (29.3 percent) than among women (4.8 percent).

The analysis of the data on income from employment in the report is limited to earnings of employees at their main job. According to the main survey results, the average monthly earnings of employees at their main job in the Kurdistan Region was about 606'500 Iraqi Dinars.

The data on gender pay gap by educational attainment show that women in the Kurdistan Region were earning a higher pay than men at all levels of educational attainment, except for employees with elementary educational attainment. While relatively few women are employed, those who are, tend to be highly educated and with relatively high earnings: Average monthly earnings of female employees at main job were 655'250 Iraqi Dinars in 2021 compared with 596'450 for male employees at main job.

The survey also allows analysis of the NEET (youth not in education, employment or training), which is an indicator of the Sustainable Development Goals (SDG 8.6.1). According to the results, about 29.6 percent of the youth population in the Kurdistan Region was not in education, nor in employment or training during the survey reference period in 2021. The NEET rate was significantly higher among the youth female population than among the youth male population with 40.5 percent and 19.8 percent respectively. Also, the rate was generally lower among young people living in urban areas (28.3 percent) than those living in rural areas (35.6 percent).

The survey report presents a comparison with past surveys conducted in the Kurdistan region and the approximate calculation of key labour force indicators under the 13th ICLS (1982) definitions by governorate in the Kurdistan region. The comparison takes into account the change in the definition of employment and its implication on the measurement of unemployment. Employment according to the previous international standards (13th ICLS, 1982) was defined in terms of any activity falling within the System of National Accounts (SNA) production boundary, while according to the new international standards (19th ICLS, 2013), employment is defined in terms of "any activity to produce goods or services for pay or profit." The main difference concerns the statistical treatment of persons engaged in own-use production of goods. This is an approximate relationship because the change in the definition of employment involves also other elements, in particular, contributing family workers temporarily absent from work during the reference week; seasonal workers during the off-season; unpaid trainees and apprentices; volunteer workers engaged in market-oriented units.

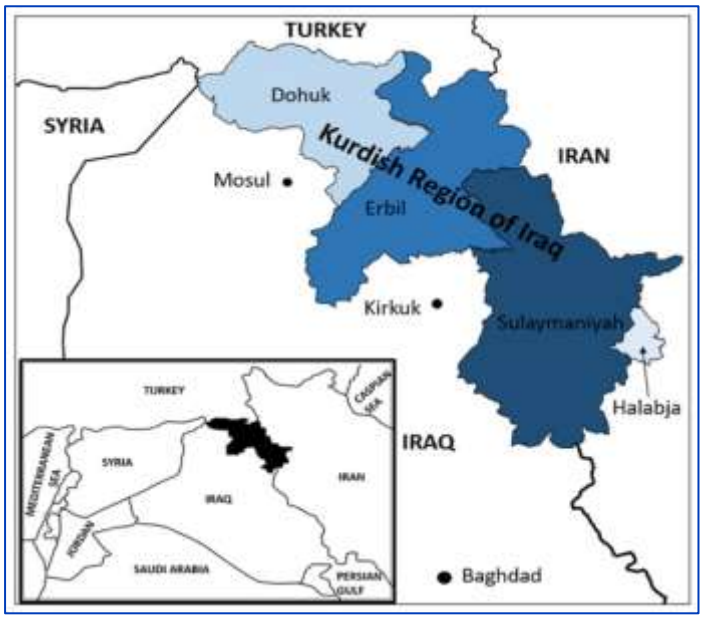
Chapter 1: Introduction

In 2021, the Central Statistical Office of Iraq (CSO) jointly with the Statistical Office of the Kurdistan Region (KRSO) conducted a national labour force survey, with the financial and technical assistance of the ILO Regional Office for the Arab States (ILO/ROAS).[6] The survey was the first of its kind to produce estimates at the national, and subnational governate levels, covering a broad array of indicators on the labour market and demographic characteristics of the resident population of Iraq. The main objective of the survey was to collect current data on the size and characteristics of the labour force, employment, unemployment and other labour market characteristics of the population, including working time, income from employment of employees at main job and informality of employment. The survey was also designed to measure different components of labour underutilization, including time-related underemployment and potential labour force, and other forms of work, in particular, own-use production of goods and services, in line with the latest international standards, adopted by the 19th International Conference of Labour Statisticians.[7] The survey was further used to collect additional data on disability, union membership, social security coverage, and social assistance and pension benefits received by the population. The survey was designed in 2020, but due to the Covid-19 pandemic situation, most of the field operations were actually conducted in 2021, and the main results published in 2022.

The 2022 report on *Iraq Labour Force Survey 2021* concentrated on the presentation of the results at the national level, with a few results at the governorate level, specifically on labour force participation and unemployment rates, structure of employment by broad branch of economic activity at main job, share of informal employment in total non-agricultural employment and on youth not in education, employment or training. The purpose of the present report is to produce and analyse the results of the survey on the Kurdistan Region (Figure 1) covering the governorates of Erbil, Sulaymaniyah and Duhok, and Halabja, not recognized as a separate governorate by the Iraqi government.

[6] *Iraq Labour force Survey 2021*, Central Statistical Organization (CSO), Kurdistan Region Statistics Office (KRSO) and International Labour Organization (ILO), 2022.
[7] ILO *Resolution concerning statistics of work, employment, and labour underutilization*, 19th International Conference of Labour Statisticians, Geneva, 2013.

Figure 1. Administrative map of the Kurdistan Region of Iraq



According to population estimates of KRSO, the Kurdistan Region contained an estimated population of about 5'941'000 persons in 2020 excluding Makhmur district in Erbil, representing around 15 percent of the total population of Iraq. Its economy is dominated by the oil industry, with crude oil extraction constituting about 34 percent of the region gross domestic product (GDP) in 2017.[8] Agriculture makes up only about 3 percent of the region GDP. The results of the survey shed light on the current employment situation in the Kurdistan region and the main differences with the rest of the country. The results provide also a base for an assessment of the changes that have occurred over the past ten years, as labour force surveys were conducted in the Kurdistan Region since 2012.[9] From 2012 to 2014, a labour force survey programme based on a rotation design was carried out twice every year, the first round from May to June and the second round from November to December of each year. Due to economic crisis and limited financial resources, the survey in 2015 was conducted in only one round, in December of that year. A separate demographic survey was conducted in October 2017, containing an extensive module on labour force and employment.[10]

The present report on the labour force survey 2021, Kurdistan Region, essentially follows the structure of the national report on the Iraq labour force survey, 2021. It is organized into 8 chapters and 3 annexes. Following this introductory chapter, the main labour force indicators of the Kurdistan Region are presented in Chapter 2, including

[8] Kurdistan Region Statistical Office (KRSO), https://krso.gov.krd/en/pressreleases/press-release-measuring-the-gdp-of-kurdistan-region-and-iraq-for-the-year-2018
[9] Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force
[10] Kurdistan Region Statistical Office (KRSO), *Demographic Survey. Kurdistan Region of Iraq*, July 2018. https://krso.gov.krd/content/upload/1/root/e61.pdf

comparisons with the rest of Iraq and the changes over time. Chapter 3 examines the pattern of labour force participation by sex, age group and level of educational attainment in the Kurdistan Region and the main differences with the rest of Iraq. The chapter also examines the current employment structure of the Kurdistan Region and the differences with the rest of Iraq in terms of branch of economic activity, occupation, status in employment, sector of employment, informality of employment, as well as working time and income from employment of employees at main job. The changing structure of employment in the Kurdistan Region is also examined for certain aspects such as branch of economic activity and occupation.

Chapter 4 presents the survey results on unemployment and other components of labour underutilization (including time-related underemployment and potential labour force) in the Kurdistan Region and the main differences with the rest of Iraq. Chapter 5 analyses the data on persons outside the labour force including persons engaged in own-use production of goods and services. The remaining three chapters present the survey results on particular categories of the population: women and equal opportunities - Chapter 6; youth education and employment - chapter 7; and international migrant workers - Chapter 8. The three annexes at the end of the report include a description of the survey methodology and an assessment of data quality (Annex A), specimen of the survey questionnaire in Kurdish, Arabic and English (Annex B), the statistical tables on the Kurdistan Region (Annex C).

Finally, it should be stated that the data presented here on the Kurdistan Region correspond, for the most parts, to the data presented at the national level. Disaggregation of certain variables are, however, omitted or condensed due to the limited number of underlying observations. The survey estimates for the Kurdistan Region are based, in total, on data from 1648 sample households. Although, this represents about 21 percent of the national sample, and a higher share than the population of the Kurdistan Region relative to the total population of Iraq which is about 15 percent, the effective sample size for some disaggregation is considered too low to provide sufficiently precise estimates. In general, any estimate below 120,000 should be used with caution.

Chapter 2: Main Labour Force Indicators

In this chapter, the main labour force indicators based on the results of the labour force survey 2021 are first reviewed and then compared with the data obtained from the earlier labour force surveys conducted in 2012 to 2015 as well as those obtained from the demographic survey conducted in 2017.

- **Main labour force indicators (2021)**

The main results of the Iraq LFS 2021 on the Kurdistan Region are shown in Table 1 below. According to these results, the working age population (15 years old and over) living in regular households constituted about 3'800'800 persons in 2021. Among them, there were about 1'710'500 persons in the labour force, either employed (1'427'800) or unemployed (282'600). In addition to the unemployed, some 153'100 persons were in time-related underemployment, working short hours (less than 40 hours per week at all jobs) but desiring to work more hours, and 314'800 persons in the potential labour force either seeking employment but not currently available for employment or currently available for employment but not actively seeking employment. Labour underutilization thus affected in total some 750'500 persons of working age, among whom about 438'800 men and 311'700 women, and about 328'900 young people, 15-24 years old, both sexes combined.

Table 1. Main Labour force and labour underutilization indicators by governorate, KRI, LFS 2021

KRI	Total	Male	Female	Youth (15-24 years old)	Adults (25+ years old)
Population 15 years old and above	3'800'800	1'899'800	1'901'000	1'201'600	2'599'300
Labour force	1'710'500	1'397'100	313'300	401'900	1'308'600
- Employed	1'427'800	1'207'100	220'700	252'200	1'175'700
- Unemployed	282'600	190'000	92'700	149'700	132'900
Outside labour force	2'090'400	502'700	1'587'600	799'700	1'290'700
Labour underutilization	750'500	438'800	311'700	328'900	421'600
- Time-related underemployment	153'100	134'200	18'900	31'800	121'300
- Unemployed	282'600	189'900	92'700	149'700	132'900
- Potential labour force	314'800	114'700	200'100	147'500	167'400

Erbil	Total	Male	Female	Youth (15-24 years old)	Adults (25+ years old)
Population 15 years old and above	1'325'610	663'588	662'022	442’336	883’274
Labour force	623'522	500'249	123'272	163’708	459’813
- Employed	513'010	426'800	86'210	95’606	417’404
- Unemployed	110'511	73'449	37'062	68’102	42’409
Outside labour force	702'088	163'339	538'749	278’628	423’460
Labour underutilization	272’774	163’138	109’636	126’803	145’971
- Time-related underemployment	61’065	54’984	6’081	16’027	45’038
- Unemployed	110'511	73'449	37'062	68’102	42’409
- Potential labour force	101’198	34’704	66’494	42’674	58’524
Duhok	**Total**	**Male**	**Female**	**Youth (15-24 years old)**	**Adults (25+ years old)**
Population 15 years old and above	890'810	447'814	442'996	311’935	578’876
Labour force	352'838	311'240	41'598	85’565	267’274
- Employed	267'926	240'929	26'997	44’760	223’166
- Unemployed	84'912	70'311	14'601	40’805	44’107
Outside labour force	537'972	136'574	401'398	226’370	311’602
Labour underutilization	188’295	138’018	50’276	89’497	98’798
- Time-related underemployment	32’400	30’587	1’812	6’346	26’053
- Unemployed	84'912	70'311	14'601	40’805	44’107
- Potential labour force	70’983	37’120	33’863	42’346	28’637
Sulaymaniyah	**Total**	**Male**	**Female**	**Youth (15-24 years old)**	**Adults (25+ years old)**
Population 15 years old and above	1'504'285	748'537	755'748	426’226	1’078’059
Labour force	698'414	557'591	140'823	146’537	551’877
- Employed	614'925	513'093	101'832	107’293	507’632
- Unemployed	83'489	44'497	38'992	39’244	44’245
Outside labour force	805'870	190'946	614'924	279’689	526’181
Labour underutilization	276’152	130’693	145’459	107’624	168’528
- Time-related underemployment	55’762	45’401	10’362	8’407	47’355
- Unemployed	83'489	44'497	38'992	39’244	44’245
- Potential labour force	136’901	40’795	96’106	59’973	76’928

Halabja	Total	Male	Female	Youth (15-24 years old)	Adults (25+ years old)
Population 15 years old and above	80'112	39'885	40'228	21’068	59’045
Labour force	35'677	28'023	7'654	6’061	29’616
- Employed	31'976	26'326	5'650	4’529	27’447
- Unemployed	3'701	1'697	2'003	1’532	2’169
Outside labour force	44'436	11'861	32'574	15’007	29’429
Labour underutilization	13’302	6’994	6’307	5’022	8’279
- Time-related underemployment	3’854	3’193	661	1’021	2’833
- Unemployed	3'701	1'697	2'003	1’532	2’169
- Potential labour force	5’747	2’104	3’643	2’469	3’278

Table 2 presents the survey results in relative terms. According to these results, the labour force participation rate in the Kurdistan Region was about 45.0 percent, that is almost half of the working age population in the Kurdistan Region were engaged in the labour force, either working for pay or profit or seeking employment in 2021. The female labour force participation rate was somewhat lower (16.5 percent), compared with the male labour force participation rate (73.5 percent). As expected, the labour force participation rate of young people was significantly lower (33.4 percent) than that of adults (50.3 percent). Young people tend to be in the school system preparing themselves to enter the labour force later in their life-cycle. It is instructive to note that the labour force participation rates in the Kurdistan Region were higher than the corresponding figures in other parts of Iraq, by more than 6 percentage points for both male and female populations, and by more than 8 percentage points for the youth population.

Table 2. Main Labour force and labour underutilization rates by governorate, KRI LFS 2021

KRI (In percentage)	Total	Male	Female	Youth (15-24 years old)	Adults (25+ years old)
Labour force participation rate	45.0	73.5	16.5	33.4	50.3
Employment-to-Population ratio	37.6	63.5	11.6	21.0	45.2
LU1: Unemployment rate	16.5	13.6	29.6	37.2	10.2
LU2: Combined rate of time-related underemployment and unemployment	25.5	23.2	35.6	45.2	19.4
LU3: Combined rate of unemployment and potential labour force	29.5	20.2	57.0	54.1	20.3
LU4: Aggregate measure of labour underutilization	37.1	29.0	60.7	59.9	28.6

Erbil (In percentage)	Total	Male	Female	Youth (15-24 years old)	Adults (25+ years old)
Labour force participation rate	47.0	75.4	18.6	37.0	52.1
Employment-to-Population ratio	38.7	64.3	13.0	21.6	47.3
LU1: Unemployment rate	17.7	14.7	30.1	41.6	9.2
LU2: Combined rate of time-related underemployment and unemployment	27.5	25.7	35.0	51.4	19.0
LU3: Combined rate of unemployment and potential labour force	29.2	20.2	54.6	53.7	19.5
LU4: Aggregate measure of labour underutilization	37.6	30.5	57.8	61.4	28.2
Duhok (In percentage)	**Total**	**Male**	**Female**	**Youth (15-24 years old)**	**Adults (25+ years old)**
Labour force participation rate	39.6	69.5	9.4	27.4	46.2
Employment-to-Population ratio	30.1	53.8	6.1	14.3	38.6
LU1: Unemployment rate	24.1	22.6	35.1	47.7	16.5
LU2: Combined rate of time-related underemployment and unemployment	33.2	32.4	39.5	55.1	26.3
LU3: Combined rate of unemployment and potential labour force	36.8	30.8	64.2	65.0	24.6
LU4: Aggregate measure of labour underutilization	44.4	39.6	66.6	70.0	33.4
Sulaymaniyah (In percentage)	**Total**	**Male**	**Female**	**Youth (15-24 years old)**	**Adults (25+ years old)**
Labour force participation rate	46.4	74.5	18.6	34.4	51.2
Employment-to-Population ratio	40.9	68.5	13.5	25.2	47.1
LU1: Unemployment rate	12.0	8.0	27.7	26.8	8.0
LU2: Combined rate of time-related underemployment and unemployment	19.9	16.1	35.0	32.5	16.6
LU3: Combined rate of unemployment and potential labour force	26.4	14.3	57.0	48.0	19.3
LU4: Aggregate measure of labour underutilization	33.1	21.8	61.4	52.1	26.8
Halabja (In percentage)	**Total**	**Male**	**Female**	**Youth (15-24 years old)**	**Adults (25+ years old)**
Labour force participation rate	44.5	70.3	19.0	28.8	50.2
Employment-to-Population ratio	39.9	66.0	14.0	21.5	46.5
LU1: Unemployment rate	10.4	6.1	26.2	25.3	7.3
LU2: Combined rate of time-related underemployment and unemployment	21.2	17.4	34.8	42.1	16.9
LU3: Combined rate of unemployment and potential labour force	22.8	12.6	50.0	46.9	16.6
LU4: Aggregate measure of labour underutilization	32.1	23.2	55.8	58.9	25.2

A similar pattern is observed with respect to the employment-to-population ratio. The employment-to-population ratio represents the percentage of the working age population who is employed. The ratio is often interpreted as an indicator of the performance of the economy in providing employment to its growing population. The results in Table 2 show that the employment-to-population ratio in the Kurdistan Region was 37.6 percent in 2021, indicating that a little more than one-third of the working age population in the Kurdistan Region were employed in 2021. Similar to the labour force participation rate, the employment-to-population ratio was considerably higher among men (63.5 percent) than among women (11.6 percent), and among adults (45.2 percent) than among young persons (21.0 percent). For all the sex and age categories, the employment-to-population ratio was higher in the Kurdistan Region than in the rest of Iraq.

The next indicator in Table 2 is the unemployment rate (LU1). It represents the percentage of the labour force that is unemployed. The unemployment rate is one of the Sustainable Development Goals (SDG) indicator (8.5.2). The data show that the unemployment rate in the Kurdistan Region stood at about 16.5 percent in 2021. The female unemployment rate (29.6 percent) was more than twice the male rate (13.6 percent) and that the youth unemployment rate (37.2 percent) was more than three time the adults rate (10.2 percent).

The other indicators of labour underutilization in Table 2 provide a broader understanding of the extent of the unmet needs for employment. According to these results, the combined rate of unemployment and time-related underemployment (LU2) was 25.5 percent of the labour force, significantly higher than the unemployment rate. The combined rate of unemployment and potential labour force (LU3) was slightly higher at 29.5 percent. The composite measure of labour underutilization (LU4) that combines unemployment, time-related underemployment and potential labour force was 37.1 percent, indicating that more than one-third of the extended labour force was affected by some form of labour underutilization in the Kurdistan Region. In general, labour underutilization affected women much more (60.7 percent) than men (29.0 percent), and youth (59.9 percent) much more than adults (28.6 percent).

The survey results show that the overall unemployment rate of the Kurdistan Region was essentially the same as that of the other part of Iraq in 2021. But, the male unemployment rate in the Kurdistan Region, 13.6 percent, is found to be more than one percentage point lower than the male rate in the other part of Iraq, 14.9 percent. Similarly, the unemployment rate of adults in the Kurdistan Region, 10.2 percent, is found to be more than one percentage point lower than the adults rate in the other part of Iraq, 11.4 percent. Correspondingly, the unemployment rate of women in the Kurdistan Region, 29.6 percent, is found to be higher than the female rate in the other part of Iraq, 27.8 percent. Similarly, the youth unemployment rate in the Kurdistan

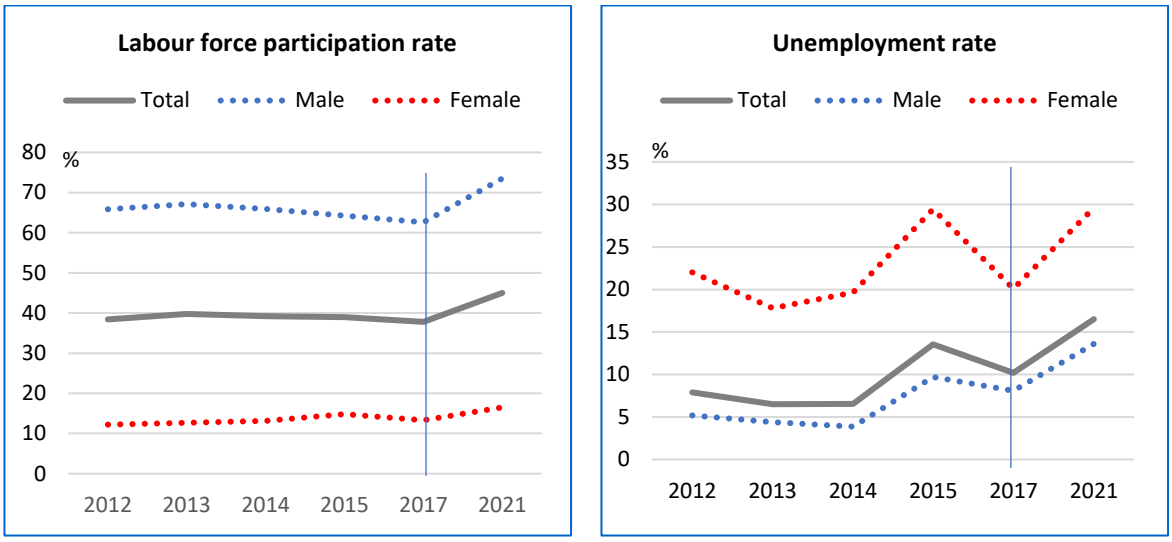
Region, 37.2 percent, is found to be higher than the youth unemployment rate in the rest of the country, 35.4 percent.

It is surprising to note that when the broader measures of labour underutilization are examined, the survey results show systematically higher rates in the Kurdistan Region than in the other part of Iraq. For example, the combined rate of time-related underemployment and unemployment (LU2) was about 25.5 percent in the Kurdistan Region in 2021 against 22.7 percent in the rest of Iraq. Similarly, the combined rate of unemployment and the potential labour force (LU3) was about 29.5 percent in the Kurdistan Region against 23.1 percent in the rest of Iraq. The composite measure of labour underutilization (LU4) which takes into account the three components of labour underutilization, namely, unemployment, time-relate underemployment and the potential labour force, was consequently also significantly higher in the Kurdistan Region, 37.1 percent than in the rest of Iraq, 28.7 percent. The higher rates of labour underutilization (LU2, LU3 and LU4) in the Kurdistan Region are also observed when calculated for male and female, or for youth and adults, separately. This unexpected result is further investigated in Chapter 4 on unemployment and labour underutilization.

- ## Change over time (2012-2021)

Figure 2 presents data on the labour force participation rate and the unemployment rate of the Kurdistan Region over the period from 2012 to 2021. The data are compiled on the basis of the 2021 labour force survey and the published results of the labour force surveys conducted in 2012, 2013, 2014 and 2015 (December) and the demographic survey conducted in 2017 (October). Despite differences in the underlying concepts and definitions, and scope and timing of the surveys, the results show a relatively smooth pattern of the labour force participation rate with a significant increase in 2021, and a more erratic but generally upward movement of the unemployment rate with punctual declines in 2014 and 2017. The data also show a consistently higher labour force participation of the male population relative to the female population; at no time, the female labour force participation rate exceeding 20 percent. By contrast, the female unemployment rate consistently exceeds the male unemployment rate, the gap between the female and male unemployment rates remaining almost constant at 20 percentage points throughout the period.

Figure 2. Labour force participation rate and unemployment rate over time (2012-2021) Kurdistan Region of Iraq



Sources: *Data for 2012 and 2015: Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; 2013, https://krso.gov.krd/content/upload/1/root/a121.pdf 2014, https://krso.gov.krd/content/upload/1/root/a144.pdf. Data for 2017, Demographic Survey. Kurdistan Region of Iraq, July 2018, Chapter 4, Table 24, p. 39, https://krso.gov.krd/content/upload/1/root/e61.pdf; Data for 2021, Labour Force Survey of Iraq, 2021.*

Notes: 1 Concepts and definitions of data for 2012, 2014, 2015 and 2017 based on the ILO Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, 13th International Conference of Labour Statisticians, Geneva, 1982; Concepts and definitions of data for 2021 based on ILO Resolution concerning statistics of work and labour underutilization, 1th International Conference of Labour Statisticians, Geneva, 2013.
2 Scope of data for 2017, population 15 to 64 years old living in non-camp Kurdistan Region of Iraq.

The solid vertical line inserted in both the left and right panels of Figure 2 are meant to indicate a break-in-series due to the change in the underlying concepts and definitions. The main difference concerns the definition of employment, but has implication also on the measurement of unemployment. Employment according to the definition adopted by the 13th ICLS, 1982, included any activity falling within the System of National Accounts (SNA) production boundary.[11] But, according to the new international standards adopted by the 19th ICLS, 2013, employment is defined in terms of "any activity to produce goods or services for pay or profit." The main difference concerns the statistical treatment of persons engaged in own-use production of goods who are included as employed according to the 13th ICLS, and excluded according to the 19th ICLS. Other differences concern the statistical treatment of contributing family workers temporarily absent from work during the

11 According to the 13th ICLS Resolution (1982), the "employed" comprise all persons above the age specified for measuring the economically active population, who during a specified brief period (one week or one day) were in the following categories: (a) paid employment, i.e., persons who, during the reference period, performed some work for wage or salary, in cash or in kind, paid, or having already worked in their present job, were temporarily not at work during the reference period but had a formal attachment to their job; (b) self-employment, i.e., persons who, during the reference period, performed some work for profit or family gain, in cash or in kind, or had a business enterprise, a farm or a service undertaking, from which they were temporarily not at work during the reference period for some specific reason. The 13th ICLS definition further specifies that "Persons engaged in the production of economic goods and services for own and household consumption should be considered as in self-employment if such production comprises an important contribution to the total consumption of the household."

reference week, seasonal workers during the off-season, unpaid trainees and apprentices, and volunteer workers engaged in market-oriented units.

An approximate relationship between employment and unemployment according to the 19th ICLS definitions and the corresponding values according to the 13th ICLS definitions may be expressed as:

$$Employment_{13th\ ICLS} \cong Employment_{19th\ ICLS} + a + b$$

$$Unemployment_{13th\ ICLS} \cong Unemployment_{19th\ ICLS} - b$$

where a is the number of persons outside the labour force according to the 19th ICLS definitions who were engaged in own-use production of goods during the reference week; and b is the number of persons in unemployment according to the 19th ICLS who were engaged in own-use production of goods during the reference week. Own-use production of goods means (i) producing and/or processing for storage agriculture, fishing, hunting and gathering products; (ii) collecting and/or processing for storage mining and forestry products, including firewood and other fuels; (iii) fetching water from natural and other sources; (iv) manufacturing household goods (such as furniture, textiles, clothing, footwear, pottery or other durables, including boats and canoes); and (v) building, or effecting major repairs to one's own dwelling, farm building, etc. In the 2021 survey, own-use production of goods was measured using questions 12.1-12.5 (Annex 2). The implications on the measurement of the labour force participation rate and the unemployment rate was approximated at the national level and for the different governorates in Annex D of *Iraq Labour force Survey 2021*. The results for the four governorates of the Kurdistan Region are reproduced in Table 3 below.

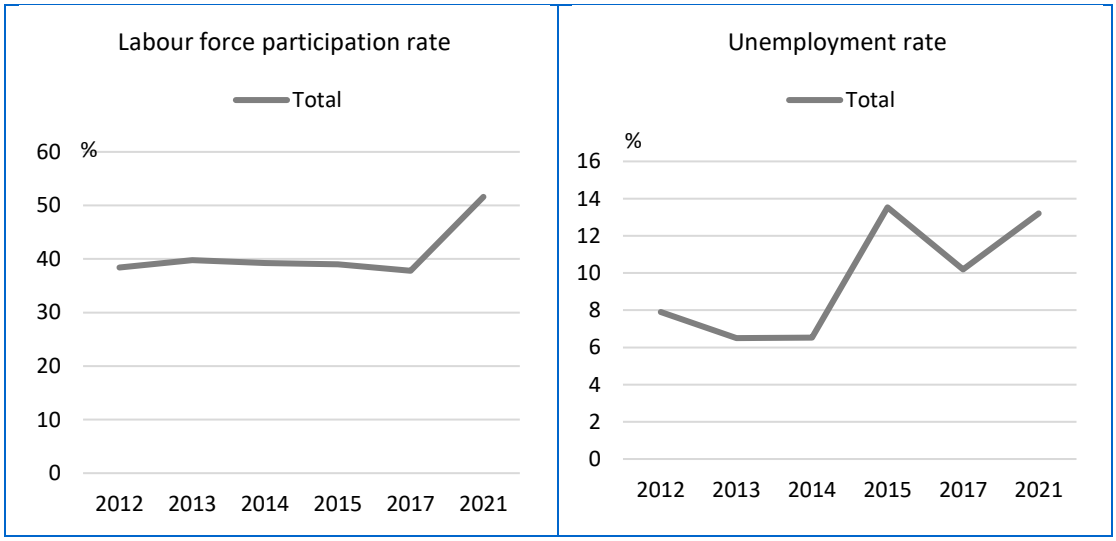
Table3 . Labour force participation rate and unemployment rate by governorate, Kurdistan Region of Iraq, LFS 2021. Approximate comparison between 19th and 13th ICLS definitions

Governorate	Labour force participation rate (%)		Unemployment rate (%)	
	19th ICLS definitions	13th ICLS definitions[1]	19th ICLS definitions	13th ICLS definitions[1]
KRI	45.0	51.8	16.5	13.2
Erbil	47.0	53.3	17.7	14.7
Duhok	39.6	48.5	24.1	16.9
Sulaymaniyah	46.4	52.5	12.0	10.0
Halabja	44.5	48.2[2]	10.4	8.9[2]

Notes: 1 Approximate estimation adjusting for the statistical treatment of persons engaged in own-use production of goods.
2 The 13th ICLS rates for Halabja were obtained by proportion from the rates of Sulaymaniyah, because separate values of a and b were not available for Halabja.

The results of Table 3 may be interpreted as follows: Had the 2021 survey used the 13th ICLS definitions, the labour force participation rate would have been about 6.3 percentage points higher in Erbil; about 8.8 percentage points higher in Duhok; about 4.7 percentage points higher in Sulaymaniyah; and about 4.6 percentage points higher in Halabja, than what has been measured, respectively, for those governorates using the 19th ICLS definitions. By contrast, the unemployment rate would have been about 3.0 percentage points lower in Erbil; 7.3 percentage points lower in Duhok; 1.9 percentage points lower in Sulaymaniyah and Halabja than what has been measured, respectively, in those governorates using the 19th ICLS definitions. On the basis of these results, the 2021 data of Figure 2 are adjusted for comparison with the data from the previous years as shown in Figure 3 below. It can be observed that the adjustment does not change the overall patterns, although the upward movement of the labour force participation rate in 2021 is now accentuated while the upward movement of the unemployment rate in 2021 is now somewhat tempered.

Figure 3. Labour force participation rate and unemployment rate over time (2012-2021) Kurdistan Region of Iraq: 2021 data adjusted for definitions of previous years data



Sources: See Figure 2.
Note: Adjustment of 2021 data based on results of Table 3.

For the sake of completeness, Table 4 below reproduces, for the Kurdistan Region and separately for each governorate, the operations used for converting the data under the 19th ICLS definitions to the corresponding approximate data under the 13th ICLS definitions. Thus, for example, for Erbil, the number persons employed under the 13th ICLS definitions is obtained by adding to the number of employed persons under the 19th ICLS, the number of unemployed persons and the number of persons outside the labour force who were engaged in own-use production of goods:

Employed (13th ICLS) = 513'000 + 7'000 + 83'000 = 603'000

Similarly, unemployment under the 13th ICLS is obtained by deducting from the number of unemployed persons under the 19th ICLS, those were engaged in own-use production of goods:

Unemployed (13th ICLS) = 111'000 – 7'000 = 104'000

Labour force (13th ICLS) is obtained by adding employment (13th ICLS) and unemployment (13th ICLS). Also, Outside labour force (13th ICLS) is obtained by deducting Labour force (13th ICLS) from the population 15 years old which is, of course, constant under the two sets of definitions.

Table 4. Approximate estimation of key labour force indicators by governorate, KRI LFS 2021 - Under international definitions of 19th ICLS (2013) versus 13th ICLS (1982)

KRI ('000)	19th ICLS	Own-use production of goods			KRI ('000)	13th ICLS
		Total	Agri-culture	Other		
Population 15+	3801	280	186	94	Population 15+	3801
Labour force	1711	24	15	9	Labour force	1875
- Employed	1428	0	0	0	- Employed	1612
- Unemployed	283	24	15	9	- Unemployed	263
Outside labour force	2090	256	171	85	Outside labour force	1925
Labour force participation rate	45.0%	-	-	-	Labour force participation rate	51.8%
Unemployment Rate	16.5%	-	-	-	Unemployment rate	13.2%
Erbil ('000)	**19th ICLS**	**Own-use production of goods**			**Erbil ('000)**	**13th ICLS**
		Total	**Agri-culture**	**Other**		
Population 15+	1326	90	56	34	Population 15+	1326
Labour force	624	7	3	4	Labour force	707
- Employed	513	0	0	0	- Employed	603
- Unemployed	111	7	3	4	- Unemployed	104
Outside the labour force	702	83	53	30	Outside the labour force	619
Labour force participation rate	47.0%	-	-	-	Labour force participation rate	53.3%
Unemployment rate	17.7%	-	-	-	Unemployment rate	14.7%

Duhok ('000)	19th ICLS	Own-use production of goods			Duhok ('000)	13th ICLS
		Total	Agri-culture	Other		
Population 15+	891	91	51	40	Population 15+	891
Labour force	353	12	7	5	Labour force	432
- Employed	268	0	0	0	- Employed	359
- Unemployed	85	12	7	5	- Unemployed	73
Outside the labour force	538	79	44	35	Outside the labour force	459
Labour force participation rate	39.6%	-	-	-	Labour force participation rate	48.4%
Unemployment rate	24.1%	-	-	-	Unemployment rate	16.8%
Sulaymaniyah ('000)	19th ICLS	Own-use production of goods			Sulaymaniyah ('000)	13th ICLS
		Total	Agri-culture	Other		
Population 15+	1504	96	76	20	Population 15+	1504
Labour force	698	5	5	0	Labour force	790
- Employed	615	0	0	0	- Employed	711
- Unemployed	83	5	5	0	- Unemployed	79
Outside labour force	806	91	71	20	Outside labour force	715
Labour force participation rate	46.4%	-	-	-	Labour force participation rate	52.5%
Unemployment Rate	12.0%	-	-	-	Unemployment Rate	10.0%
Halabja ('000)	19th ICLS	Own-use production of goods			Halabja ('000)	13th ICLS
		Total	Agri-culture	Other		
Population 15+	80	3	3	0	Population 15+	80
Labour force	36	0	0	0	Labour force	39
- Employed	32	0	0	0	- Employed	35
- Unemployed	4	0	0	0	- Unemployed	3
Outside labour force	44	3	3	0	Outside labour force	42
Labour force participation rate	44.5%	-	-	-	Labour force participation rate	48.2%
Unemployment Rate	10.4%	-	-	-	Unemployment Rate	8.9%

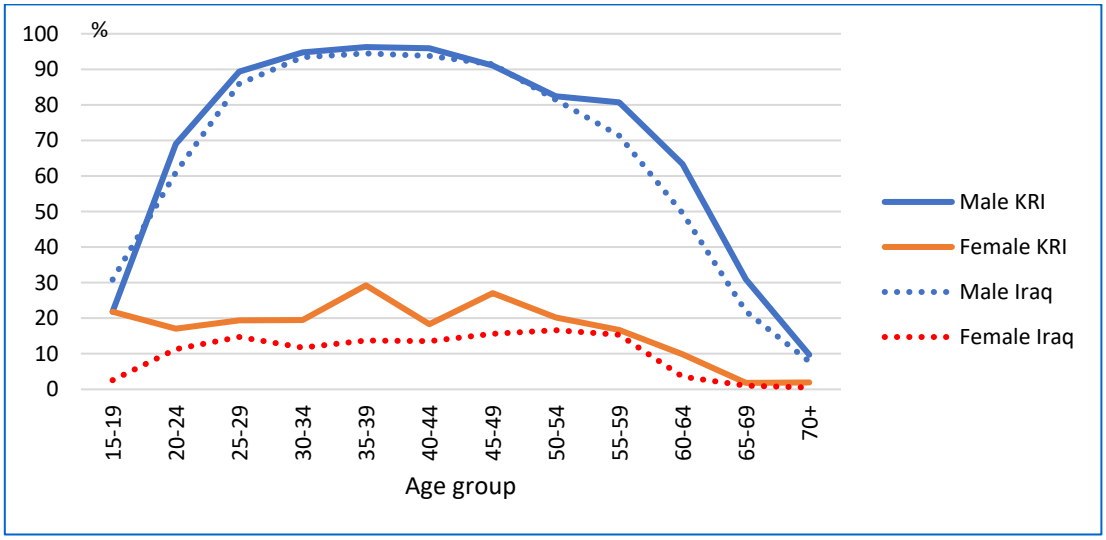
Chapter 3: Labour force participation and employment

This chapter examines the survey results on the labour force participation and the employment structure of the Kurdistan Region of Iraq in 2021. First, the data on the labour force participation profile of the working age population are presented in terms of sex and age categories, and of educational attainment. Then, the employment data are presented in terms of sex and age group, occupation, branch of economic activity, status in employment, sector of employment, working time and income from employment. The evolution of the structure of employment by branch of economic activity is also examined on the basis of the available data from past surveys.

• Labour force participation rate by sex, age group and educational attainment

The labour force participation rate (LFPR), i.e., the ratio of the labour forces to the working age population expressed in percentage terms, is an indicator of the level of labour market activity. It measures the extent of the working age population who is in the labour force. The breakdown of the labour force participation rate by sex and age group gives a profile of the labour force participation as shown in Figure 4 where the LFPR profile in the Kurdistan Region of Iraq is compared with that of the country as a whole.

Figure 4. Labour force participation rate by sex and age group, KRI and Iraq, LFS 2021



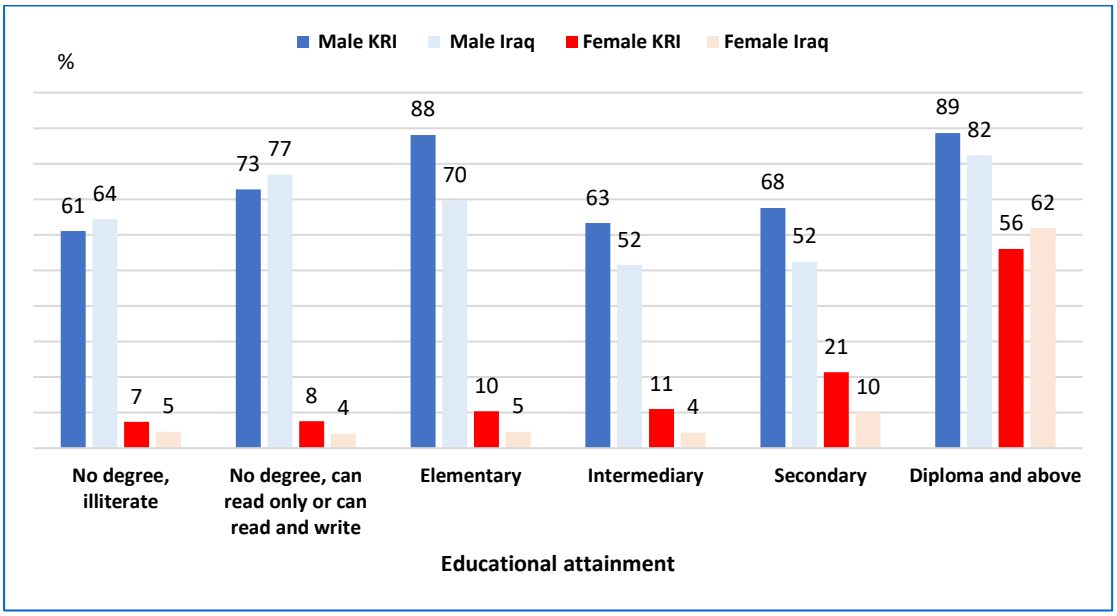
Like most LFPR profiles, the labour force participation rate in the Kurdistan Region has an inverted-U shape. The male curve is above the female curve, reflecting a higher labour force participation of men relative to women at all age groups. For each sex, the curve increases for young people when they leave school and enter the labour market. It reaches a peak at the age group 34-39 years for men and somewhat later for women, before decreasing for both men and women, as people leave and retire

from the labour market at older ages. It is instructive to note that the female labour force participation rate in the Kurdistan Region has a double peak, one at the age group of 35-39 years, and the other at the age group of 45-49 years. The decline of the labour force participation of women between these two age groups may reflect the tendency of women to leave the labour market after giving birth and returning to the labour market when the child reaches school-age.

It is also instructive to note that the labour force participation rate in the Kurdistan Region is uniformly higher than the corresponding rate in the country as a whole. This is true for both sexes and all age groups except for young men, 15 to 19 years old. In general, the low labour force participation rate of women in the Kurdistan Region as well as that of Iraq as a whole may be the outcome of several factors including barrier to entry such as educational attainment, presence of young children, age of marriage and social norms determining the role of women in the public domain.

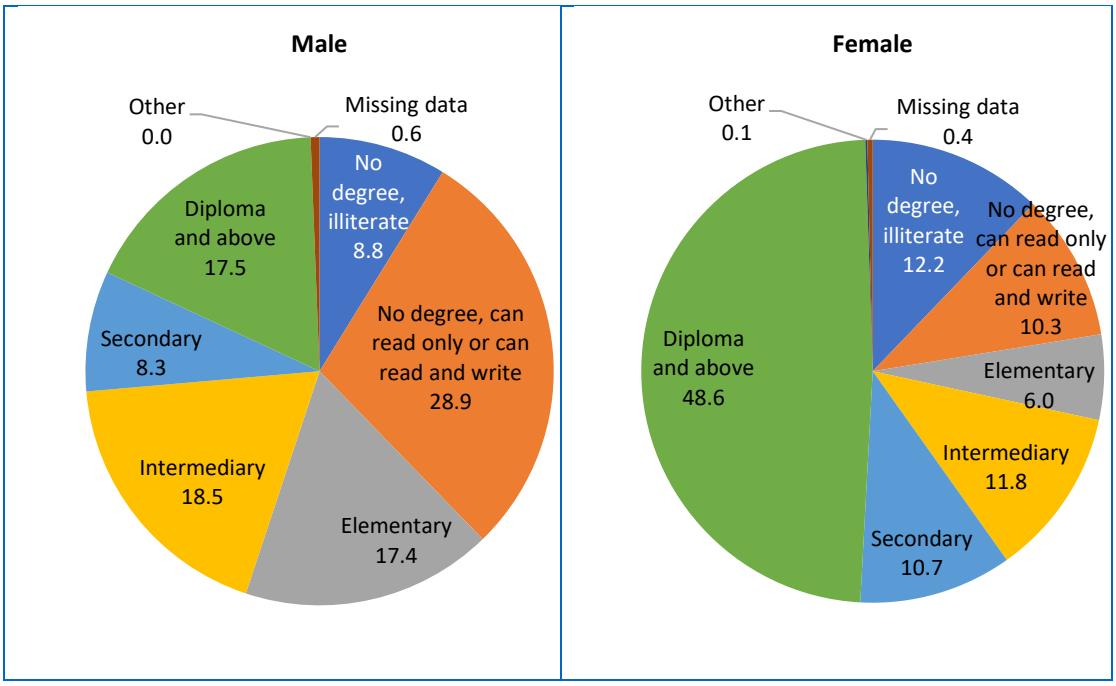
Figure 4 gives the labour force participation rate of men and women by educational attainment in the Kurdistan Region. It can be observed that labour force participation is highest at diploma and university level of educational attainment, both for men and women. It can also be observed that the gap between the labour force participation rate of men and women is much narrower at diploma and university level of educational attainment than other levels of educational attainment. A similar pattern is observed for the country as a whole (light blue and light pink in Figure 5). It is instructive note that the labour force participate rate in the Kurdistan Region is higher than the corresponding for the country as a whole for both men and women and all levels of educational attainment, except for men for no degree, illiterate, and no degree, can read only or can read and write, and for women at with diploma and university level of educational attainment.

Figure 5. Labour force participation rate by sex and educational attainment, KRI and Iraq, LFS 2021



Regarding educational attainment as an indication of skills, the distribution of the labour force by educational attainment provides a measure of the skill-level of the labour force. Figure 6 shows the distribution of the labour force of the Kurdistan Region in 2021 by educational attainment, for male and female, separately. It may be noted that while about 17.5 percent of the male labour force had diploma or university educational attainment in 2021, the corresponding value for the female labour force was 48.6 percent. Similarly, while about 8.3 percent of the male labour force had secondary educational attainment in 2021, the corresponding value for the female labour force was 10.7 percent. These results suggests that the female labour force had a relatively higher skill-level than the male labour force in the Kurdistan Region in 2021. A similar pattern, though slightly less accentuated than in the Kurdistan Region, is found for the country as a whole.

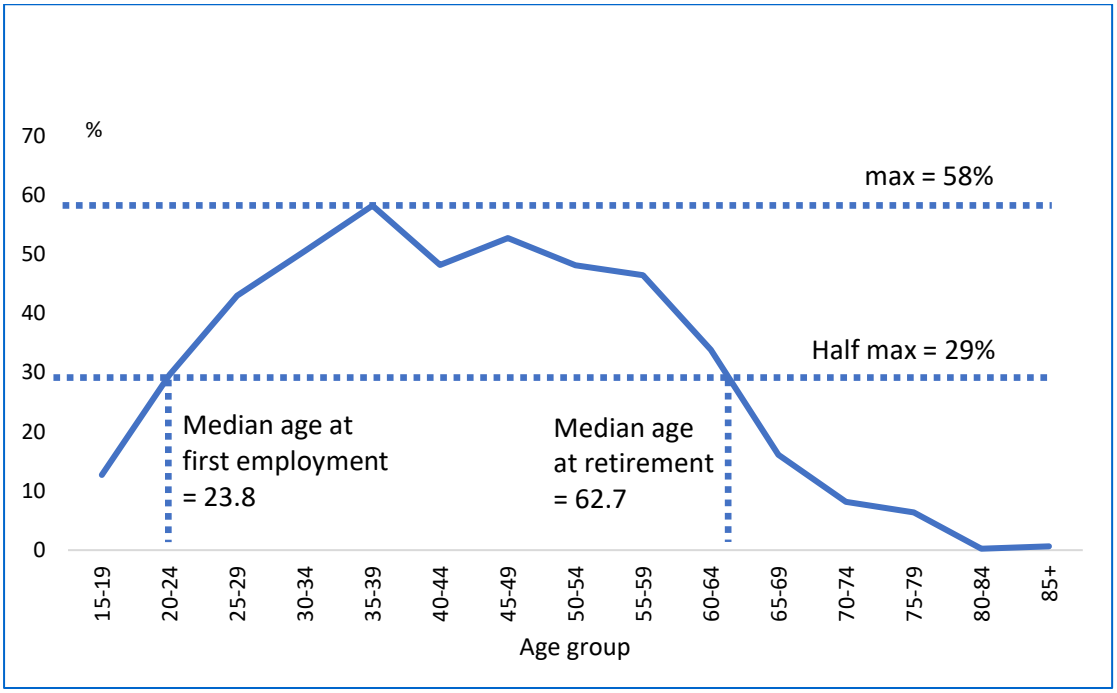
Figure 6. Structure of labour force by level of educational attainment, male and female, separately, KRI LFS 2021



• Employment-to-population ratio by age group

Aggregate employment is an important indicator of the ability of the economy in providing employment to its growing population. Figure 7 below shows the employment-to-population ratio by age group. For the prime age group, 25-54 years old, the employment-to-population ratio was about 57 percent in the Kurdistan Region, considerably higher than the corresponding value at the national level, 46 percent. Because it is restricted to the prime age population 25-54 years, the indicator is not affected by schooling and retirement effects, two phenomena that may be studied separately as shown below. The data in Figure 7 provide information for rough estimation of median age at first employment and median age at retirement. The middle-dashed line represents half the maximum employment-to-population ratio. It has two points of intersection with the employment-to-population ratio. The first point corresponds to the age at which the majority of the working age population at that age have entered employment (interpreted, under broad assumptions, as first employment). Similarly, the second point corresponds to the age at which the majority of the working age population at that age have left employment (interpreted, under broad assumptions, as retirement).

Figure 7. Employment-to-population ratio by age group, KRI LFS 2021



According to these calculations, workers are entering their first employment when they are about 23.8 years old in the Kurdistan Region. They are leaving employment when they are about 62.7 years old. This could be interpreted to mean that the expected length of life-time employment of a typical worker is about 38.9 years. At the national level (Figure 7 in *Iraq Labour force Survey 2021*), the median age at first employment was calculated to be 21, while median age at retirement was 60. Comparing the two sets of estimates suggests that workers in the Kurdistan Region tend to enter employment about three years later than the workers at the national level. This could mean that young people in the Kurdistan Region tend to remain in school longer than young people in the country as a whole, or that it takes more time for young people to find employment in the Kurdistan Region than it takes in the country as a whole. The comparison of the two sets of data also indicates that workers in the Kurdistan Region tend to leave employment about three years later than workers at the national level. So, the expected length of life-time employment is about the same, 39 years, for workers in the Kurdistan Region or in the country as a whole.

• Structure of employment and change over time

Next, the survey data on employment in the Kurdistan Region are analysed in terms of their structure by branch of economic activity, occupation, status in employment and sector of employment. The evolution of the structure of employment over time is also examined, in particular, for detecting changes in branches of economic activity.

- Branch of economic activity

Branch of economic activity refers to the activity of the establishment in which an employed person worked during the reference period. An establishment may be a farm, a mine, a factory, a workshop, a store, an office or a similar type of economic unit. It is important to distinguish enterprises from establishments. “Enterprise” is a broader concept than “establishment”. An *establishment* is a production unit situated in a single location and in which only a single (non-ancillary) productive activity is carried out or in which the principal productive activity accounts for most of the value added. An enterprise is a legal entity (or group of legal entities) and may have a number of establishments with different economic activities and different locations. Table 5 shows the percentage distribution of the employed population by branch of economic activity in main job in the Kurdistan Region and compares it with the corresponding data at the national level.

Table 5. Employed persons by branch of economic activity at main job, KRI and Iraq, LFS 2021

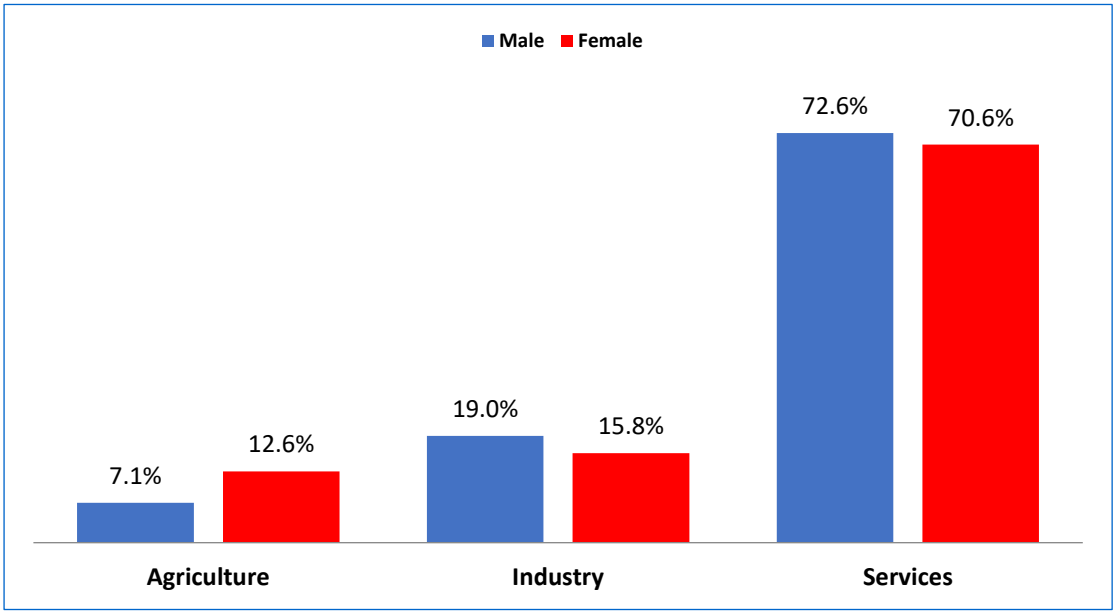
Branch of economic activity at main job	KRI (%)	Iraq (%)
Total	100.0	100.0
Agriculture, forestry and fishing	7.9	8.4
Mining and quarrying	0.6	0.7
Manufacturing	7.9	6.2
Electricity, gas, steam and air conditioning supply	1.6	1.9
Water supply; sewerage, waste management and remediation activities	1.3	0.9
Construction	7.0	16.3
Wholesale and retail trade; repair of motor vehicles and motorcycles	20.9	14.2
Transportation and storage	6.6	9.8
Accommodation and food service activities	3.6	2.1
Information and communication	0.9	0.3
Financial and insurance activities	0.8	0.5
Real estate activities	0.6	0.2
Professional, scientific and technical activities	1.3	1.6
Administrative and support service activities	1.8	3.3
Public administration and defence; compulsory social security	17.5	15.9

Education	**10.7**	**9.3**
Human health and social work activities	**3.4**	**3.5**
Arts, entertainment and recreation	**0.2**	**0.3**
Other service activities	**4.0**	**2.5**
Activities of households as employers; undifferentiated goods/services producing activities of households for own use	**0.1**	**0.0**
Activities of extraterritorial organizations and bodies	**0.0**	**0.0**
Other	**0.6**	**2.1**

The data show that the top three branches of economic activity in the Kurdistan Region were wholesale and retail trade (20.9 percent), public administration and defense (17.5 percent), and education (10.7 percent), followed by agriculture, forestry and fishing (7.9 percent), manufacturing (7.9 percent), construction (7.0 percent) and transportation and storage (6.6 percent). These seven branches of economic activity together engaged more than 1 million workers, representing about 78 percent of total employment in the Kurdistan Region in 2021. In comparison with the employment situation in the country as a whole, two branches of economic activity stand out. One is construction which engages more than 16 percent of total employment in Iraq, but only 7 percent in the Kurdistan Region. The other is wholesale and retail trade which engages about 14 percent of total employment in Iraq, but almost 21 percent in the Kurdistan Region.

Figure 8 shows the share of employment by broad branch of economic activity at main job for male and female, separately. The results show that female employment at main job in the Kurdistan Region was more concentrated in agriculture activities (12.6 percent) than male employment (7.1 percent). By contrast, male employment at main job was more concentrated in industry (19.0 percent) than female employment (15.8 percent). In services, which is the principle broad branch of economic activity at main job of both male and female, the degree of concentration was about equal, although the data show a slightly higher share in male than in female employment. It should be mentioned, however, the data on the Kurdistan Region are somewhat different than those for Iraq as whole, where a considerable difference was found (more than 10 percentage points) between female and male employment in services (73.1 percent versus 62.2, respectively). A full account of employment by branch of economic activity should also consider employment in secondary jobs. The full account of agriculture activity requires also the inclusion of subsistence foodstuff producers in the calculation. The distribution of employment by sex and branch of economic activity at main job, secondary jobs is given in the Statistical Annex 3.

Figure 8. Share of male and female employment by broad branch of economic activity[1] at main job, KRI LFS 2021

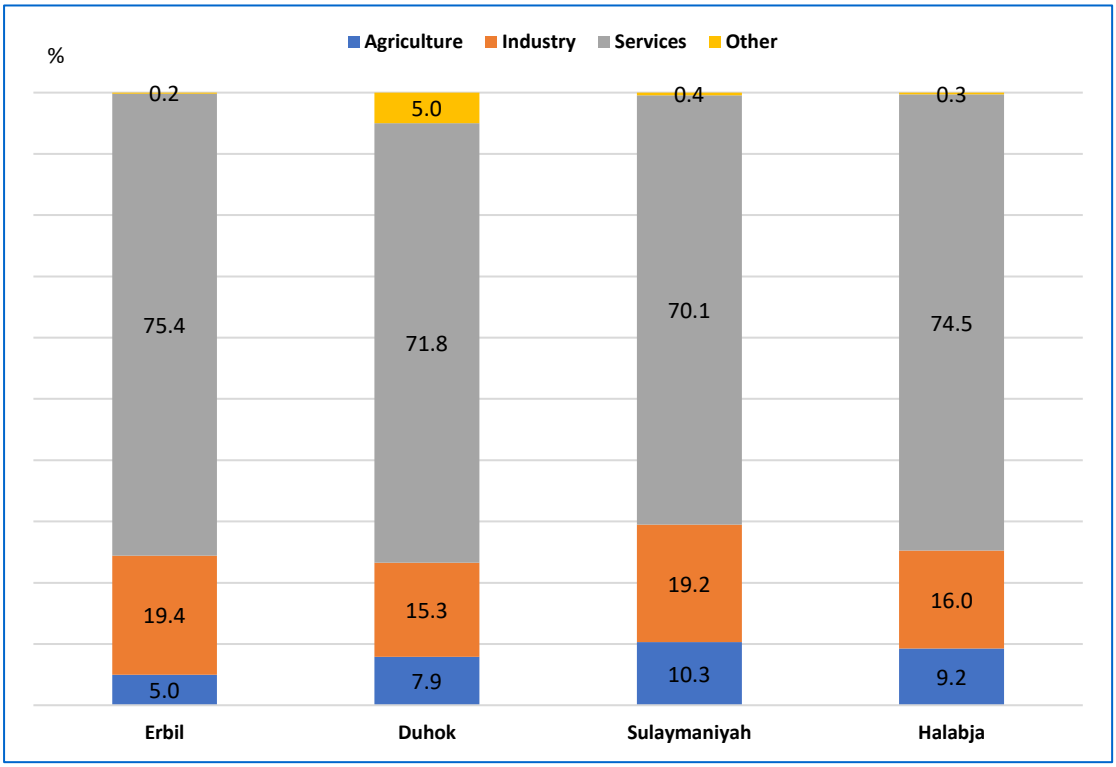


Notes: [1] Agriculture = forestry, fishing and animal husbandry; Industry = Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply, sewerage and waste management; and construction; and Services = Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities; information and communication; financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative and support service activities; public administration and defense; compulsory social security; education; human health and social work activities; arts, entertainment and recreation; other service activities.

[2] Total for each sex may not add to 100 percent due to other or unspecified activities.

Figure 9 gives the distribution of the number of employed persons in different governorates by broad branch of economic activity at main job: Agriculture; Industry; and Services as specified in the note of Figure 8. The data show essentially the same pattern in the four governorates of the Kurdistan Region: more than 70 percent of employment in services, less than 20 percent in industry; and the rest in agriculture. Within this overall pattern, some differences may be observed: a higher concentration of employment in services in Erbil (75.4 percent) as compared with Duhok (71.8 percent), Sulaymaniyah (70.1 percent) and Halabja (74.5 percent); and correspondingly lower concentration of employment in agriculture in Erbil (5.0 percent) relative to Duhok (7.9 percent), Sulaymaniyah (10.3 percent) and Halabja (9.2 percent).

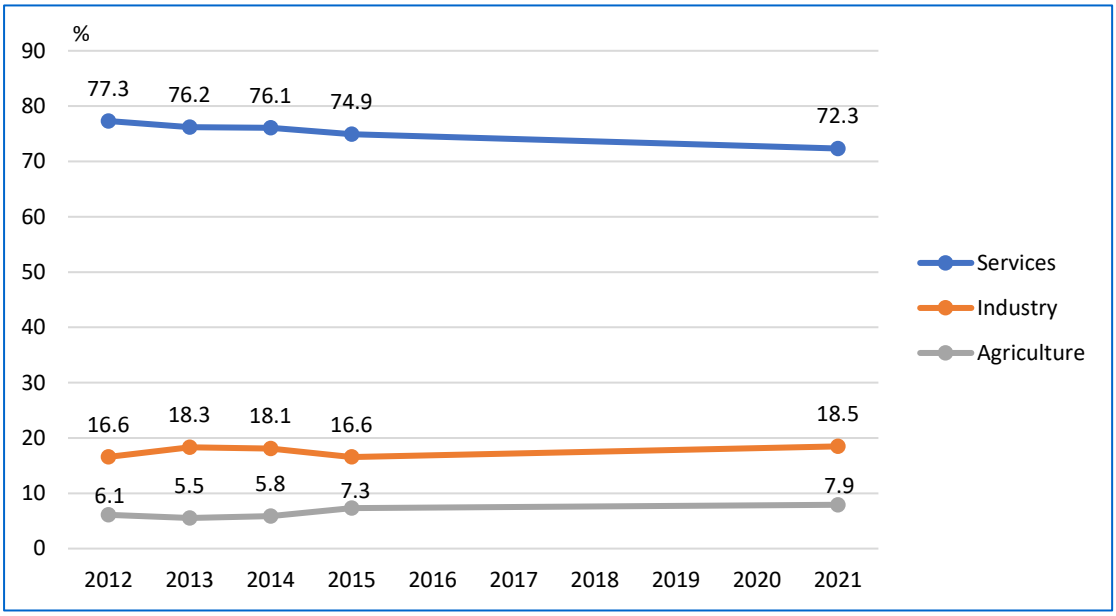
Figure 9. Share of employment in broad branches of economic activity at main job by governorate, KRI LFS 2021



Notes: *[1] Broad branches of economic activity defined in note to Figure 8.*
[2] Total for each governorate may not add to 100 percent due to other or unspecified activities.

Figure 10 shows the evolution of the share of employment by broad branch of economic activity at main job in the Kurdistan Region over the period from 2012 to 2021. The past data are obtained from the published results of the labour force surveys conducted in 2012, 2013, 2014 and 2015. The corresponding data from the demographic survey conducted in 2017 (October) could not be found.

Figure 10. Share of employment in broad branches of economic activity at main job over time, KRI, 2012-2021



***Sources**: Data for 2012, 2015, Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; 2013, https://krso.gov.krd/content/upload/1/root/a121.pdf 2014, https://krso.gov.krd/content/upload/1/root/a144.pdf. Data for 2021, Labour Force Survey of Iraq, 2021.*

***Notes**: [1] Broad branches of economic activity defined in note to Figure 8.*
[2] Total may not add to 100 percent due to other or unspecified activities.

Despite differences in the underlying concepts and definitions, and scope and timing of the surveys, the data in Figure 10 show a steady decline of the share of employment in services at main job from 77.3 percent in 2012, to 76.2 percent in 2013, 76.1 percent in 2014, 74.9 percent in 2015 and 72.3 percent in 2021. Correspondingly, the share of industrial employment at main job has generally increased from 16.6 percent in 2012, 18.3 percent in 2013 and 2014, and a a return to 16.6 percent in 2015 before increasing again to 18.5 percent in 2021. Similarly, the share of agricultural employment has generally increased from 6.1 percent in 2012, to 7.3 percent in 2015 and 7.9 percent in 2021 with a slight decline in 2013 and 2014.

- Occupation

Occupation refers to the kind of work done by a person employed (or the kind of work done previously or wanted if the person is unemployed), irrespective of the branch of economic activity or the status in employment of the employed person. Table 6 shows the percentage distribution of the employed population by occupational category in main job in the Kurdistan Region and compares it with the corresponding data at the

national level. According to the survey results, the top occupation category in the Kurdistan Region was services and sales workers (25.7 percent), followed by craft and related trades workers (13.7 percent), elementary occupations (11.6 percent) and professionals (11.0 percent). Managers constituted the occupational category with the lowest share of employment at main job in the Kurdistan Region (2.0 percent) followed by clerical support workers (4.4 percent) and technicians and associate professionals (5.3 percent).

Table 6. Employed persons by occupation at main job, KRI and Iraq, LFS 2021

Occupation at main job	KRI (%)	Iraq (%)
Total	100.0	100.0
Managers	2.0	0.7
Professionals	11.0	16.3
Technicians and Associate Professionals	5.3	5.6
Clerical Support Workers	4.4	1.8
Services and Sales Workers	25.7	23.1
Skilled Agricultural, Forestry and Fishery Workers	6.9	8.5
Craft and Related Trades Workers	13.7	20.8
Plant and Machine Operators and Assemblers	8.6	10.8
Elementary Occupations	11.6	5.8
Armed Forces Occupations	9.9	5.2
Other	0.9	1.2

The data show significant differences in the occupational structure of employment in the Kurdistan Region in comparison with the national structure, in particular with respect to craft and related trades workers (13.7 percent of total employment at main job in the Kurdistan Region versus 20.8 percent in the country as a whole), elementary occupations (11.6 percent of total employment at main job in the Kurdistan Region versus 5.8 percent in the country as a whole), and professionals (11.0 percent of total employment at main job in the Kurdistan Region versus 16.3 percent in the country as a whole). It is not clear to what extent these differences could be attributed to coding errors or other differences in survey operations. It should also be mentioned that, as in the case of branch of economic activity, a full account of employment by occupation should also consider employment in secondary jobs.

Figure 11 presents the occupational structure of employment at main job by sex in the Kurdistan Region. The data indicate a certain degree of segregation of occupations between men and women. Professionals formed about 38.7 percent of female employment at main job, while the corresponding value for male employment was about 5.9 percent. Similarly, about 11.5 percent of female employment were clerical support workers while the corresponding value for male employment was 3.1 percent. By contrast, the data show three significant male-dominated occupational categories: services and sales workers with 29.1 percent of male employment at main job against 7.1 percent for female employment; plant and machine operators and assembles with 10.2 percent of male employment at main job against essentially no female employment; and armed forces occupations with 11.6 percent of male employment at main job against 1.0 percent for female employment. It is also instructive to note the gender difference in the managerial occupations, a subject to be discussed in more details in Chapter 6 of this report.

Figure 11. Employed persons by sex and occupation at main job, KRI LFS 2021

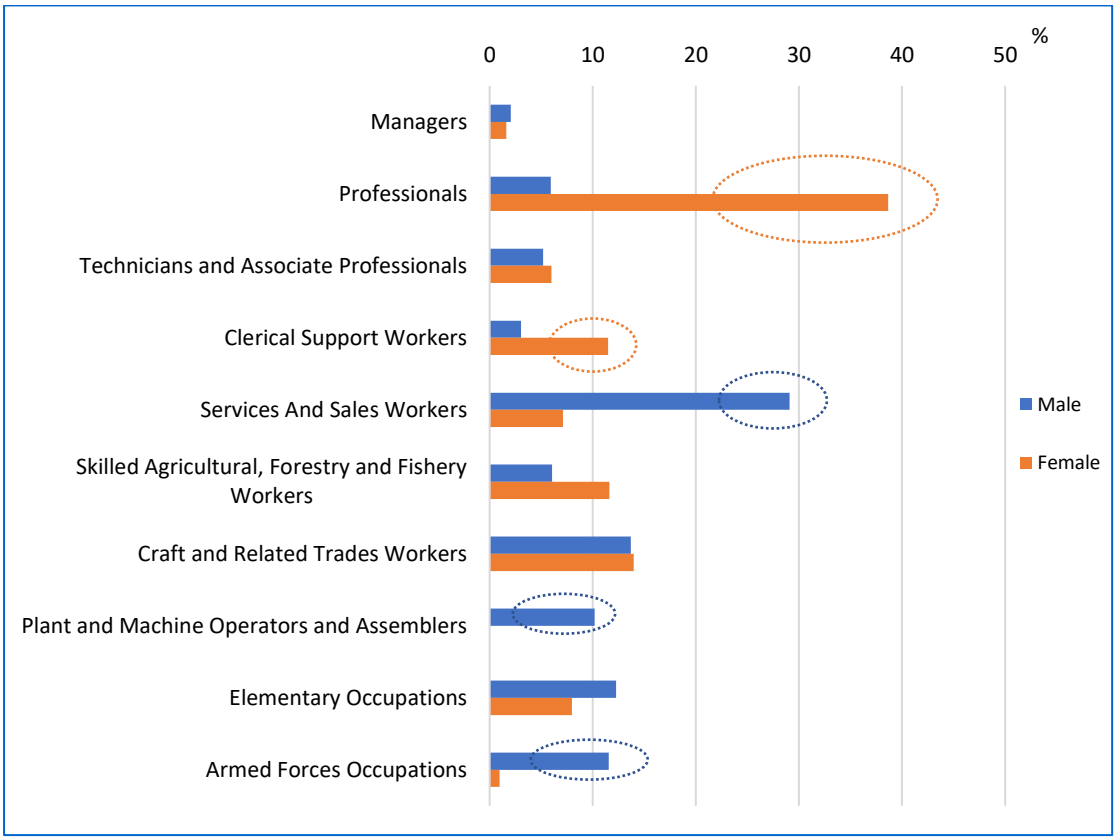


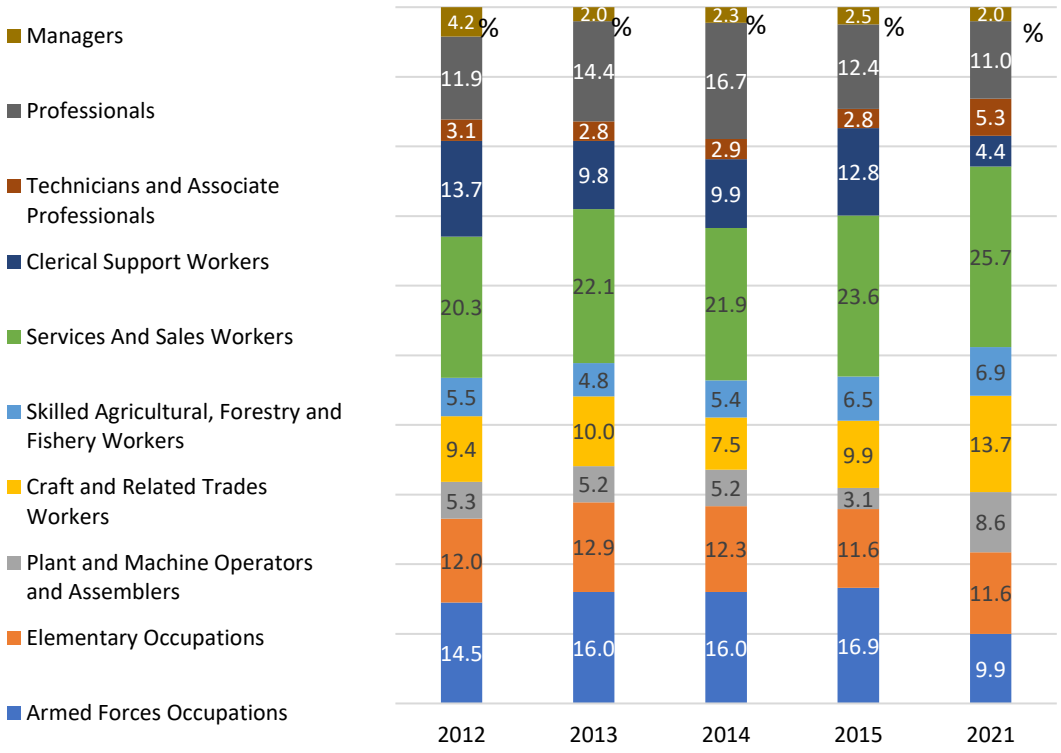
Figure 12 shows the evolution of the occupational structure of employment at main job in the Kurdistan Region over the period from 2012 to 2021. As for branch of economic activity, the past data on occupational employment are obtained from the published results of the labour

force surveys conducted in 2012, 2013, 2014 and 2015.[12] The occupations may be grouped according to their expanding or declining share of employment as follows:

- Expanding share of employment:
  - Services and sales workers
  - Craft and related trades workers
  - Skilled agricultural, forestry and fishery workers
- Declining share of employment:
  - Managers
  - Clerical support workers

The shares of the other occupational categories were essentially stable such as "Professional", "Technical and associate professionals" and "elementary occupation" or fluctuating during the period such as "Plant and machine operators and assemblers" and "Armed forces occupations".

Figure 12. Occupational structure of employment at main job over time (KRI, 2012-2021)



Sources: *Data for 2012 and 2015: Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; 2013, https://krso.gov.krd/content/upload/1/root/a121.pdf 2014, https://krso.gov.krd/content/upload/1/root/a144.pdf. Data for 2021, Labour Force Survey of Iraq, 2021.*

Note: *[1]Totals may not add to 100 percent due to don't know or unspecified occupations.*

[12] Corresponding data from the demographic survey conducted in 2017 (October) could not be found. The data labelled as "occupation" in the 2017 survey are in fact a mixture of data on "sector of employment" and "status in employment".

• Status in employment

Status in employment classifies jobs according to type of authority and type of economic risk. The international classification of status in employment according to type of authority distinguishes the following: Employers; Independent workers without employees; Dependent contracts; Employees; and Contributing family workers.[13]

- **Employers,** own the economic unit in which they work and control its activities on their own account or in partnership with others, and in this capacity employ one or more persons (including temporarily absent employees but excluding themselves, their partners and family helpers) to work as an employee on a regular basis. The international classification further specifies that: If there is a need to test for regularity, this should be interpreted as having at least one employee during the reference period and at least two of the three weeks immediately preceding the reference period, even if one or more employees were engaged only for a short period.

- **Independent workers without employees,** operate an economic unit alone or in partnership with others, and do not employ any persons other than themselves, their partners, and contributing family workers to work in the economic unit on a regular basis as an employee.

- **Dependent contractors** are workers who have contractual arrangements of a commercial nature (but not a contract of employment) to provide goods or services for or through another economic unit. They are not employees of that economic unit, but are dependent on that unit for organization and execution of the work, income, or for access to the market. They are workers employed for profit, who are dependent on another entity that exercises control over their productive activities and directly benefits from the work performed by them.

- **Employees** are workers employed for pay, on a formal or informal basis, who do not hold controlling ownership of the economic unit in which they are employed. They are remunerated in cash or in kind in return for time worked or, in some cases, for each task or piece of work done or for services provided including sales (by the piece or commission). Payment for time worked is the typical mode of remuneration. Payment in kind is generally received in the form of goods. Where payment is received in the form of services, this is generally complementary to payment in cash.

- **Contributing family workers** assist a family member or household member in a market-oriented enterprise operated by the family or household member, or in a job in which the assisted family or household member is an employee or dependent

[13] ILO, International Classification of Status in Employment according to Type of Authority (ICSE-18A), *Resolution concerning statistics on work relationships*, 20th International Conference of Labour Statisticians, Geneva, 10-19 October 2018.

contractor. They do not receive regular payments, such as a wage or salary, in return for the work performed, but may benefit in kind or receive irregular payments in cash as a result of the outputs of their work through family or intra-household transfers, derived from the profits of the enterprise or from the income of the other person. They do not make the most important decisions affecting the enterprise or have responsibility for it.

Table 7 shows the percentage distribution of the employed population by status in employment in main job in the Kurdistan Region and compares it with the corresponding data at the national level. These results are obtained using the responses given to the question on status in employment on the basis of the previous international standards, ICSE-93.[14] According to these results, more than two-third of the employed population in the Kurdistan Region (68.7 percent) were employees or paid apprentices or trainees at their main job. Some 22.0 percent were own-account workers without employees, and the remaining were about equally employers (4.7 percent) and contributing family workers (4.6 percent). The data show that the employment structure of the Kurdistan Region by status in employment is almost identical to that of the country as a whole.

Table 7. Employed persons by status in employment at main job, KRI and Iraq, LFS 2021, Results based on ISCE-93[1]

Status in employment at main job	KRI (%)	Iraq (%)
Total	**100.0**	**100.0**
Employees	**68.7**	**68.6**
Employers	**4.7**	**4.5**
Own-account workers (without employees)	**22.0**	**22.3**
Contributing family workers	**4.6**	**4.7**

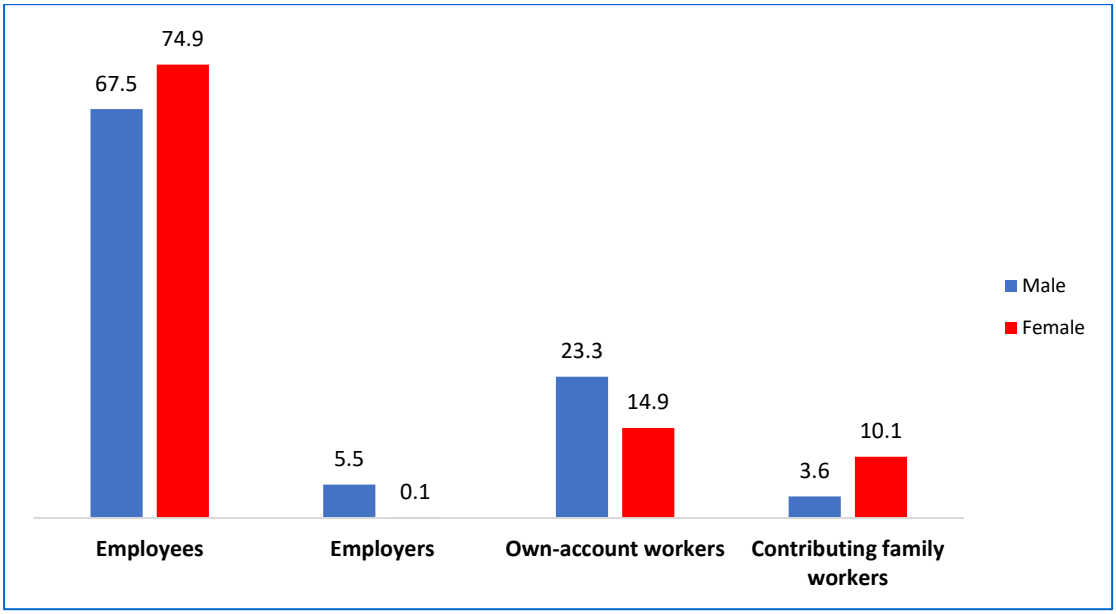
***Note**: [1]ILO, International Standard Classification of Status in Employment, ISCE-93, adopted at the 15th International Conference of Labour Statisticians, 1993.*
[2]Totals may not add up to 100 due to rounding errors.

The disaggregated data by male and female separately, shown in Figure 13, indicate that relatively more women were employed in dependent jobs, as employees (74.9 percent) or as contributing family workers (10.1 percent), in comparison to men as employees (67.5 percent) or as contributing family workers (3.6 percent). By contrast, men were relatively more employed as employers (5.5 percent) or as own-account workers (23.3 percent) in comparison to women as employers (0.1 percent) or as own-account workers (14.9 percent). Almost the same pattern was obtained based on data

[14] ILO, International Standard Classification of Status in Employment, ISCE-93, adopted at the 15th International Conference of Labour Statisticians, 1993.

at the national level. One significant difference, however, concerns the female share of own-account workers, which was 7.8 percent at the national level but close to double that value, 14.9 percent, in the Kurdistan Region. This issue may perhaps be analyzed further using cross-classified data on status in employment by sex and educational attainment, partly provided in the statistical annex.

Figure 13. Share of male and female employment by status in employment at main job, KRI LFS 2021, Results based on ISCE-93[1]



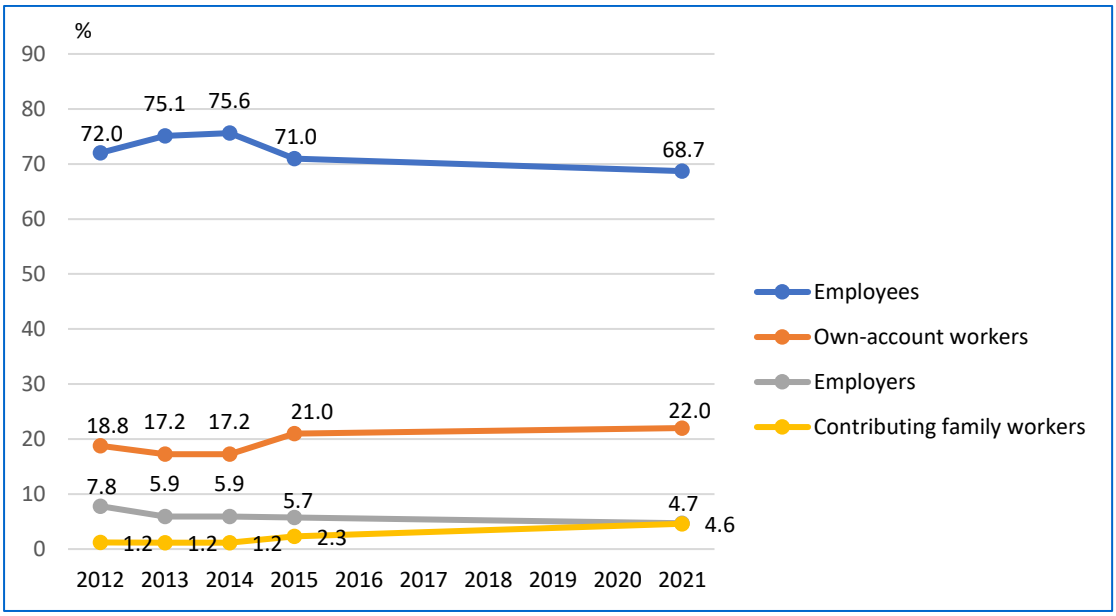
Note: *[1]ILO, International Standard Classification of Status in Employment, ISCE-93, adopted at the 15th International Conference of Labour Statisticians, 1993.*

Figure 14 shows the evolution of the structure of employment by status in employment at main job in the Kurdistan Region over the period from 2012 to 2021. The corresponding data for 2012, 2013, 2014 and 2015 are obtained from the published results of the labour force surveys conducted in those years.[15] The data show a general decline of the share of employees in total employment at main job from 72.0 percent in 2012, to 71.0 percent in 2015, and to 68.7 percent in 2021, after a brief initial period of increase in 2013 and 2014. The share of employers in total employment at main job has smoothly declined from 7.8 percent in 2012, to 5.9 percent in 2013, 5.7 percent in 204 and 2015, and 4.7 percent in 2021. By contrast, the share of own-account workers in total employment at main job has generally increased from 18.8 percent in 2012, to 21.0 percent in 2015, and to 22.0 percent in 2021, after a brief period of decrease in 2013 and 2014. The share of contributing family workers in total employment at main job has also generally increased from 1.2

[15] The demographic survey conducted in the Kurdistan Region in 2017 also provide data on status in employment at main job but it is limited to the employed population 15 to 64 years old and uses non-standard categories making time series comparison difficult. The results for total non-camp KRI are: employees in the public sector (75.7 percent); employees in private sector (6.3 percent); employers (1.0 percent); self-employed (5.5 percent); daily wage workers (1.8 percent); unpaid family workers (8.9 percent); and domestic workers (0.8 percent).

percent in 2012, 2013 and 2014, to 2.3 percent in 2015, and to 4.6 percent in 2021. To the extent that own-account and contributing family work represents vulnerability and exposure to various risks of employment,[16] the results presented in Figure 14 indicate an increase in vulnerable employment in the Kurdistan Region during the period 2012-2021. This issue may be examined in more details in terms of informality of employment later in this Chapter.

Figure 14. Status in employment at main job based on ICSE-93, over time (KRI, 2012-2021)



Sources: *Data for 2012 and2015: Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; 2013, https://krso.gov.krd/content/upload/1/root/a121.pdf 2014, https://krso.gov.krd/content/upload/1/root/a144.pdf. Data for 2021, Labour Force Survey of Iraq, 2021.*

Notes: *[1]ILO, International Standard Classification of Status in Employment, ISCE-93, adopted at the 15th International Conference of Labour Statisticians, 1993.*

[2]Totals may not add to 100 percent due to rounding errors or other and unspecified statuses.

• Sector of employment

Table 8 shows the percentage distribution of the employed population by sector of employment in main job in the Kurdistan Region and compares it with the corresponding data at the national level. The data reveals that slightly more than one-third of employment was in the public sector (38.4 percent). According to these results, the share of employment in the private sector was about 60.6 percent, and the remaining share in households (0.1 percent), non-profit institutions (0.7 percent) and international institutions (0.2 percent). It appears that in administrating the LFS questionnaire, "private sector" covered more than private corporations and quasi-

[16] https://databank.worldbank.org/metadataglossary/world-development-indicators/series/SL.EMP.VULN.ZS

corporations, and also included unincorporated enterprises which in principle should have been considered as part of the “household sector”.

Table 8. Employed persons by sector of employment at main job, KRI and Iraq, LFS 2021

Sector of employment at main job	KRI (%)	Iraq (%)
Total	100.0	100.0
Public	38.4	37.9
Private	60.6	61.6
Households	0.1	0.1
Non-profit institutions	0.7	0.3
International institutions	0.2	0.1

It is instructive to note from the disaggregated data by sex presented in Figure 15 that women tend to be employed disproportionally in the public sector (64.8 percent) relative to men (33.5 percent). Vice versa, men tend to be employed in the private sector at a much higher rate (65.6 percent) than women (33.5 percent). Gender differences in other institutional sectors of employment are negligeable or minor. A similar pattern was observed at the national level.

Figure 15. Share of male and female employment by sector of employment at main job, KRI LFS 2021

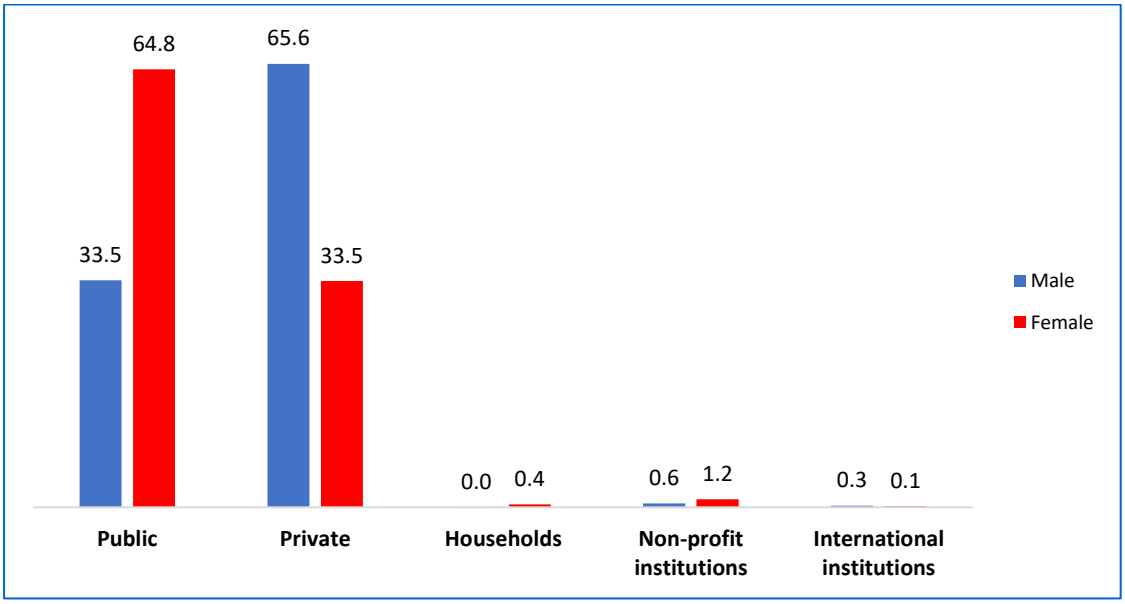
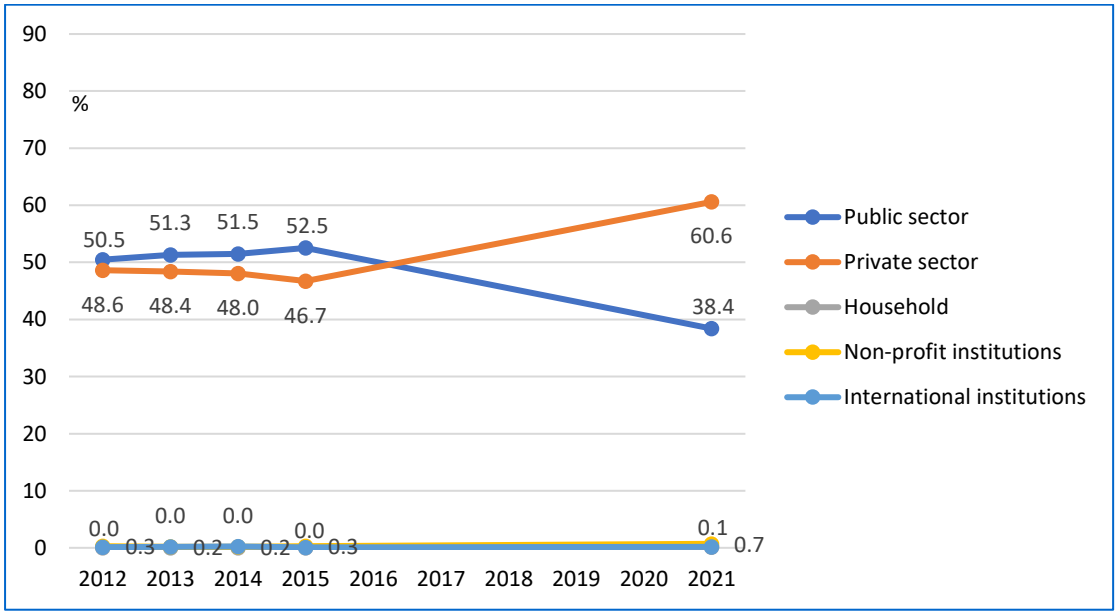


Figure 16 shows the evolution of the share of public and private sector employment at main job in the Kurdistan Region over the past decade (2012-2021). The data for

2012, 2013, 2014 and 2015 are obtained from the published results of the labour force surveys conducted in those years. According to the data shown in Figure 16, the share of public sector employment has substantially decreased from 50.5 percent in 2012 to 38.4 percent in 2021 after an initial period of increase in 2013, 2014 and 2015). Correspondingly, the share of private sector employment has generally increased from 48.6 percent in 2012 to 60.6 percent in 2021 after a mild decrease in 2013, 2014 and 2015). The data on the share of public sector employment in 2012-2015 include government (50.5 percent in 2012 and 52.5 percent in 2015), public enterprise (0.8 percent in 2012 and 0.57 percent in 2015) and the mixed public and private enterprises (0.7 percent in 2012 and 1.6 percent in 2015).

Figure 16. Sector of employment at main job over time (KRI, 2012-2021)



Sources: *Data for 2012, 2015, Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; 2013, https://krso.gov.krd/content/upload/1/root/a121.pdf 2014, https://krso.gov.krd/content/upload/1/root/a144.pdf. Data for 2021, Labour Force Survey of Iraq, 2021.*
Note: *[1]Totals may not add to 100 percent due to don't knows and rounding errors.*

• Informality of employment

Informality of employment may be defined both in terms of the characteristics of the type of job of the employed person (informal employment), and in terms of the characteristics of the establishment in which the person works (informal sector). Employment in the informal sector refers to persons engaged in production units operating at a low level of organization, with little or no division between labour and capital as factors of production.[17] These are generally unincorporated enterprises, not registered at the national level, not keeping or not required to keep accounts for

[17]ILO, *Resolution on the measurement of employment in the informal sector*, Fifteenth International Conference of Labour Statisticians (ICLS), Geneva, 1993.

reporting to government, and often operating with no or few employees on a casual basis. By contrast, informal employment refers to the type of employment relationship of the job holder.[18] In the case of employers and own-account workers, the informality of their job corresponds to the informality of their production units. For employees, the type of employment relationship is defined in terms of the social protection or certain entitlements that the job provides, in particular, paid annual leave or paid sick leave. Finally, all contributing family workers are classified as having informal employment, irrespective of whether they work in formal or informal sector enterprises.

Table 9 cross-classifies employment in terms of both concepts of informality. The rows give the classification of employment in terms of the characteristics of the production units (informal sector, formal sector, and households covering persons not classifiable as informal or formal sector such as domestic workers and workers engaged in own-use production work). The columns give the classification of employment in terms of the characteristics of jobs (informal and formal employment). The results show that there were about 521'400 persons employed in the informal sector at main job, corresponding to about 36.5 percent of total employment in the Kurdistan Region in 2021. This represents a much lower value that the situation in Iraq as a whole where the share of informal sector employment was about 54.8 percent in 2021.

Table 9. Cross-classification of employment at main job by type of job and type of production unit, KRI LFS 2021

Type of production unit	Type of job		Total
	Informal	Formal	
Informal sector	521'400	0	521'400
Formal sector	410'900	493'300	904'100
Households (including domestic workers and workers engaged in own-use production work)	2'200	100	2'300
Total	934'400	493'400	1'427'800

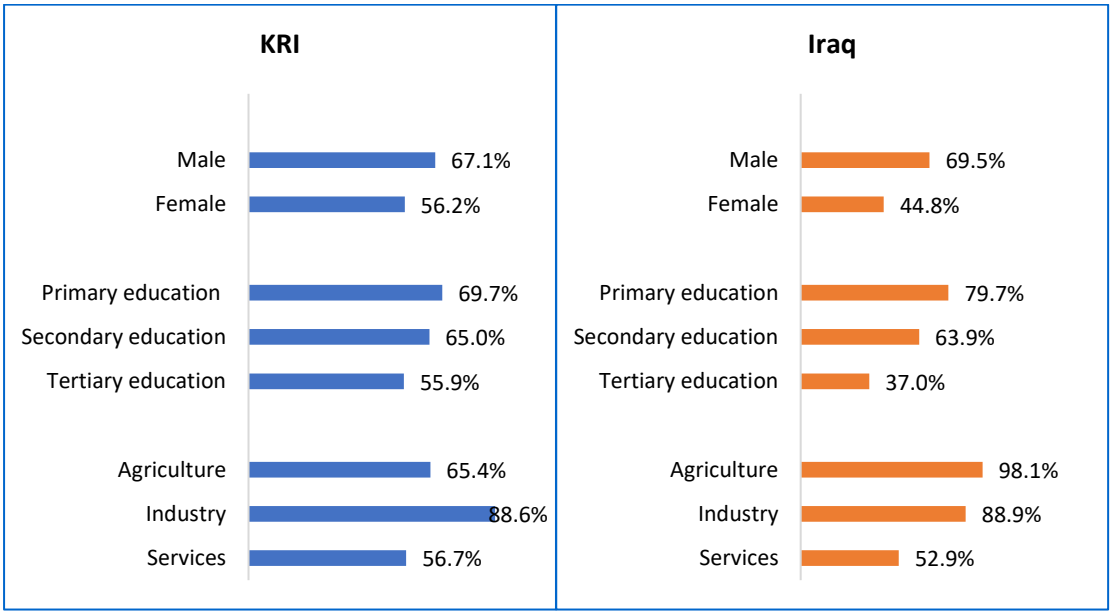
The results in Table 9 also show that the number of persons with informal jobs was 934'400, representing about 65.4 percent of total employment, a value equal to the situation in the country as a whole where the share of informal employment in total employment was about 66.6 percent. Table 9 also shows that there were no or very few persons with formal employment working in the informal sector (less than 100 persons). By contrast, there were a significant number of persons with informal employment in the formal sector (410'900 persons). Example of this category of persons are employees working in, a large private corporation or a government

[18] ILO, *Guidelines concerning a statistical definition of informal employment*, Seventeenth International Conference of Labour Statisticians, Geneva, 2003.

agency, with short-term contract without social security contribution by the employer. There were a relatively much higher number of persons in such situations in the Kurdistan Region (28.8 percent) than in the country as a whole (11.8 percent).

Figure 17 shows the share of informal employment for particular groups of the employed population in the Kurdistan Region compared with Iraq as a whole. The data may be interpreted as the differential risks of being engaged in the informal economy by particular categories of persons, expressed in terms of gender, educational attainment and broad branch of economic activity. The data for the Kurdistan Region (left panel) show a similar pattern than those for Iraq as a whole (right panel). In both cases, the likelihood of being engaged in informal employment is higher for men than women, higher for persons with lower education than with higher education, higher in industry than in services. A notable difference concerns agriculture. Informal employment in agricultural activities is almost 100 percent at the national level, but about 65.4 percent in the Kurdistan Region.

Figure 17. Share of informal employment in total employment for particular groups of the employed population, KRI and Iraq, LFS 2021



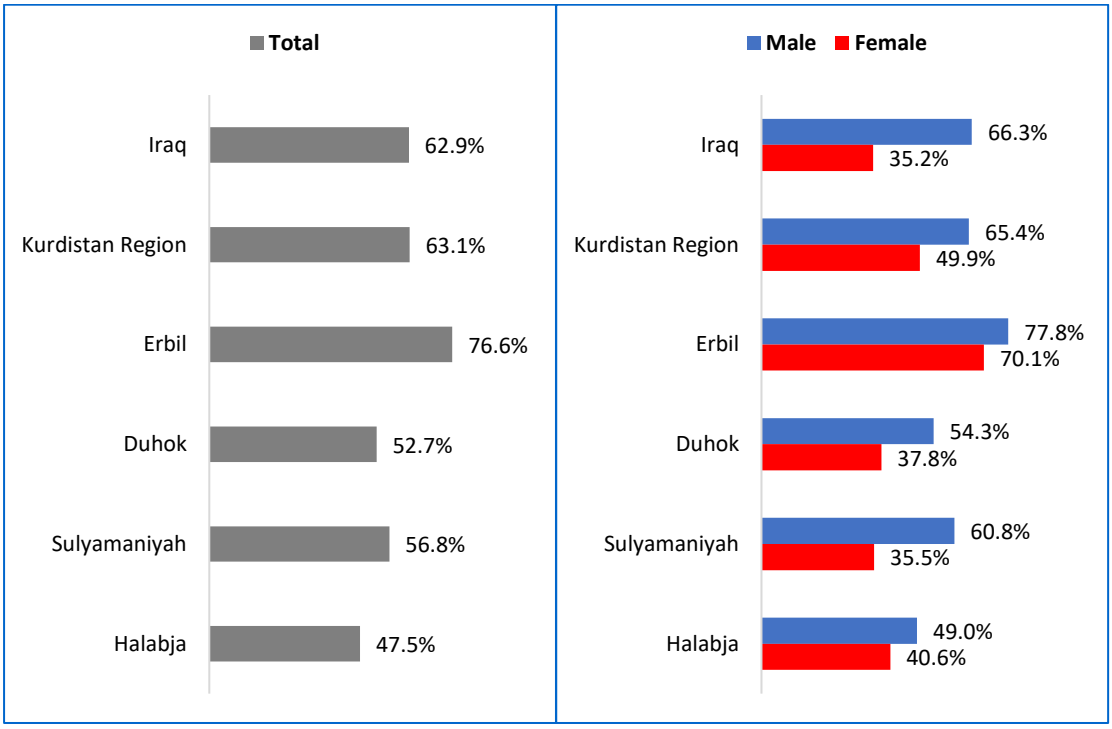
Notes: *[1] Primary education includes elementary education and below (no degree, illiterate or can read only or can read and write); Secondary education includes Intermediary and secondary education; Tertiary education includes Diploma and University and above.*

[2] Agriculture includes agriculture, forestry and fishing; Industry includes mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities, and construction; Services include wholesale and retail trade, repair of motor vehicles and motorcycles and the remaining branches of economic activity.

The share of informal employment in non-agriculture employment is a Sustainable Development Goals (SDG) indicator 8.3.1. It is defined as the ratio of informal employment in non-agricultural activities divided by total employment in non-agricultural activities. Figure 18 gives the values by sex for the Kurdistan Region

at the governorate level as well as for Iraq as a whole. The left panel gives the results for both sexes combined. It can be observed that that the share of informal employment in total non-agriculture employment was about the same in the Kurdistan Region (63.1 percent) as in Iraq as a whole (62.9 percent). The governorate in the Kurdistan Region with the highest share of informal employment in non-agricultural activities was Erbil (76.6 percent) followed by Sulaymaniyah (56.8 percent) and Duhok (52.7 percent). Halabja had the lowest share of informal employment in total non-agricultural employment (47.5 percent). The right panel of the figure shows the results for male and female separately. The data show that the share of informal employment in total non-agricultural employment is higher among men than among women in each of the governorates of the Kurdistan Region as well as in Iraq as a whole. The gender difference was, however, narrower in the Kurdistan Region than in the country as a whole.

Figure 18. Share of informal employment in total non-agriculture employment by sex and governorate, KRI and Iraq, LFS 2021



***Note**: SDG indicator 8.3.1 Proportion of informal employment in non-agriculture employment, by sex: Numerator = Total informal employment in non-agricultural activities; Denominator = Total employment in non-agricultural activities.*

Comparison over time is difficult to make as the published data on informal or formal type of employment are only available for 2012 and no definition is given on the underlying concepts. It is not clear whether informal employment refers to the informality of jobs or the informality of the production units. The 2012 report gives the following rates of informal employment for the Kurdistan Region (48.2 percent) and by governorate: Erbil (46.5 percent); Sulaymaniyah (48.8 percent), and Duhok

(49.9 percent).[19] The report provides additional data on informal and formal employment by sex and urban/rural location of the population.

• Working time and income from employment

Employment is a broad concept including persons who worked for pay or profit for as little as one hour as well as those who worked for very long hours. Similarly, employment includes persons who received very little pay as well as those who received high payments. It is therefore important to analyse the employed population in terms of working time and income from employment, in order to distinguish the various intensities of employment, and differentiate between the different categories of employed persons. The survey data are analyzed here in terms of hours usually worked and hours actually worked at main job, temporary absence from work, multiple jobholding, employed persons working short hours and those working long hours, as well as the situation of employees with respect to average hourly earnings and employees with low pay.

- Hours usually worked and hours actually worked

Working time (i.e. hours of work) is the time associated with working activities in all forms of work (employment work, own production work, volunteer work and unpaid training work). Statistics on working time are useful in the analysis of both economic and social issues, in particular, for the calculation of labour input and labour productivity in relation to the SNA production boundary, and for the measurement of time-related underemployment, wage rates, rates of occupational injuries, and other indicators of decent work. The current international standards recognise seven concepts of working time, each serving a specific objective. [20] They include hours actually worked and hours usually worked, as well as hours paid for, normal hours of work, contractual hours of work, overtime hours of work and absence from work hours measured using other sources of data.

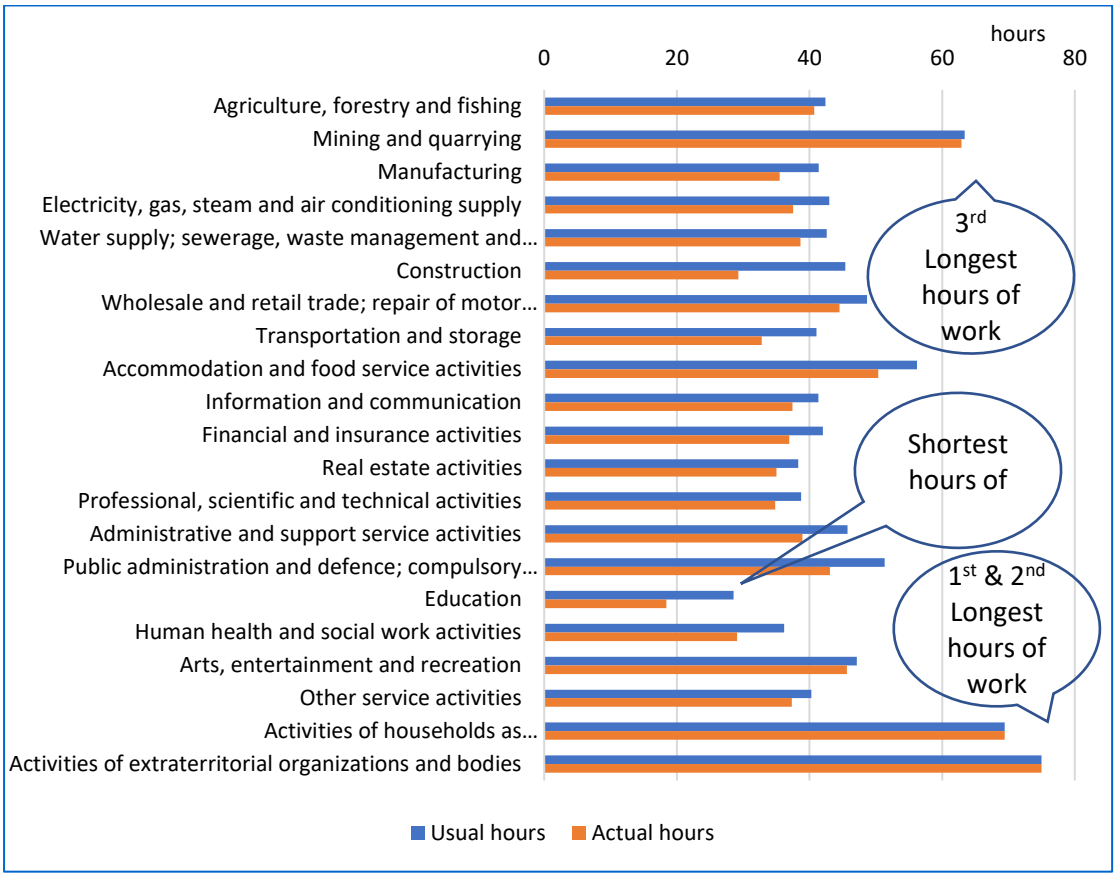
The survey results show that the average number of hours usually worked per week at main job in the Kurdistan Region was about 44.3 hours in 2021, about two hours per week longer than the corresponding number in Iraq as a whole (42.2 hours). Like in the country as a whole, the average number of hours usually worked per week at main job in Kurdistan Region was much higher among men (46.8 hours) than among women (30.2 hours). The average number of hours actually worked during the reference week in the Kurdistan Region was about 38.7 hours, essentially the same as in Iraq as a whole (39.0 hours).

[19] Kurdistan Region Statistical Office, *Labor Force Report for Kurdistan Region 2012*, Shape (13), p. 18. Data on Halabja are not separately reported.
[20] ILO, *Resolution concerning the measurement of working time*, 18th International Conference of Labour Statisticians, Geneva, 2008.

The main reason that the hours usually worked per week are generally higher than the hours actually worked during the reference week is due to temporary absence from work. Temporary absence from work refers to persons in employment who were not at work during the reference week because of vacation or annual leave, own illness or injury or reduction of economic activity or similar reasons. Some 145’600 persons, corresponding to about 10.2 percent of the employed population were in that situation during the survey period, with considerable difference between men (7.4 percent) and women (25.5 percent). The corresponding data at the national level were 3.5 percent for both sexes, and 2.6 percent for men and 10.2 for women.

Figure 19 presents the average hours usually worked per week and average hours actually worked during the week by branch of economic activity at main job. It can be observed that hours usually worked are uniformly longer than hours actually worked. It can also be observed that the longest working hours, more than 70 hours per week, both in terms of usual hours of work and actual hours worked were in «mining and quarrying”, “activities of extraterritorial organizations and bodies” and “activities of households as employers; undifferentiated goods/services producing activities of households for own use”. The latter category includes domestic workers and persons engaged in own-use production of goods. The branch of economic activity with the shortest working hours, both in terms of hours usually worked and hours actually worked was education (28.6 hours usually worked per week and 18.4 hours actually worked during the reference week). This branch of economic activity includes persons working in schools, colleges, universities, and technical and vocational training programs as well as those engaged in sports and cultural education centers. These persons tend to have shorter working hours because of the calendar of the education system where the academic year is generally 8 to 10 months in the fall, winter and spring with no schooling during the summer months. Another reason is that survey respondents tend to report mainly their working time at the place of work, often omitting the working time spent at home on preparation of class materials and correction of class assignments and exercises.

Figure 19. Hours usually worked per week and Hours actually worked during reference week at main job by branch of economic activity, KRI LFS 2021



- Multiple jobholding

Very few people generally report holding more than one job. According to the results shown in Table 10, the estimated number of persons reporting to have more than one job during the reference week was 97’800, representing about 6.8 percent of total employment in the Kurdistan Region. Multiple jobholding was significantly higher among men (7.7 percent) than among women (2.1 percent). The data also show considerably higher rate of multiple jobholding in the Kurdistan Region than in Iraq as a whole.

Table 10. Multiple jobholding by sex, KRI and Iraq, LFS 2021

	Total	Male	Female
Employed in two or more jobs (KRI)	**97’800**	**93’100**	**4’700**
Total employed (KRI)	**1'427’800**	**1'207’100**	**220’700**
Multiple jobholding rate (KRI)	**6.8%**	**7.7%**	**2.1%**
Multiple jobholding rate (Iraq)	**2.2%**	**2.4%**	**0.7%**

- Short and long hours of work

Table 11 below shows the distribution of employed persons according to hours usually worked per week and hours actually worked during the week at all jobs, for men and women separately. It can be observed that most employed persons in the Kurdistan Region usually worked between 30 and 59 hours per week at their jobs (55.0 percent). The number of persons usually working short hours, i.e., less than 30 hours per week, was about 19.3 percent, significantly higher among women (46.0 percent) in comparison with men (14.5 percent). In terms of hours actually worked during the reference week, the corresponding numbers were considerably higher: 42.9 percent of the employed population worked less than 30 hours during the reference week; 75.3 percent among women and 36.9 percent among men. As mentioned earlier, this may be partly attributed to persons temporary absent from work during the reference week for whom the actual hours worked during the reference week was zero.

Table 11. Distribution of employed persons by hours usually worked per week and hours actually worked during the reference week at all jobs by sex, KRI LFS 2021

%	Usual hours worked per week			Actual hours worked during week		
	Total	Male	Female	Total	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
Less than 30	19.3	14.5	46.0	42.9	36.9	75.3
30-39	20.7	18.5	32.9	14.2	14.4	13.1
40-49	23.0	24.6	14.1	17.0	18.8	7.4
50-59	11.3	13.1	1.7	7.7	8.9	1.6
60 and more	25.6	29.3	4.8	18.1	21.0	2.7
Don't know/missing	0.1	0.0	0.4	0.0	0.0	0.0

At the other extreme of the distribution, the survey results show that some 25.6 percent of employed persons in the Kurdistan Region were usually working long hours, more than 60 hours per week, much higher among men (29.3 percent) than among women (4.8 percent). For the reason explained earlier, somewhat lower results are obtained in terms of hours actually worked. In general, long hours of work or excessive hours of work as termed in the framework of decent work indicators is considered to be a threat to physical and mental health, interfering with the balance between work and family life, reducing productivity and often signaling an inadequate hourly pay.[21] Further data on the distribution of hours usually worked per week and hours actually

[21] ILO, *Measuring Decent Work*, Discussion Paper for Tripartite Meeting of Experts on the Measurement of Decent Work, Geneva, September 8-10, 2008.

worked during the reference week at all jobs by sex and by urban-rural residence and governorate are provided in the Statistical Annex.

The patterns of working time observed in the Kurdistan Region are similar to those found at the national level, except that there are more people working extreme hours in the Kurdistan Region than in the country as a whole. For example, the percentage of employed persons actually working short hours (less than 30 hours during the reference week) was 42.9 percent in the Kurdistan Region against 32.1 percent at the national level. Similarly, the percentage of employed persons actually working long hours (60 or more hours during the reference week) was 18.1 percent in the Kurdistan Region against 14.9 percent at the national level. Another difference is the disparity between hours usually worked and hours actually worked. It is much more accentuated in the Kurdistan Region than in the country as a whole.

The evolution of hours of work over the years in the Kurdistan Region is difficult to discern as the published survey data on working time are disparate. In the 2012 report, data on working time are provided only as part of the measurement of underemployment. In the 2015 survey report, data on working time are presented by time intervals with no average values reported. Also, the underlying definition is not given, so it is not clear whether data refer to hours usually worked or hours actually worked. Finally, the 2017 demographic survey did not collect any data on working time.

• Income from employment

Most people work to earn an income. Income from employment makes up a large proportion of household income and provides the basic resources of workers to maintain the welfare of themselves and the members of their family. Measuring income from employment in household surveys is subject to considerable reporting errors, some deliberate and some involuntary due to memory lapses or misunderstanding, especially in the case of self-employment income where its boundary is not clearly established in the mind of most respondents. For these reasons, the analysis of the data on income from employment is here limited to earnings of employees at their main job. Earnings of employees or, equivalently, income from paid employment includes direct wages and salaries in cash for time worked and work done, remuneration for time not worked, cash bonuses and gratuities, and remuneration in kind and services, profit-related pay and employment-related social security benefits.[22]

The main survey results are shown in Table 12. According to the data in left panel of the figure, the average monthly earnings of employees at their main job in the

[22] ILO, Resolution on the measurement of employment-related income, 16th International Conference of Labour Statisticians, Geneva, 1998.

Kurdistan Region was about 606'500 Iraqi Dinars, about the same as national average (614'400 Iraqi Dinars). The average monthly earnings of male employees in the Kurdistan Region were about 596'500 Iraqi Dinars, somewhat lower than that of female employees, 655'300 Iraqi Dinars. To control for the variability of hours of work, earnings were also calculated on an hourly basis as shown in the bottom rows of the table: average hourly earnings of male employees were about 2'830 Iraqi Dinars and of female employees about 4'690 Iraqi Dinars.

Table 12. Average monthly earnings and average hourly earnings of employees at main job by sex, KRI and Iraq, LFS 2021

Iraqi Rials	KRI	Iraq
Average monthly earnings	**606'530**	**614'400**
- **Male**	**596'450**	**590'100**
- **Female**	**655'250**	**713'200**
Average hourly earnings	**3'050**	**3'180**
- **Male**	**2'830**	**2'950**
- **Female**	**4'690**	**5'330**

***Note**: 1450 Iraqi Dinars = 1 US Dollars (Rate used in 2021 Iraqi government budget by the Iraqi parliament).*

The large difference between the earnings of men and women is partly explained by the fact that female employees tend to have higher educational attainment than male employees as shown earlier. Educational attainment being an important determinant of earnings, one finds higher earnings among women employees than among men employees, whether measured on a monthly or an hourly basis. The effect of age as a proxy for work experience on the differences between female and male earnings is also examined in Chapter 6 of the present report.

• Employees with low pay rate

The size distribution of earnings is an indicator of income inequality. Employees with low pay rate is one of the indicators of the ILO framework on decent work.[23] It is defined as the percentage of the employees whose hourly earnings at all jobs equal less than two-third of the median hourly earnings of all employees. Formulating the indicator in terms of a percentage of the median makes it independent of the national currencies and facilitates international comparison. The choice of two-third has the virtue of simplicity and wide applicability, including where there is no adopted

[23] ILO *Decent Work Indicators Guidelines for Producers and Users of Statistical and Legal Framework Indicators*, ILO Manual, Second Version, December 2013, pp. 76-78.

minimum wage legislation or where the statutory minimum wage is far below the prevailing market wage. For the sake of simplicity, here the calculations have been made on the hourly earnings at main job, rather than at all jobs, as indicated below,

Low hourly pay rate= 2/3 x 3'180 = 2'120 Iraqi Dinars per hour

where 3'180 is the median earnings of employees at main job for national economy as a whole.[24] In terms of monthly earnings, the threshold calculated for an employee working 40 hours per week is:

Low monthly pay rate (for employees working 40 hours per week) = 367'500 Iraqi Dinars per month

Thus, employees earning less than 2'120 Iraqi Dinars per hour, or, equivalently, full-time employees working 40 hours per week who earned less than 365'700 Iraqi Dinars per hour at their main job were considered as low pay employees in this survey. The survey estimates show that there were 590'700 low pay employees, representing 41.4 percent of the employed population in the Kurdistan Region in 2021. The corresponding number of low pay employees in Iraq was 39.9 percent. Table 12 gives the survey estimates of the share of employees with low pay rate at main job by sex, age group and educational attainment. Each cell represents the proportion of employees with low pay rate among in the total number of employees in the specific category. It is instructive to note that, in general, the share of employees with low pay rate decreases with age for both male and female employees, with a reversal at age 65 years and above, where the share of employees with low pay rate substantially increases. The reversal is consistent with the phenomenon of decreasing productivity after a certain age. The right columns in Table 13 give the share of employees with low pay rate at main job by sex and educational attainment. As expected, the share of employees with low pay rate tend to decrease as level of educational attainment increases, especially among men. Employees with diploma or university education or above have the lowest percentage of low pay employees. A similar pattern is observed for Iraq as a whole.

Table 13. Share of employees with low pay rate at main job by sex, age group and educational attainment, KRI LFS 2021

Age group	Total	Male	Female
Total	41.4	42.6	35.2
15-24	79.4	79.0	87.8

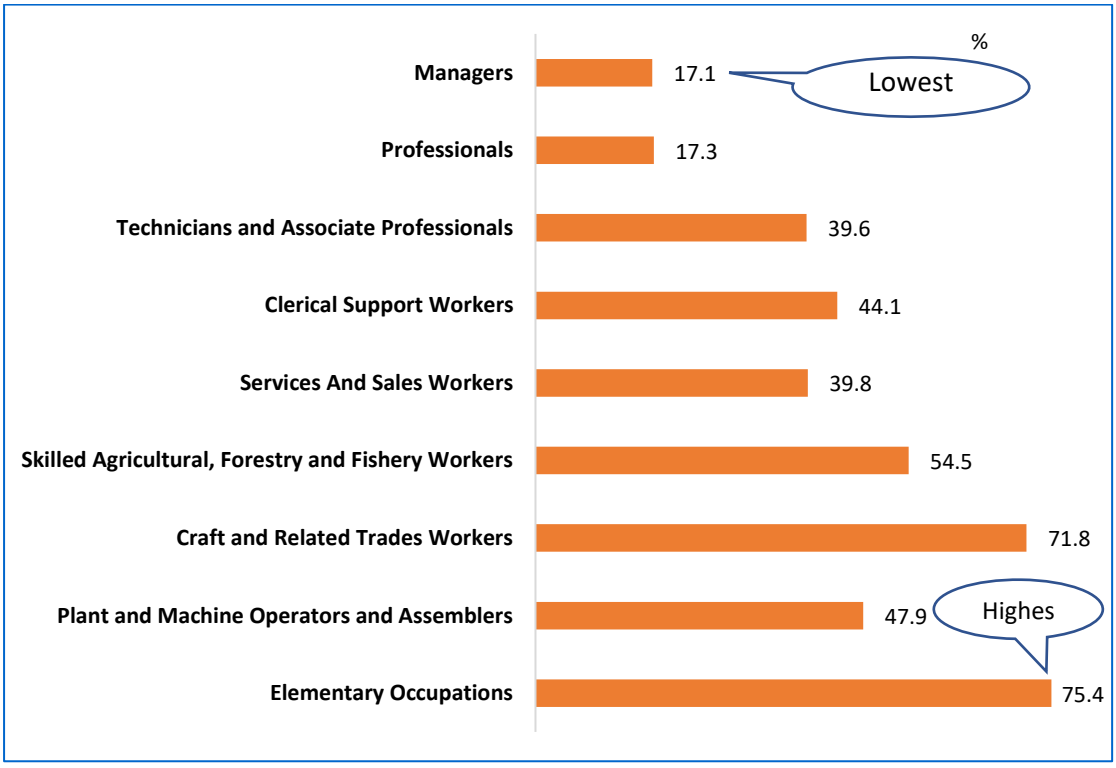
Educational attainment	Total	Male	Female
Total	41.4	42.6	35.2
Illiterate	58.3	56.6	68.9

[24] As a matter of principle, the low pay rate is calculated at the level of the national economy and not, separately, for each governorate or region of the country.

25-34	40.2	40.8	36.2	Read/write	52.8	52.0	77.6
35-44	32.4	29.6	41.8	Elementary	44.7	43.0	73.1
45-54	29.9	31.8	24.7	Intermediary	51.7	49.0	74.6
55-64	20.0	21.3	15.5	Secondary	36.3	40.9	21.0
65+	35.4	40.7	-	Diploma+	21.3	20.9	21.9

The next two figures show the share of employees with low pay rate at main job by occupation and by branch of economic activity, respectively. By occupation, the results in Figure 20 indicate that "managers" and "professionals" were the occupational categories with the lowest proportions of low pay employees (17.1 percent and 17.3 percent, respectively). By contrast, "elementary occupation" had the highest proportion of workers earning low pay rates (75.4 percent). Other occupational categories with more than 50 percent low pay employees were "craft and related trades workers" (71.8 percent).and "skilled agricultural, forestry and fishery workers" (54.1 percent).

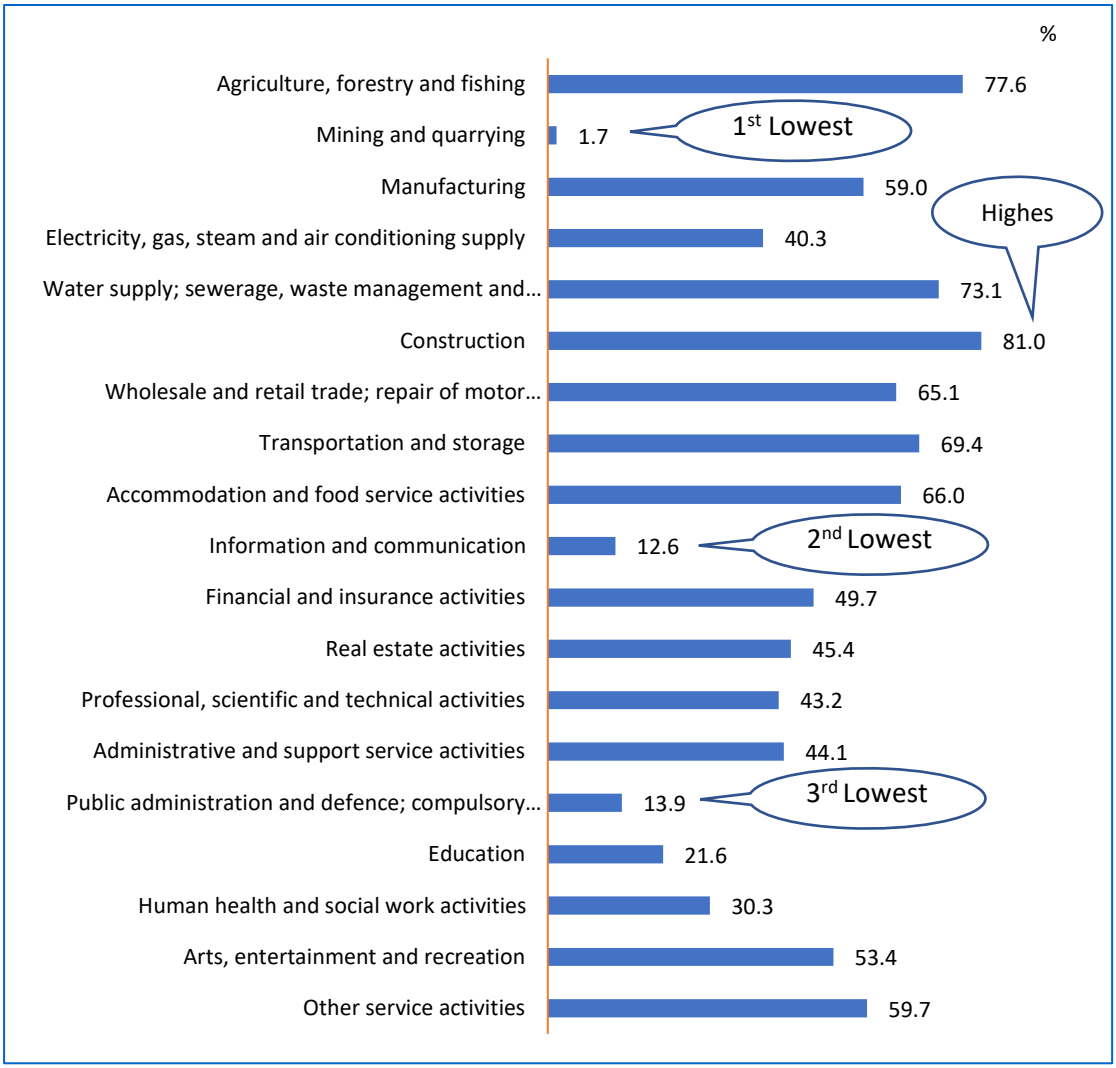
Figure 20. Share of employees with low pay rate at main job by occupation, KRI LFS 2021



The results by branch of economic activity are shown in Figure 21. The data indicate that construction was the branch of economic activity with the highest concentration

of low pay employees (81.0 percent), followed by "agriculture, forestry and fishing" (77.6 percent) and "water supply, sewage, waste management and remediation activities" (73.1 percent). By contrast, "mining and quarrying" (1.7 percent) followed by "information and communication" (12.6 percent) were the branches of economic activity with the least proportion of low pay employees. The patterns of low pay employees by occupation and branch of economic activity presented here for the Kurdistan Region are similar to those at the national level, although there are differences in the ranking of certain categories.

Figure 21. Share of employees with low pay rate at main job by branch of economic activity, Iraq LFS 2021



***Note**: The branches of economic activity: "Activities of households as employers; undifferentiated goods/services producing activities of households for own use" and "Activities of extraterritorial organizations and bodies" are omitted here.*

Finally, it should be mentioned that comparisons with past data on this topic are difficult because income from employment was not measured in all previous surveys and where it was measured the published results do not permit comparison. The 2015

survey report provides data on the distribution of employed persons by monthly income group. It also provides separately the distribution of employees by monthly income group (Table 38). The underlying definition of monthly income is, however, not clear, particularly whether it includes or excludes income from sources other than employment. The 2017 demographic survey collected data on monthly income of households covering all sources of income including income from employment. The different sources of income are separately identified, but because the data are at the household level, attribution to individual workers cannot be done for comparison with the results of the present survey.

Chapter 4: Unemployment and other components of labour underutilisation

Labour underutilization is a broad concept including unemployment, time-related underemployment, and the potential labour force. It refers to the unmet need for employment of the population, whether or not already employed, or actively seeking and currently available for employment. The first section in this chapter deals with unemployment. The next section is on time-related underemployment, and the last section on the potential labour force.

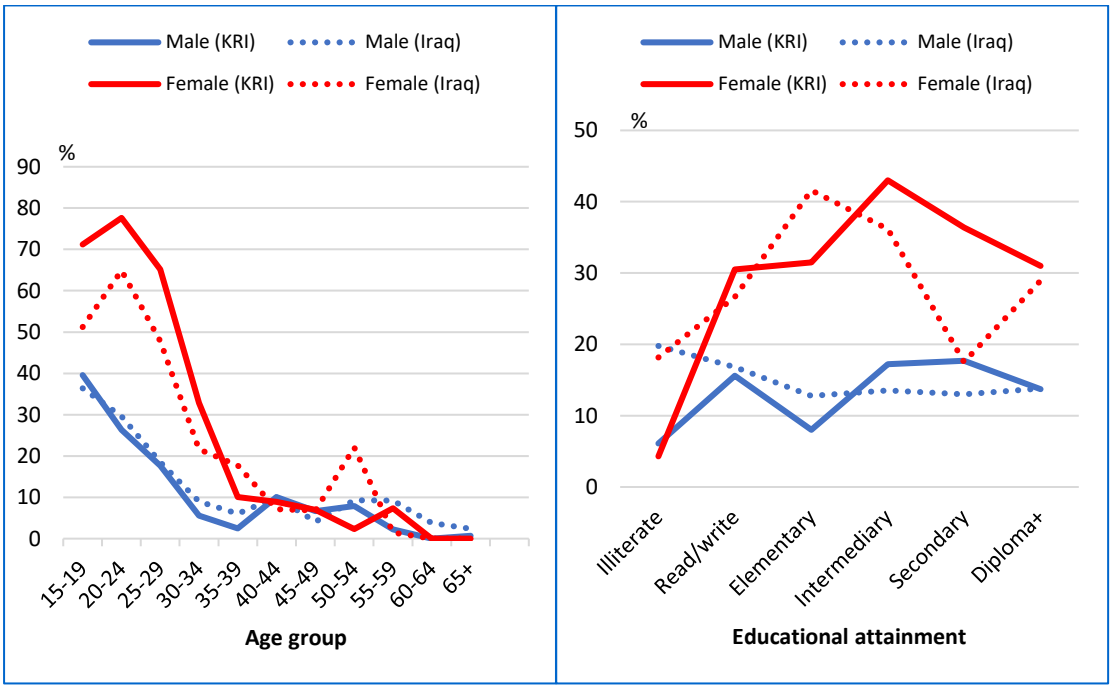
• Unemployment

Unemployment is a particular form of labour underutilization. It reflects the pressure on the labour market exerted by persons without employment, actively seeking and available for employment. The unemployment rate, defined as the ratio of the number of unemployed persons to the total labour force, is the most commonly used indicator of the labour market. It is sometimes used in a general sense as an indicator of the health of the economy, not just the labour market.

- Unemployment rate by sex, age group and educational attainment

According to the results of the survey, the unemployment rate was 16.5 percent in the Kurdistan Region in 2021, essentially the same as in Iraq as a whole. The unemployment rate among men was however lower in the Kurdistan Region (13.6 percent) than in Iraq as a whole (14.7 percent). By contrast, the female unemployment rate was higher in the Kurdistan Region (29.6 percent) than in Iraq as a whole (28.2 percent). Figure 22 shows the patterns of the male and female unemployment rate by age group and educational attainment in the Kurdistan Region with comparison with the corresponding patterns at the national level. Some general patterns emerge from Figure 22: (a) The female unemployment rate was higher than the male rate in almost all age groups and levels of educational attainment; (b) The unemployment rate was considerably higher among young persons (15-24 years old) relative to adults (25 years old and above), whether male or female; (c) Persons with intermediate level of educational attainment had the highest rate of unemployment, especially among female; (d) While the pattens are generally similar in the Kurdistan Region and the country as a whole, the female unemployment rates among young persons and persons with secondary level education appear to have been significantly higher in the Kurdistan Region than in Iraq as a whole.

Figure 22. Unemployment rate by sex, age group and educational attainment, KRI and Iraq, LFS 2021



- Method of seeking employment

The unemployed population exerts pressure on the labour market by actively looking for employment. Generally, unemployed persons use more than 1 method for seeking employment during the four-week reference period for job search. Table 14 shows the main method of job-search used by the unemployed persons for finding employment in the Kurdistan Region. The two most frequent methods of job search were applying to prospective employers directly (121’500) and seeking help from relatives, friends and others (93’600), followed by checking at factory gates and worksites (30’600) and on-line posting or updating resume on professional or social network sites (12’000). It is instructive to note that very few unemployed persons were looking for ways to start a business. Also, it is not clear why no unemployed persons reported to have registered with a public employment center in their search for employment. The pattern was similar for male and female unemployed persons, and for the national as a whole.

Table 14. Number of unemployed persons by sex and method of search for employment,

Iraq LFS 2021

Method of search for employment	Total '000	Male '000	Female '000
Total	278'100	185'600	92'600
Apply to prospective employers	121'500	71'200	50'300
Place or answer job advertisements	5'500	1'700	3'900
Study or read job advertisements	3'600	2'300	1'300
Post/update resume on professional/social network sites on-line	12'000	5'200	6'800
Register with public employment center	-	-	-
Register with private employment center	6'500	4'900	1'500
Take test or job interview	1'500	-	1'500
Seek help from relatives, friends and others	93'600	72'900	20'600
Check at factories, work sites	30'600	24'200	6'400
Wait on street to be recruited	1'000	1'000	-
Seek financial help to start a business	100	100	-
Look for land, building, equipment to start a business	400	400	-
Apply for permit or license to start a business	-	-	-
Other	1'800	1'700	200

The report of the 2015 labour force survey in the Kurdistan Region provides data on the ways of looking for jobs by the unemployed. The most frequent method of job-search was "registration with job-seeking agencies - such as a public employment service" (38.5 percent) followed by "visiting governmental institutions" (19.6 percent) and "directly attending a workplace -factory, shop, facility" (17.2 percent). The 2015 data are substantially different from those obtained in the 2021 survey. Does the shift from registration at public and government employment agencies in 2015 to direct application to prospective employers or seeking help from relatives, friends and others in 2021 reflect a change in strategies to seek employment, or simply an impact of the differences in the questionnaire design of the two surveys? To address this issue and understand the effectiveness of job-search methods it would be advantageous to maintain a consistent set of questions, allow for multiple responses, and incorporate a separate question addressed to the employed persons asking them how they found their current job.

- Duration of search for employment

The survey also collected data on duration of search for employment that can be used to estimate long-term unemployment. Long-term unemployment refers to unemployed persons with duration of search for employment lasting 12 months or more, including the reference period. Duration of search for employment is measured from when the unemployed person began carrying out activities to seek employment, or from the end of the last job, whichever is shorter. It differs from the concept of duration of unemployment which is the length of time that an unemployed person has been without employment, available for employment, and actively seeking employment. Duration of unemployment is generally more difficult to measure in surveys than duration of search for employment. Even more difficult to measure is the broader concept of duration of a completed spell of unemployment.[25]

Table 15 gives the distribution of the unemployed population by sex and duration of search for employment in the Kurdistan Region, with the corresponding data for Iraq as a whole. In general, most unemployed persons were seeking employment for less than 12 months: 68.0 percent (KRI) and 69.0 percent (Iraq). The number of unemployed persons seeking employment for less than 12 months was relatively higher for male: 73.8 percent (KRI) and 75.6 percent (Iraq) than for female: 56.3 percent (KRI) and 48.0 (Iraq). In broad terms, these results may be roughly interpreted to indicate that unemployed men tended to find employment faster than unemployed women.

Table 15. Distribution of unemployed persons by sex and duration of search for employment, KRI and Iraq, LFS 2021

Duration of search for employment	Total		Male		Female	
	KRI	Iraq	KRI	Iraq	KRI	Iraq
Total	100.0	100.0	100.0	100.0	100.0	100.0
Less than 1 month	29.8	14.9	32.1	16.6	25.2	9.3
1 month to less than 3 months	17.7	14.2	20.4	16.3	12.1	7.4
3 months to less than 6 months	9.5	16.6	11.0	17.1	6.5	15.3
6 months to less than 12 months	11.1	23.3	10.4	25.6	12.5	16.0
1 year to less than 2 years	14.7	14.9	13.4	14.2	17.3	17.3
2 years or more	17.3	15.9	12.8	10.2	26.5	34.8

[25]Kiefer, Nicholas, M & Lundberg, Shelly J & Neumann, George R, "How Long Is a Spell of Unemployment? Illusions and Biases in the Use of CPS Data," *Journal of Business & Economic Statistics*, American Statistical Association, vol. 3(2), April 1985, pp. 118-128.

According to the data of Table 15, about 32.0 percent of the unemployed population in the Kurdistan Region were seeking employment for more than 12 months, representing about 89'100 persons, 48'600 men and 40'500 women. Given the smaller number of women in unemployment, the long-term unemployment rate was significantly higher among women (43.7 percent) than among men (26.2 percent). Also, long-term unemployment was slightly higher in the Kurdistan Region (32.0 percent) than in Iraq as a whole (30.8 percent). In the case of women, however, the data in Table 15 show a significantly lower rate of long-term unemployment in the Kurdistan Region (43.7 percent) than in Iraq as a whole (52.1 percent).

The evolution of the extent of long-term of unemployment over time cannot be assessed as published data on duration of search for employment from past surveys are not available. The 2015 survey collected data on "how many months has NAME been actively seeking work?" (Question E3 of the survey questionnaire), but the results have not been published in the survey report (English version).

- **Time-related underemployment**

Not all persons who are classified as in employment are working full hours. Some are working short hours because they could not find full-time employment. Others may be working for a few hours for voluntary reasons. Time-related underemployment refers to the situation where the working time of persons in employment is insufficient in relation to alternative employment situations in which they are willing and available to engage. In line with the international standards on this topic, time-related underemployment is measured here as all persons in employment who, during the specified reference week of the survey: (a) wanted to work additional hours; (b) were working in all jobs less than 40 hours during the reference week; and (c) were available to work additional hours given an opportunity for more work. The threshold of 40-hours corresponds to the modal value of the hours usually worked by employed persons at all jobs.

Among the total 1'427'800 employed persons in the Kurdistan Region, about 571'700 persons were usually working less than 40 hours per week at all jobs, representing about 40.0 percent of total employment in the Kurdistan Region. Among those usually working less than 40 hours per week, about 172'400 persons were wanting to work more hours, whether in the same job, in an additional job, or in a new job with more hours of work. This represents about 12.6 percent of the number of persons usually working less than 40 hours per week. Finally, among the persons usually working less than 40 hours per week and wanting to work additional hours, some 153'100 were currently available to work additional hours if an opportunity was given for more work. This final category of persons constitutes time-related underemployment. Table 16 shows the calculation by sex. The results show that about 10.7 percent of the employed population in the Kurdistan Region were in time-related underemployment.

The ratio was slightly higher among men (11.1 percent) than among women (8.6 percent).

Table 16. Time-related underemployment by sex, KRI LFS 2021

	Total	Male	Female
Total employment	**1'427'800**	**1'207'100**	**220'700**
- Usually working less than 40 hours per week at all jobs	**571'700**	**397'500**	**174'200**
- And, wanting to work additional hours per week	**172'400**	**152'500**	**19'900**
- And, available to work additional hours per week	**153'100**	**134'200**	**18'900**
Time-related underemployment	**153'100**	**134'200**	**18'900**
Percent of total employment (%)	**10.7%**	**11.1%**	**8.6%**

The data show that the extent of time-related underemployment in the Kurdistan Region was higher than at the national level (10.7 percent versus 7.9 percent, respectively). This result appears surprising given the fact that the unemployment rate, that is the central component of labour underutilization, was essentially the same in the Kurdistan Region and the country as a whole. Analyzing the data in more detail, it can be observed that there were in fact relatively less people working below 40 hours per week in the Kurdistan Region (40.0 percent) than in Iraq as a whole (47.0 percent), but among the persons working less than 40 hours per week, a significantly higher proportion were wanting to work additional hours in the Kurdistan Region (12.1 percent) than in Iraq as a whole (9.6 percent). This means that the desire to work additional hours was much stronger in the Kurdistan Region than in Iraq as a whole, to the extent that it overpassed the lower proportion of persons working short hours in that region relative to the nation as a whole.

The past labour force surveys in the Kurdistan Region also measured time-related underemployment, defined as “those people who have a paid job and work less than 35 hours per week and willing to find additional job and seeking work.” The published results for the second half of 2014 and 2015 are given Table 17 and compared with the results from the 2021 survey. The published data indicate that there were 80’505 persons in underemployment in the second half of 2015, corresponding to about 5.8 percent of total employment at that time. The corresponding rate for the previous year (second half of 2014) was 0.54 percent, suggesting a rapid rise in underemployment which the report attributes to the economic crises faced by the Kurdistan Region that started in 2014. According to the figures in Table 17, time-related underemployment continued to increase to reach 10.7 percent of total employment in 2021. Part of this increase, however, should be attributed to the change in the hours-threshold used in the definition of underemployment. The past

surveys used a threshold of 35 hours per week, while the 2021 survey used 40 hours per week, the modal value of the distribution of hours usually worked of employed persons at all jobs in line with the current international standards.[26]

Table 17. Time-related underemployment as percent of total employment by sex

KRI LFS (2014, 2015 and 2021)

	Total	Male	Female
2014 (second half)	**0.5%**	**1.2%**	**1.3%**
2015 (second half)	**5.8%**	**6.5%**	**2.9%**
2021	**10.7%**	**11.1%**	**8.6%**

Sources: *Data for 2014 and 2015, Kurdistan Region Statistical Office (KRSO), Labour Force, Report. https://krso.gov.krd/en/statistics/labour-force; Data for 2021, Labour Force Survey of Iraq, 2021.*

Note: *The hours-threshold in the definition of underemployment used in the 2014 and 2015 surveys was 35 hours per week, while the 2021 survey used 40 hours per week*

- **Desire for changing current employment situation**

In addition to time-related underemployment, the international standards recognize other types of inadequate employment situations.[27] Three particular types described in the international standards are:

a- ***skill-related inadequate employment,*** characterized by inadequate utilization and mismatch of occupational skills, thus signifying poor utilization of human capital. Persons in this form of inadequate employment may be understood to include all persons in employment who during the reference period wanted or sought to change their current work situation in order to use their current occupational skills more fully, and were available to do so;

b- ***income-related inadequate employment,*** resulting from low levels of organization of work or productivity, insufficient tools and equipment and training or deficient infrastructure. Persons in this form of inadequate employment may be understood to include all persons in employment who during the reference period wanted or sought to change their current work situation in order to increase income limited by factors such as those mentioned above, and were available to do so. Countries may wish to apply a threshold, chosen according to national circumstances, above which persons do not qualify for inclusion;

[26] The international standards specify: the "hours threshold" is based on the boundary between full-time and part-time employment, on the median or modal values of the hours usually worked of all persons employed, or on working time norms as specified in relevant legislation or national practice, and set for special worker groups", ILO, *Resolution concerning statistics of work, employment and labour underutilization*, adopted by the 19th International Conference of Labour Statisticians, Geneva, 2013, para. 43(b).

[27] ILO, *Resolution concerning the measurement of underemployment and inadequate employment situations*, adopted by the 16th International Conference of Labour Statisticians, Geneva, 1998.

c- ***inadequate employment related to excessive hours,*** may be understood to refer to a situation where persons in employment wanted or sought to work less hours than they did during the reference period, either in the same job or in another job, with a corresponding reduction of income. Countries may wish to apply a threshold of hours below which persons do not qualify for inclusion.

The labour force survey addressed this topic by asking respondents on their desire for changing their current employment situation, and if "yes" the main reason for wanting to change their current employment situations. The resulting data (with very few refusals, less than 0.1 percent) are shown in Table 18. According to these results, about 417'900 persons wanted to change their current employment situation, representing about 29.3 percent of the employed population in the Kurdistan Region. Almost all were men (394'800) and very few women (23'100). By far, the main reason for wanting to change their current employment situation was to have a better paid job (81.4 percent among men and 72.9 percent among women). The results also show that, for men, the next most frequent reason for wanting to change one's employment situation was to have a job that match better the skill or qualification of the person (6.9 percent). For women, the next most frequent reason for wanting to change one's employment situation was the temporary nature of the current job (9.3 percent) or to have a job with less hours of work (7.1 percent). It is also instructive to note that inadequate employment due to distance from home was significantly higher among women (4.6 percent) relative to men (0.7 percent).

Table 18. Distribution of employed persons wanting to change their current employment situation by sex and main reason, KRI LFS 2021

Main reason for wanting to change current employment situation	Total	Male	Female
Total wanting to change current employment situation	**417'900**	**394'800**	**23'100**
Percent (%)	100.0	100.0	100.0
- Current employment temporary	4.4	4.1	9.3
- To have a better paid job	80.9	81.4	72.9
- To have more clients or business	1.5	1.6	0.0
- To have a job with more hours of work	2.2	2.1	3.9
- To have a job with less hours of work	2.2	1.9	7.1
- To have a job that match better skill or qualification	6.6	6.9	1.9
- To have a job closer to home	0.9	0.7	4.6
- To have a job with better working conditions	0.5	0.6	0.3
- Other reasons	0.7	0.8	0.0

The data on the Kurdistan Region show two major differences with the corresponding national results. First, the percentage of persons wanting to change their employment situation is significantly lower in the Kurdistan Region (29 percent) than in Iraq as a whole (36 percent). The other major difference concerns the percentage of women reporting to want to change their employment situation because of a better paid job: 72.9 percent in the Kurdistan Region against 55.5 percent in the country as a whole.

• Potential labour force

Potential labour force together with time-related underemployment and unemployment are different dimensions of labour underutilization. The *potential labour force* is defined as all persons of working age outside the labour force who, during the reference period, were neither in employment nor in unemployment but who were (a) seeking employment but not currently available (*unavailable jobseekers*) or (b) currently available for employment but did not carry out activities to seek employment (*available potential jobseekers).* An important sub-category of the potential labour force are the discouraged jobseekers, i.e., those outside the labour force who did not "seek employment" for labour market-related reasons, such as past failure to find a suitable job, lack of experience, qualifications or jobs matching the person's skills, lack of jobs in the area, considered too young or too old by prospective employers). The international standards further suggest the identification of a separate group of persons outside the labour force who expressed interest in employment. They are called *willing non-jobseekers* and defined as persons neither employed or unemployed who wanted employment but did not seek employment and were not currently available for work.

Table 19 shows the survey results for the Kurdistan Region. The potential labour force comprised about 314'800 persons in the Kurdistan Region in 2021, representing about 8.3 percent of the total working age population and about 15.1 percent of the population outside the labour force. In contrast with the national figures, in the potential labour force in the Kurdistan Region there are more women (200'100) than men (114'700). This result is particularly significant, given that the labour force itself is heavily composed of men with relatively few women. It means that many women would be entering the labour force if conditions change. The female potential labour force is large and the low level of female labour force participation rate observed in the survey is partly due to barriers to entry such as lack of female-type of jobs in the area, or family-related reasons such as pregnancy, presence of small children, refusal by family.

The bulk of the potential labour force (8.3 percent) were people who were available for employment but had not actively looked for employment during the survey reference period for job-search. About 51.0 percent of them had not actively looked

for employment because of discouragement from past failures to find a suitable job, lack of experience or other labour-related reasons. The data in Table 18 show that in addition to the potential labour force, there were some 20’600 persons outside the labour force who wanted employment but did not seek employment and were not currently available for employment (Willing non-jobseekers). As in the case of the potential labour force, this category of persons was composed of a higher number of women (16’400) than men (4’200).

Table 19. Potential labour force, Discouraged jobseekers and Willing non-jobseekers by sex, KRI LFS 2021

	Total	Male	Female
Potential labour force	314’800	114’700	200’100
- Unavailable jobseekers	400	100	300
- Available potential jobseekers	314’400	114’600	199’800
Discouraged jobseekers	160’500	63’600	96’900
Willing non-jobseekers	20’600	4’200	16’400

The potential labour force together with the labour force constitutes the extended labour force. It forms the base for calculating the composite measure of labour underutilization (LU4). Among the indicators of labour underutilization reported in Chapter 2, LU4 is the broadest measure of labour underutilization. It is defined as the total of unemployment, time-related underemployment, and potential labour force divided by the extended labour force. Table 20 shows the calculation by sex for the Kurdistan Region. Labour underutilization (750’500) is the sum of time-related underemployment (153’100), unemployment (282’600) and the potential labour force (314’800). The extended labour force (2’025’300) is the sum of the labour force (1’170’400) and the potential labour force (314’800). The composite measure of labour underutilization is the ratio of total labour underutilization to the extended labour force, expressed in percentage. The results indicate that about 37.1 percent of the extended labour force in the Kurdistan Region was underutilized in some form, and more so among women (60.7 percent) than among men (29.0 percent).

Table 20. Labour underutilization and extended labour force by sex, KRI and Iraq, LFS 2021

	Total	Male	Female
Labour underutilization	750'500	438'800	311'700
- Time-related underemployment	153'100	134'200	18'900
- Unemployment	282'600	190'000	92'600
- Potential labour force	314'800	114'700	200'100
Extended labour force	2'025'300	1'511'800	513'500
- Labour force	1'710'500	1'397'100	313'300
- Potential labour force	314'800	114'700	200'100
LU4: Composite measure of labour underutilization = Labour underutilization/Extended labour force (%)			
Kurdistan Region	37.1%	29.0%	60.7%
Iraq	30.2%	26.4%	49.4%

The last line of the table compares the results with those of the country as a whole. The main difference concerns the situation of women. There were significantly more women affected by some form of labour underutilization in the Kurdistan Region (60.7 percent) than in Iraq as a whole (49.4 percent). This may reflect a greater difficulty to generate employment for women in the Kurdistan Region or a higher willingness of women in the Kurdistan Region to obtain employment than in the rest of Iraq. One may be considered as a labour demand issue and the other a labour supply issue.

Chapter 5: Persons outside the labour force

Persons outside the labour force are those of working age who were neither in employment nor in unemployment in the survey reference week. Being outside the labour force reflects the current status of the person. Some may have had past employment experience or past labour force attachment in the form of unemployment. Others may be part of the potential labour force and entering the labour force if conditions change. Also, being outside the labour force does not mean that the person was not engaged in any productive work during the survey reference week. The person may have been engaged in own-use production work, or unpaid trainee work or volunteer work, or other productive activities. While these activities are considered as forms of work, they do not fall within the scope of employment work. In fact, "persons outside the labour force" under the new international standards (19th ICLS, 2013) include persons engaged in own-use production of goods who, for the most part, were included as "employed" under the previous international standards (13th ICLS, 1982).

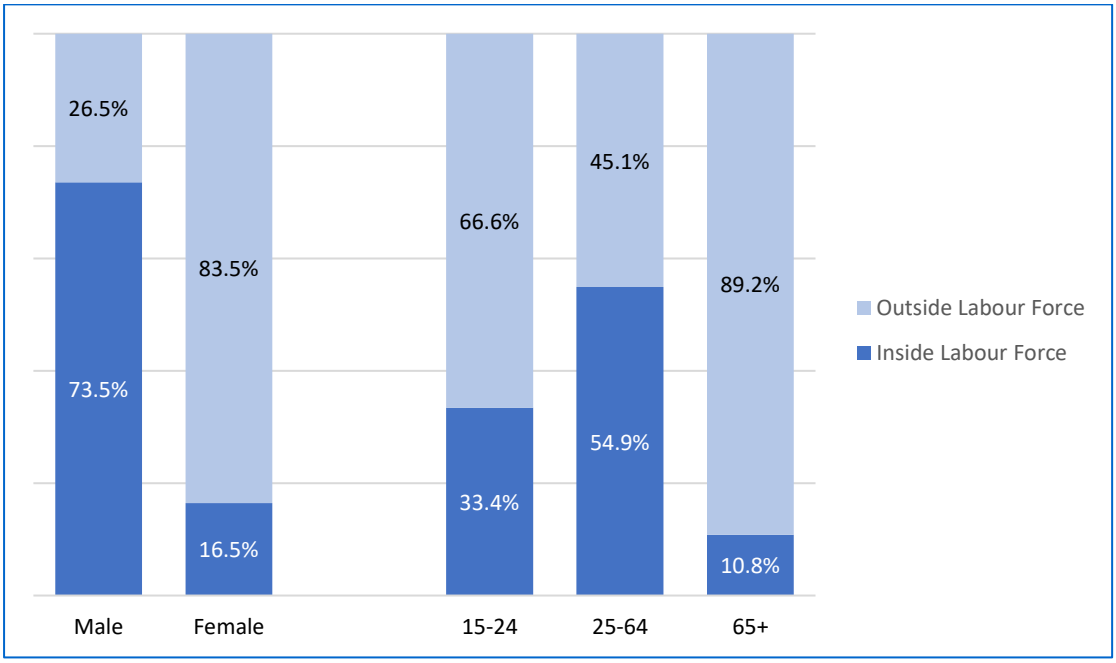
Demographic characteristics

According to the survey results, there were about 2'090'400 persons outside the labour force in the Kurdistan Region in 2021, representing about 55.0 percent of the total working age population. The great majority of persons outside the labour force were female (1'587'600) against (502'700) male. Figure 23 shows the composition of the working age population in terms of the percentage in the labour force and percentage outside the labour force for males and females, and broad age groups, separately. As expected, the results indicate that most female, as well as most youth and elder people were outside the labour force in the Kurdistan Region in 2021. Many were engaged in household or family responsibilities. Others were studying or in training. Still others were in retirement, or unable to work because of long-term illness, injury or disability.

It is instructive to note, the share of the population outside the labour force was uniformly lower in the Kurdistan Region than in Iraq as a whole. For example, the percentage of females outside the labour force was 83.5 percent in the Kurdistan Region, as opposed to 89.4 percent at the national level. The percentage of elderly persons (65 years old and above) outside the labour force was 89.2 percent in the Kurdistan Region as opposed to 92.5 percent in the country as a whole. Similar results are also obtained by level of educational attainment. At any level of educational attainment, the share of the working age population outside the labour force was about the same or lower in the Kurdistan Region than in Iraq as a whole. The only exception concerned persons with diploma or university education or above, for

whom the share outside the labour force was about 27.5 percent in the Kurdistan Region as opposed to 25.7 percent at the national level.

Figure 23. Composition of the working age population inside and outside the labour force by sex and broad age group, KRI LFS 2021



Comparison with past data on the population outside the labour force is hampered by the change of definitions of employment and labour force. As mentioned earlier in Chapter 2, the main change in definition concerns the statistical treatment of own-use production of goods. While own-use production of goods was essentially considered as employment under the earlier international definition of employment used in the past surveys conducted in the Kurdistan Region, it is excluded from the scope of employment according to the new definition of employment used in the 2021 labour force survey. The change of definition not only affects the measurement of employment, but also that of unemployment and the labour force, and, by complementarity, the measurement of the population outside the labour force. Below the data on own-use production of goods as well as own-use production of services collected as part of the 2021 survey are examined.

• Own-use production of goods and services

According to the ILO international standards,[28] "persons in own-use production work" are defined as all those of working age who, during a short reference period, performed any activity to produce goods or provide services for own final use, for a cumulative total of at least one hour.

[28] ILO, Resolution concerning statistics of work, employment and labour underutilization, 19th ICLS, 2013, para. 22.

- Production of “goods” is defined in terms of the 2008 SNA production boundary. It covers: (i) producing and/or processing for storage agricultural, fishing, hunting and gathering products; (ii) collecting and/or processing for storage mining and forestry products, including firewood and other fuels; (iii) fetching water from natural and other sources; (iv) manufacturing household goods (such as furniture, textiles, clothing, footwear, pottery or other durables, including boats and canoes); (v) building, or effecting major repairs to, one’s own dwelling, farm buildings, etc.
- Provision of “services” refers to the activities beyond the 2008 SNA production boundary but inside the SNA General production boundary. It covers: (i) household accounting and management, purchasing and/or transporting goods; (ii) preparing and/or serving meals, household waste disposal and recycling; (iii) cleaning, decorating and maintaining one’s own dwelling or premises, durables and other goods, and gardening; (iv) childcare and instruction, transporting and caring for elderly, dependent or other household members and domestic animals or pets, etc.
- “For own final use” is interpreted as production where the intended destination of the output is mainly for final use by the producer in the form of capital formation, or final consumption by household members, or by family members living in other households, where (i) the intended destination of the output is established in reference to the specific goods produced or services provided, as self-declared (i.e. mainly for own final use); and (ii) in the case of agricultural, fishing, hunting or gathering goods intended mainly for own consumption, a part or surplus may nevertheless be sold or bartered.

The 2021 labour force survey attempted to measure the size of the population engaged in own-use production of goods and services and to estimate the average number of hours spent in these activities per week. The results for the Kurdistan Region are shown in Table 21. It can be observed that women tend to be engaged in own-use production of goods and services at much higher number than men in all type of such activities. Almost all women of working age outside the labour force (1’587’600) were engaged in household chores such as shopping and preparing meals (1'382'700). Among men of working age outside the labour force (502’700), a much lower number were engaged in these activities (175’300). The average number of hours spent on these activities was also higher among women (3.3 hours per week) than men (1.5 hours per week). The time spent on subsistence foodstuff production was however longer among men (4.2 hours per week) than among women (2.8 percent). The time spent on own-use production of manufacturing goods was higher among women (1.7 hours per week) than among men (1.3 hours per week).

Table 21. Time spent on own-use production of goods and services, KRI LFS 2021

Own use production of goods and services	Number of persons		Average of hours per week	
	Male	Female	Male	Female
Planting, maintaining or harvesting any crops, vegetables or fruits to produce food mainly for own or family consumption	33'200	118'100	4.2	2.8
Raising or tending farm animals such as sheep, goat, chicken, to produce food mainly for own or family consumption				
Fishing or collecting shellfish to produce food mainly for own or family consumption				
Manufacturing household goods for own or family use such as furniture, textiles, clothing, footwear, pottery, crafts or other durables, excluding foodstuff	3'900	81'700	1.3	1.7
Engaged in household chores including shopping, preparing meals	175'300	1'382'700	1.5	3.3
Looking after children	31'500	671'200	1.6	3.0
Looking after elderly	15'900	72'800	1.5	1.9
Looking after sick persons	8'000	62'500	1.3	2.2
Looking after persons with difficulty	4'600	58'900	2.0	2.6

Note: *LFS questions: 12.1 – 12.10.*

Based on these data and using the approximate relationship between employment and unemployment according to the previous and new international definitions described in Chapter 2, adjusted estimates of the labour force and the population outside the labour force are computed and presented in Table 22 for the Kurdistan Region and Iraq as a whole. It can be observed that under the previous definitions, the adjusted estimate of the population outside the labour force in Iraq would have been significantly smaller (13'881'000) than the estimate under the new definition (15'787'000). Similarly, for the Kurdistan Region, the adjusted estimate of the population outside the labour force would have been significantly smaller (1'853'400) than the estimate under the new definition (2'090'400).

Table 22. Adjustment of labour force and population outside labour force for comparison with past survey data, KRI and Iraq

	KRI	Iraq
Working age population (15+ years)	3'800'800	26'091'000

- Labour force	1’710’500	10’304’000
- Outside labour force	2’090’400	15’787’000
Own-use producers of goods outside the labour force	2’370’00	1’906’000
- Subsistence food-stuff producers	1’514’00	1’154’000
- Own-use producers of other goods	856’00	753’00
Adjustment		
- Adjusted labour force	1’947’400	12’211’000
- Adjusted population outside labour force	1’853’400	13’881’000

Chapter 6: Women and equal opportunities

The relationship between gender and the labour market has been examined on each topic throughout the preceding chapters. The present chapter focuses on the gender pay gap, and the analysis of earnings differentials between women and men in the Kurdistan Region.

• Gender pay gap

The gender pay gap measures the extent to which the income from employment of men differs from that of women and is an indicator of the Sustainable Development Goals (SDG 8.5.1). It is defined as the difference between the average hourly earnings at main job of male and female employees, as percentage of average hourly earnings at main job of male employees,

$$Gender\ pay\ gap = 100 \times \frac{(E_m - E_w)}{E_m}$$

where E_m is the average hourly earnings at main job of men, and E_w is the corresponding average hourly earnings at main job of women. A value of "0" for the gender pay gap denotes perfect equality of earnings between men and women. Positive values of the gender pay gap reflects the extent to which women's earnings fall short of those received by men. By contrast, negative values of the gender pay gap reflects the extent to which women's earnings are higher than those of men.

For ease of understanding, the data are expressed here as monthly earnings rather than hourly earnings. Yet, in order not to distort the calculation of the gender pay gap which is based on hourly earnings and accounts for the differences of working time of men and women, the data represent the equivalent monthly earnings at main job of employees working 40 hours per week during the month. It is calculated as follows:

$$equivalent\ monthly\ earnings = hourly\ earnings\ \times 40 \times \frac{52}{12}$$

where 40 corresponds to 40 work-hours per week and the ratio 52/12 corresponds to the average number of weeks per month in a year (52 weeks and 12 months over a year). Table 23 presents the calculation of the gender pay gap by age group in the Kurdistan Region, and compares with the corresponding results at the national level. Similar calculations by educational attainment and by occupation category are presented in the subsequent two tables, Table 24 and Table 25.

Table 23. Gender Pay Gap by age group, KRI and Iraq, LFS 2021

Age group	Average monthly earnings of employees working 40 hours per week at main job working (Iraqi Dinars)			Gender Pay Gap	
	Total (KRI)	Male (KRI)	Female (KRI)	KRI	Iraq
Total	529,100	490,400	813,300	-65.8	-51.3
15-24	259,200	256,900	323,000	-25.7	-3.5
25-34	464,800	449,300	644,700	-43.5	10.3
35-44	594,300	575,800	684,000	-18.8	-5.2
45-54	722,800	647,200	1,038,500	-60.5	-18.1
55-64	950,700	881,900	1,237,800	-40.4	-17.0
65+	732,300	508,100	2,398,900	-372.1	-7.8

Note: *1450 Iraqi Dinars = 1 US Dollars (Rate used in 2021 Iraqi government budget by the Iraqi parliament).*

Table 24. Gender Pay Gap by educational attainment, KRI and Iraq, LFS 2021

Educational attainment	Average monthly earnings of employees working 40 hours per week at main job (Iraqi Dinars)			Gender Pay Gap	
	Total (KRI)	Male (KRI)	Female (KRI)	KRI	Iraq
Total	529,100	490,400	813,300	-65.8	-51.3
Illiterate	375,700	365,400	466,800	-27.8	-3.4
Read/write	412,200	411,200	458,400	-11.5	10.6
Elementary	453,400	455,000	419,200	7.9	-5.3
Intermediary	423,400	418,300	481,900	-15.2	-18.0
Secondary	636,000	574,800	925,700	-61.0	-17.0
Diploma+	808,600	741,400	963,200	-29.9	-7.7

Note: *1450 Iraqi Dinars = 1 US Dollars (Rate used in 2021 Iraqi government budget by the Iraqi parliament).*

Table 25. Gender Pay Gap by occupation category, KRI and Iraq, LFS 2021

Occupation	Average monthly earnings of employees working 40 hours per week at main job (Iraqi Dinars)			Gender Pay Gap	
	Total (KRI)	Male (KRI)	Female (KRI)	KRI	Iraq
Total	529'100	490'400	813'300	-65.8	-51.3
Managers	506'200	505'000	577'900	-14.4	-34.4
Professionals	1'487'200	1'461'600	1'609'400	-10.1	4.5
Technicians and Associate Professionals	974'800	922'700	1'024'500	-11.0	-3.3
Clerical Support Workers	618'000	598'000	708'800	-18.5	6.9
Services And Sales Workers	625'900	632'500	617'800	2.3	-4.6
Skilled Agricultural, Forestry and Fishery Workers	477'300	471'800	603'000	-27.8	17.1
Craft and Related Trades Workers	372'100	370'300	531'100	-43.4	-11.9
Plant and Machine Operators and Assemblers	322'400	317'600	459'200	-44.6	-0.3
Elementary Occupations	451'900	451'900	-	-	-52.3

***Note**: 1450 Iraqi Dinars = 1 US Dollars (Rate used in 2021 Iraqi government budget by the Iraqi parliament).*

The data in Table 23 show that women in the Kurdistan Region were earning a higher pay than men at all age groups. The lowest gender pay gap was among employees, 35 to 44 years old. The average earnings of female employees in that age group working 40 hours per week was 684’000 Iraqi Dinars per month, compared with 575’800 Iraqi Dinars per month for male employees in that age group, representing a gender pay gap of -18.8 percent. It should be mentioned that the extremely high gender pay gap for old employees, 65 years old and above, is not statistically meaningful, as it is based on a few observations. The sample data for the Kurdistan Region contained very few female employees in that age group. The Kurdistan Region data on gender pay gap by age group are similar to those at the national level, where gender pay gap is also negative at all age groups. The only exception is for employees, 25-34 years old, among whom the average equivalent monthly earnings of female employees were about 10 percent lower than that of male employees in the country as a whole.

The data in Table 24 on gender pay gap by educational attainment show also a similar pattern: women in the Kurdistan Region were earning a higher pay than men at all levels of educational attainment, except for employees with elementary educational attainment. At the national level, the gender pay gap was also negative for employees

at all levels of educational attainment except one. The exception at the national level was for employees with no degree, who can only read and write.

The data in Table 25 on gender pay gap by occupation show again a similar pattern: women in the Kurdistan Region were earning a higher pay than men in all occupational categories, except for services and sales workers among the earnings of women were slightly lower (2.3 percent) than that of men. The occupational categories having the highest average earnings were professionals and technicians and associate professionals. The average monthly earnings were about 1'609'400 Iraqi Dinars for female professionals working 40 hours per week, and 1'461'600 Iraqi Dinars for male employees in the Kurdistan Region. For technicians and associate professionals, the average equivalent monthly earnings were about 1'024'500 Iraqi Dinars among female employees and about 922'700 Iraqi Dinars for male employees. At the national level, the gender pay gap was also negative for employees in almost all occupational categories. The two exceptions were professionals and clerical support workers, for whom average equivalent monthly earnings of women were lower than that of men (4.5 percent for professional occupations and 6.9 percent for services and sales workers).

• Determinants of earnings differentials

The analyses of the gender pay gap, conducted separately in the previous section by age group, level of educational attainment and 1-digit occupation, all lead to the conclusion that in the Kurdistan Region as well as in Iraq, female employees tend to earn more than male employees, with only a few exceptions for women with elementary education and services and sales female workers. This conclusion is in line with the general observation made regarding women in the Middle East and North Africa (MENA), that" relatively few women are employed, but those who are tend to be highly educated and in well-paid jobs, which accounts for the lower gender pay gap."[29] But, in the Kurdistan Region and in Iraq as a whole, the gender pay gap is not only lower than the global average (24 percent in 2015-2016), it is in fact negative. This suggests that earnings differentials in the Kurdistan Region and Iraq requires a more careful analysis than univariate gender pay gap. Below, the determinants of earnings are thus analyzed *jointly* rather *separately* as in the previous section.

The gender pay gap reflects an average value and thus masks factors that determine hourly earnings of individual employees, in particular, age as a proxy of work experience, educational attainment as a proxy of skills, and occupation as an indication of type of job. To take into account the joint effect of some of these factors at the level of individual employees, one may use the Mincer equation[30] which

[29] UN WOMEN, Fact Sheet – Middle East and North Africa, Progress of the World's Women, 2015-2016.
[30]Heckman, James J., Lochner, Lance J., and Todd, Petra E., "Fifty Years of Mincer Earnings Regressions," First draft June 1998, Revised March 19, 2003.

expresses the logarithm of the hourly earnings of workers as a combination of a linear function of gender as a dummy variable, a parabolic function of age and age-square, reflecting the declining effect of age on hourly earnings after a certain age, and, in the absence of data on number of years of schooling, educational attainment considered as a continuous variable from 1 to 6 for the different levels. The model fits the data relatively well (Adjusted R2 = 0.5335; F-statistic = 101.9 on 5 and 436 degrees of freedom and p-value less than 2.2e-16). The results are shown below in Table 25:

Table 26. Estimated parameters of Mincer equation of hourly earnings of employees at main job in terms of sex, age, and level of educational attainment as continuous variable, KRI LFS 2021

Parameter	Estimate	Standard error	Statistical significance
Intercept	2.45000	0.06393	***
Sex	-0.02025	0.05507	
Age	0.03305	0.00330	***
Age-square	-0.00030	0.00004	***
Educational attainment	0.06962	0.00612	***
Sex * Educational attainment	0.02113	0.01483	.

*Note : Significance codes = 0 '***'; 0.001 '**'; 0.01 '*'; 0.05 '.' ; 0.1 ' ' 1.*

It is instructive to note that when age and educational attainment are taken into account at the level of individual employees, the gender differential of hourly earnings become slightly negative, in fact, statistically insignificant. All other variables are statistically significant as determining factors of hourly earnings of employees at main job. The results also show a positive estimate of the age parameter indicating that hourly earnings increase with age by about 3.3 percent per year, everything else equal. The age-square parameter is negative, indicating a slight tendency of a decrease of hourly earnings after a certain age. The estimated parameter for educational attainment is positive, indicating an increase of hourly earnings of about 7 percent for each level of educational attainment, everything else equal. Finally, the interaction parameter for sex and educational attainment is also positive, indicating that educational attainment is a more important factor for women than men in determining their hourly earnings.

According to these estimates, the gender pay gap adjusted for the joint impact of age and educational attainment is calculated as:

$$\text{Adjusted gender pay gap} = 100 \times (1 - \exp(-0.02025)) = 2$$

Indicating that female hourly earnings are, in fact, about 2 percent lower than male hourly earnings when differences in age and educational attainment are jointly taken into account. For Iraq as a whole, the gender pay gap similarly calculated based on the Mincer equation was about 18 percent, substantially higher than the gender wage gap in KRI.

Chapter 7: Youth education and employment

As in the case of gender, the relationship between youth and the labour market has been examined on virtually each topic throughout the preceding chapters. In the present chapter, two other aspects are examined in detail, namely, mismatch between educational attainment and current occupation (skills mismatch), and young people not in education, employment, or training (NEET).

• Skills mismatch

In general, skills mismatch refers to the incompatibility between education and occupation of workers, and, in particular, to the situation where the educational attainment of the worker is above (or below) the skill requirement of his or her job. In a sense, this means that the return on investment in education and training is below optimum and somewhat wasted. Different indicators have been used to measure education and occupation mismatch. New international guidelines standards have been developed for the measurement of qualifications and skills mismatches of persons in employment.[31] The guidelines recognize two main forms of mismatches: qualification mismatch; and skills mismatch. Either form of mismatch may occur with respect to the main job or other jobs of the person in employment in the case of multiple jobholding.

Qualification mismatch refers to a situation in which a person in employment, during the reference period, occupied a job whose qualification requirements did not correspond to the level and/or type of qualification they possessed. Qualification mismatch include:

(a) ***Mismatch by level of education:*** it occurs when the level of education of the person in employment does not correspond to the level of education required to perform their job. Over-education occurs when the level of education and training of the person in employment is higher than that required to perform their job. Under-education occurs when the level of education and training of the person in employment is lower than that required to perform their job.

(b) ***Mismatch by field of study:*** it occurs when the field of study of the person in employment does not correspond to the field of study required to perform their job.

Skills mismatch refers to a situation in which the person in employment, during the reference period, occupied a job whose skills requirements did not correspond to the skills they possess. Skills mismatch may refer to mismatch of overall skills or to types of skills. The mismatch by type of skills includes: (a) Mismatch of job-specific/technical

[31] ILO, *Guidelines concerning the measurement of qualifications and skills mismatched of persons in employment*, 20th International Conference of Labour Statisticians, Geneva, 10-19 October 2018.

skills; (b) Mismatch of basic skills; and (c) Mismatch of transferable skills. A person in employment may experience: Over-skilling, which occurs when the level and/or types of skills of the person in employment exceeds those required to perform their job; or, Under-skilling, which occurs when the level and/or types of skills of the person in employment is lower than those required to perform their job.

The guidelines specify several approaches for the measurement of the different forms of mismatches based on suitable data compiled as part of the existing household and/or establishment-based surveys. Data from recent administrative records and secondary sources can also be used. More recently, the ILO has developed an add-on module on "occupational qualifications and skills mismatches" (v1 Sep 2020) for administration with labour force surveys.[32] The results presented here are based on the joint analysis of educational attainment and occupation of young persons (15-24 years old). They may be considered as a simplified version of qualification mismatch by level of education (over-education), where the thresholds used as boundary between matched and mismatched are determined by the skills required to fulfil the tasks and duties of the job as specified in the international standard classification of occupations. The results are shown in Table 27.

Table 27. Youth employment by occupation and educational attainment, KRI LFS 2021

Occupation (Major groups)		Educational attainment[1]					
		1	2	3	4	5	6
		ISCO-08 skills level					
				1st	2nd	3rd	4th
1	Managers				1'063		1'545
2	Professionals				889	177	8'324
3	Technicians and associate professionals		1'797		3'235	1,019	1'917
4	Clerical support workers		1'889		2'707	274	1'485
5	Service and sales workers	390	28'312	4'738	34'663	8,604	7'855
6	Skilled agricultural, forestry, fishery workers	382	9'622	812	4'274	1,717	395
7	Craft and related trades workers	560	20'399	2'448	20'272	3,255	2'970
8	Plant and machine operators, assemblers	284	7'373	987	3'878	892	59
9	Elementary occupations	4'638	24'181	6'742	11'493	5,025	3'559

Skills mismatch = 49'500 (20%)

[32] https://ilostat.ilo.org/resources/lfs-resources/

Notes: *1 Educational attainment = 1 (Illiterate); 2 (No degree, only read or write); 3 (Elementary); 4 (Intermediary); 5 (Secondary); 6 = (Diploma or above).*
2 Shaded area in light blue = Skills mismatch.

The rows in Table 27 are the major occupational categories of ISCO-08, interpretated here as the skills required to perform an occupation within the occupational group of the classification. The columns of the table are the levels of educational attainment of the worker. They are interpreted as the skills levels of the youth workers. The shaded area in light blue represents the skills mismatch. According to these data, about 49'500 young persons (15 to 24 years old) were employed in occupations below their skill level, representing about 20 percent of total youth employment. It is instructive to note that the estimated number of young persons with skills mismatch (49'500) is about the same order of magnitude of the estimate of the number of young persons in time-related underemployment (31'800), but substantially lower than the estimate of the number of young persons in unemployment (149'700). The data show that the youth skills mismatch in the Kurdistan Region (20 percent) was somewhat higher than the corresponding figure for Iraq as a whole (9 percent).

• Youth not in education, employment or training (NEET)

Youth not in education, employment or training (NEET) is an indicator of Sustainable Development Goals (SDG 8.6.1). It is defined as the share of the youth population (15-24 years old) who are not in education, nor in employment or training in relation to the total youth population,

$$NEET\ rate = 100 \times \frac{Youth\ not\ in\ education, employment\ or\ training}{Youth\ population}$$

It provides a measure of youth who are outside the educational system, not in training and not in employment, and thus serves as a broader measure of potential youth labour market entrants than youth unemployment. It includes discouraged youth workers as well as those who are outside the labour force due to disability and engagement in household chores, among other reasons. NEET is also a better measure of the current universe of potential youth labour market entrants as compared with the youth inactivity rate, as the latter includes those youth who are outside the labour force and are in education, and thus are furthering their skills and qualifications.[33] The NEET rate is related to the employment-to-population ratio as expressed below,

NEET rate = Proportion of youth not in school – Youth employment -to-population ratio

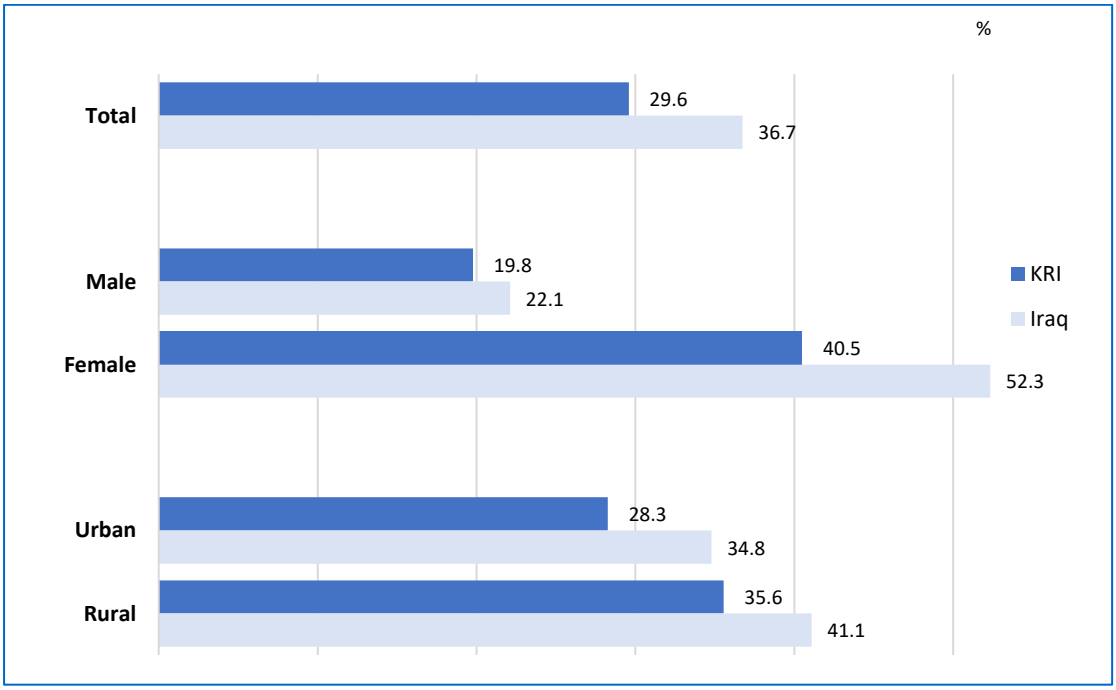
[33] https://sdg.tracking-progress.org/indicator/8-6-1-youth-not-in-education-employment-or-training-neet/

where *Proportion of youth not in school* is the number of youth (15-24 years old) not in education or training, expressed as a percentage of the total youth population. Thus, when everyone is out of school or training, the NEET rate is simply the complement of the employment-to-population ratio,

NEET rate = 1 – Employment-to-population ratio.

Figure 24 shows the survey estimates of the NEET rate by sex and urban/rural area for the Kurdistan Region with comparison with rates at the national level. The corresponding estimates by sex and governorate are shown in Figure 25. According to these results, about 29.6 percent of the youth population in the Kurdistan Region was not in education, nor in employment or training during the survey reference period in 2021, 19.8 percent among men and 40.5 percent among women. Also, the rate was generally lower among young people living in urban areas (28.3 percent) than those living in rural areas (35.6 percent). The figure also shows that for all male-female and urban-rural categories, the NEET rate at the national level was uniformly higher the corresponding rate for the Kurdistan Region.

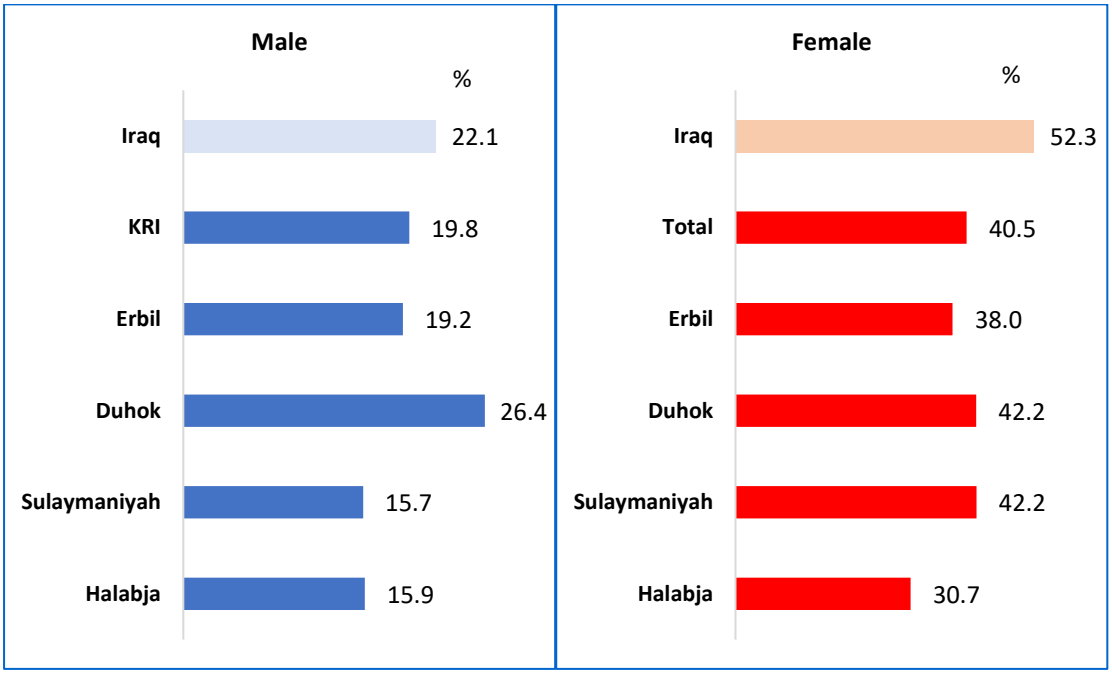
Figure 24. Youth not in education, employment or training (NEET) by sex and urban/rural area, KRI and Iraq, LFS 2021



The results by governorate presented in Figure 23 indicate that Duhok was the governorate with the highest male NEET rate (26.4 percent) and with Sulaymaniyah also with the highest female rate (42.2 percent) followed by Erbil (19.2 percent for male and 38.0 percent for female). The governorates with the lowest NEET rates were Sulaymaniyah (15.7 percent for male) and Halabja (15.9 percent for male and 30.7 percent for female). The NEET indicator can also be usefully analysed by level of

educational attainment and by non-employment status (i.e., unemployed or outside the labour force).[34]

Figure 25. Youth not in education, employment or training (NEET) by sex and governorate, KRI and Iraq LFS 2021



Finally, it is instructive to note that the NEET rate is highly correlated with the youth unemployment rate in the Kurdistan Region as shown in the following table 28. Among the governorates of the Kurdistan Region, Duhok had the highest NEET rate (34.0 percent) and also highest youth unemployment rate (24.1 percent). Similarly, Halabja had the lowest NEET rate (22.5 percent) and also the lowest youth unemployment rate (10.4 percent). In between these two extremes were Erbil and Sulaymaniyah with NEET rates, 28.0 percent and 28.4 percent respectively, and youth unemployment rates, 17.7 percent and 12.0 percent, respectively.

Table 28. Youth unemployment and NEET rates by governorate, KRI LFS 2021

	Youth unemployment rate (%)	NEET rate (%)
KRI	16.5	29.6
Erbil	17.7	28.0
Duhok	24.1	34.0
Sulaymaniyah	12.0	28.4
Halabja	10.4	22.5

[34] UNESCO, Measuring progress on SDG target 4.4 Insight from NEET indicators TCG4/21, December 2017.

Chapter 8: International migrant workers

Recent ILO guidelines[35] define, for statistical purposes, international migrant workers as all persons of working age present in the country of measurement who are in one of the following two categories:

1- usual residents: international migrants who, during a specified reference period, were in the labour force of the country of their usual residence, either in employment or in unemployment;

2- not usual residents, or non-resident foreign workers: persons who, during a specified reference period, were not usual residents of the country but were present in the country and had labour attachment to the country, i.e., were either in employment supplying labour to resident producer units of that country or were seeking employment in that country.

Due to their non-resident status, international migrant workers, category (b), (non-resident foreign workers) are, generally, not covered by household-based surveys, except possibly for some non-resident foreign domestic workers and other non-resident foreign workers providing services to households as employer. In the Iraq LFS 2021, also the estimates were limited to international migrant workers, category (a) of the definition given above, and refer to workers with non-Iraqi citizenship who were in employment or seeking employment during the survey reference week.

Household surveys, in particular labour force surveys, are generally considered as a suitable source for measuring international migrant workers, especially, category (a), i.e., resident foreign workers. It should, however, be recognized that unless special procedures are used for boosting the sample size (such as oversampling of areas of concentration or target sampling of households with international workers) and dealing with other particular coverage and response issues, the resulting survey estimates are likely to underestimate the number of international migrant workers, probably, leaving out many undocumented migrant workers and those living in refugee camps, construction sites, shops and other irregular living quarters.

• Demographic characteristics

According to the survey results, among the 3.8 million persons of working age (15 years old and over) in the Kurdistan Region in 2021, some 46’500 had non-Iraqi citizenship, and among them about 23’700 were in the labour force, representing

[35] ILO, *Guidelines concerning statistics of international labour migration*, 20th International Conference of Labour Statisticians, Geneva, 2018, para. 14.

about 1.4 percent of the total labour force of the Kurdistan Region. As shown in Table 29, most international migrant workers were male: (76.2 percent).

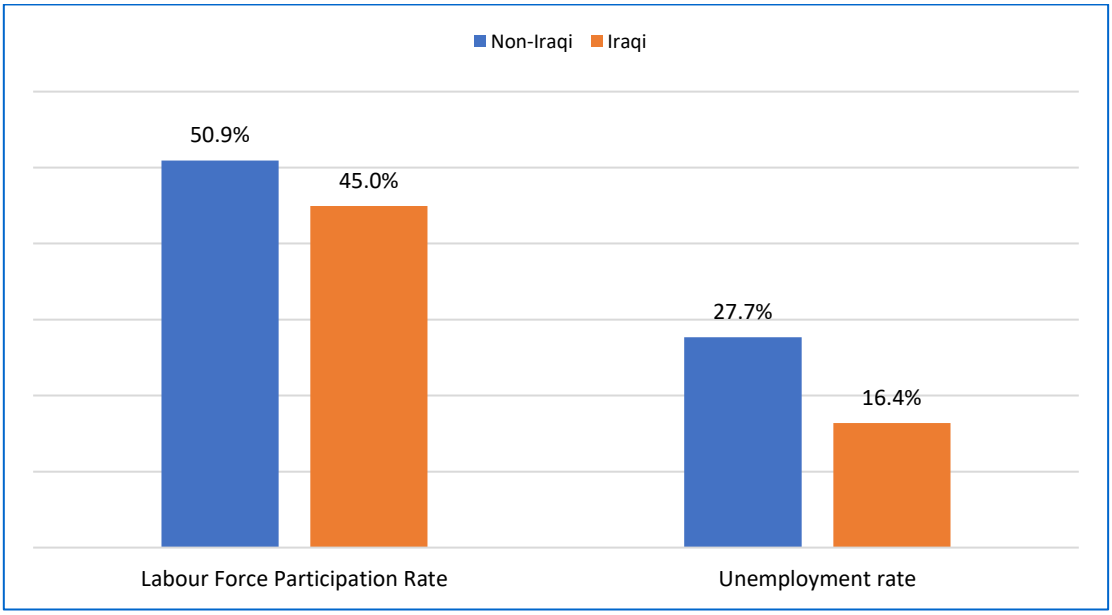
Table 29. International migrant workers in KRI by sex, LFS 2021

	Survey estimate	Percent
International migrant workers in KRI (resident foreign workers)	**23'700**	**100%**
- **Male**	**18'100**	**76.2%**
- **Female**	**5'600**	**23.8%**

• Labour force characteristics

The left panel of Figure 26 compares the labour force participation rate of non-Iraqi workers in the Kurdistan Region (50.9 percent) with that of Iraqi workers in the Kurdistan Region including Iraqi citizens from non-KRI governorates working in the Kurdistan Region (45 percent). The right panel of the figure shows that the bulk of the labour force participation of the non-Iraqi citizens in the Kurdistan Region was in the form of unemployment, rather than employment. Thus, the survey results show that the unemployment rate of non-Iraqi citizens in the Kurdistan Region (27.7 percent) was substantially greater than the unemployment rate of Iraqi citizens in the Kurdistan Region (16.4 percent).

Figure 26. Labour force participation rate and unemployment rate by citizenship, KRI LFS 2021



According to the survey results, some 17’100 international migrant workers were employed in the Kurdistan Region during the survey reference week. The great majority were engaged in the informal sector (75.1 percent) or had informal employment jobs (90 percent). In general, the international migrant workers in the Kurdistan Region worked about the same number of hours than Iraqi workers. Their employment at main job was concentrated principally in construction (6’000 persons), manufacturing (2’600), wholesale and retail trade (2’500), and accommodation and food services activities (1’700). Very few others were engaged as domestic workers in activities of households as employers (900) and public administration and defence (800). In terms of occupations, the international migrant workers in the Kurdistan Region were employed at main job mostly as craft and related trades workers (8’100), services and sales workers (5’000), and in elementary occupations (3’000). There were very few international migrant workers engaged as skilled agricultural, forestry and fishery workers (200), almost none in managerial, professional, technical and associate professional positions.

Annex 1: Survey methodology and data quality

Annex A presents the main concepts and definitions, and describes the survey design and the calculation of the sampling weights, as well as the sampling errors and other elements of data quality, in particular, non-response and non-coverage rates.

• Main concepts and definitions

In line with the international standards, the main concepts and definitions used in the survey are given below:

- **Working age population:** All persons, 15 years old and above, who were usual residents of the country, regardless of sex, country of origin, nationality, citizenship or geographic location of their place of work. The working age population excluded persons living in institutional households outside the scope of the survey, such as construction sites, refugee camps, army barracks, school dormitories, and other locations not considered as regular living quarters.
- **Labour force**: The working age population who was either in employment or in unemployment during the survey reference week.
- **Employment:** All persons of working age who, during the survey reference week, were engaged in any activity to produce goods or provide services for pay or profit. They comprise: (a) employed persons "at work", i.e. who worked in a job for at least one hour; and (b) employed persons "not at work" due to temporary absence from a job, or to working-time arrangements (such as shift work, flexitime and compensatory leave for overtime).
- **Unemployment:** All persons of working age who were not in employment, carried out activities to seek employment during the last four weeks and were currently available to take up employment given a job opportunity.
- **Time-related underemployment:** All persons in employment who, during the survey reference week, wanted to work additional hours, whose usual working time in all jobs was less than 40 hours per week, and who were available to work additional hours given an opportunity for more work.
- **Potential labour force:** All persons of working age who, during the survey reference week, were neither in employment nor in unemployment and: (a) carried out activities to "seek employment", were not "currently available" but would become available within a short subsequent period established in the light of national circumstances (i.e., unavailable jobseekers); or (b) did not carry out activities to "seek employment", but wanted employment and were "currently available" (i.e., available potential jobseekers).

- **Persons outside the labour force:** All persons of working age who were neither in employment nor in unemployment during the survey reference week.
- **Extended labour force** = Labour force + Potential labour force
- **Labour force participation rate** = [labour force / working age population] x 100
- **Employment-to-population ratio** = [persons in employment / working age population] x 100
- **Unemployment rate:** **LU1** = [persons in unemployment / labour force] x 100
- **Combined rate of time-related underemployment and unemployment:** **LU2** = [(persons in time-related underemployment + persons in unemployment) / labour force]x100
- **Combined rate of unemployment and potential labour force:** **LU3** = [(persons in unemployment + potential labour force) / (extended labour force)] x 100
- **Composite measure of labour underutilization:** **LU4** = [(persons in time-related underemployment + persons in unemployment + potential labour force) / (extended labour force)] x 100
- **Hours actually worked:** Time spent in a job (or work activity) in the performance of activities that contribute to the production of goods and services during the survey reference week. It includes: (a) direct hours spent carrying out the tasks and duties of the job (or work activity); (b) related hours spent maintaining, facilitating or enhancing productive activities; (c) down-time when the person in his or her job cannot work due to machinery or process breakdown, but continues to be available for work; and (d) resting time of short periods for rest, relief or refreshment, according to established norms and national circumstance.
- **Hours usually worked:** Typical value of hours actually worked in a job (or work activity) per week, measured over a long observation period of a month, quarter, season or year.
- **Hourly earnings of employees at main job:** Monthly earnings at main job/[hours usually worked at main job per week x 52/12], where monthly earnings refer to total cash remuneration excluding employee contributions to compulsory employment-related social security and retirement income provision schemes, but including direct wages and salaries in cash for time worked and work done, remuneration for time not worked (annual vacation and other paid leave, etc.), cash bonuses and gratuities. In the case of multiple jobholding during the survey reference week, “main job” refers to the job with the longest hours usually worked.
- **Employment in the informal sector:** All persons in employment who were engaged in household unincorporated enterprises that were not registered at the national level, or did not, in law or in practice, keep full bookkeeping of accounts. In case of survey non-response, other criteria on social security contribution by the employer,

nature of place of work, and number of employees were used, depending on the status in employment of the person in that job.

- **Informal employment:** All employers and own-account workers operating an enterprise in the informal sector, all contributing family workers, and all employees with no social security contribution by the employer, irrespective of the formal or informal nature of the enterprise in which they work. In the case of survey response of employees, other criteria on paid annual leave and paid sick leave were used.
- **Own-use production of goods and services:** All persons of working age who, during the survey reference week, performed activities: (a) to produce goods for own final use, (within the 2008 SNA production boundary); or (b) to provide services for own final use (beyond the 2008 SNA production boundary but inside the General production boundary).

Definitions of other concepts measured in the survey are given directly in the text of the report such as status in employment, branch of economic activity, occupation, skills mismatch, gender pay gap, low pay workers, NEET rate, international migrant workers, etc.

• Sample design

The KRI LFS is designed as part of the Iraq LFS and follows the same principles. It is a stratified two-stage sample design according to which (a) in the first stage of sampling, a sample of blocks (clusters/layers) are drawn from the sampling frame with probabilities proportional to size where size is measured in terms of number of households; and (b) in the second stage of sampling, a fixed number of households are drawn in each sample block with equal probabilities after updating the lists of households in the sample blocks.

The purpose of the fresh listing of the sample blocks is taking into account population movements since the last construction of the sampling frame, in particular, the presence of new housing units, and the removal of units not eligible for interview, such as “demolished” sample units that had existed at the time of construction of the frame, but had since been demolished or destroyed, or were in the process of being demolished. Similarly, the listing operations permit the removal of unoccupied sample units that had been condemned, or units that were never intended as living quarters, or situations where the permit for construction was withdrawn.

The total sample size has been determined such that the margin of errors of the estimate of the unemployment rate at the national level is below 3 percentage points under the assumptions of a prescribed overall unemployment rate of 15.5 percent, a design effect of 2, and a response rate of 90 percent. The average household size has been set at 6 persons per household and the proportion of the base population (labour

force) to the total population (civilian non-institutional population) at 47 percent. The resulting sample size was calculated as 3648 households for the Kurdistan Region.

The total sample was stratified by governorate (4 governorates) and urban and rural location (2 locations). The total sample was equally allocated among the resulting 8 strata so that each stratum contained 38 sample blocks and 12 sample households per sample block. Thus, it can be verified that:

4 x 2 x 38 x 12 = 3648 sample households

The effective sample allocation among strata is shown in Table 1-1, where the corresponding numbers of blocks and households in the sampling frame are also shown in the first set of columns. It should be mentioned that the sampling frame from which the sample blocks are drawn is in fact a master sample, itself constructed on the basis of the latest population and housing census. The master sample represents about one-halve of the total census frame.

Table1-1. Sample allocation among strata (Governorate, Urban/Rural), KRI LFS 2021

Governorate	Frame (Master Sample)				LFS Sample[2]			
	Blocks		Households		Blocks		Households	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Erbil	3,003	1,374	247,510	46,334	38	38	456	456
Duhok	1,588	1,335	113,305	39,091	38	38	456	456
Sulaymaniyah	4,439	2,740	315,308	51,299	38	38	456	456
Halabja	145	281	8,062	10,275	38	38	456	456
Total	9,175	5,730	684,185	146,999	152	152	1,824	1,824

Notes: 1 Additional sample blocks were drawn in Halabja.
2 The effective sample sizes slightly differ from the sample allocation presented here due to the statistical treatment of non-responses and illegible sample units in different strata.

• Sampling weights

The standard procedure for the calculation of sampling weights in household-based surveys involves a series of steps: (1) calculation of design weights as the inverse of the probabilities of selection; (2) adjustment for non-response using response homogeneity groups; (3) calibration to independent population projections deemed to be more accurate than the corresponding survey estimates; and (4) trimming of the

resulting weights for extreme weights. In certain procedures, step 4 may not be necessary, or carried out simultaneously with step (3).

Design weights. Because the sample design has been implemented on the basis of a master sample, the calculation of the design weights involves three probabilities, two concerning the first-stage and second-stage of sampling and one concerning the underlying probability of selection of the master sample from the original census frame. Let d_{ijh} denote the design weights of sample household j in sample block i in stratum h. Then,

$$\boldsymbol{d_{ijh} = \frac{1}{\pi_{ih} \times \pi_{ij}}}$$

where π_{ih} is the probability of selection of block i in stratum h, and π_{ij} the probability of selection of household j in block i after fresh listing of the households in the sample block. The first term may be expressed as

$$\boldsymbol{\pi_{ih} = \frac{m_h X_i}{\sum_{i \in h} X_i} \times \frac{m}{m_h}}$$

where m_h is the number of blocks in stratum h of the master sample, m is the fixed number of sample blocks in stratum h selected for the survey (m=38), and $\sum_{i \in h} X_i$ is the total number of households in stratum h in the original census frame. The second term in the expression of the design weight is

$$\boldsymbol{\pi_{ij} = \frac{b}{X_i'}}$$

where b is the fixed number of sample households selected for the survey in each sample block (b=12) from the updated list of households in the sample block i, indicated with the prime sign in the term X_i'.

Given the values of the total number of households in the original census frame were not available, they have been implicitly ascertained using certain assumptions. For the Kurdistan region, they values were calculated as follows:

$$\boldsymbol{KRSO\ file:} \qquad \boldsymbol{\pi_{ih} = \frac{m_h X_i}{\sum_{i \in h} X_i} = \frac{m_h X_i}{2 \sum_{i \in h (master\ sample)} X_i}}$$

The calculation of the sampling weights is implemented in an Excel file stored as:

Sampling ILO-KRSO-16Nov2021_Weights_V4.xlsx (Columns M to R)

Table 1-2 shows the summary statistics of the distribution of the resulting sampling weights in terms of the minimum and maximum weights as well as the median and average weights,

Table 1-2. Summary statistics on the distribution of the design weights, KRI LFS 2021

	KRSO data
Minimum weight	7.3
Median weight	225.8
Mean weight	324.3
Maximum weight	1,422.0

The table shows that on average a sample household represents about 324 households in the Kurdistan Region. The large differences between the minimum and maximum weights reflect the equal allocation procedure adopted in the sample design of the survey.

Adjustment for non-response. The design weights are then adjusted for non-response of eligible sample households by inflating the design weights by the inverse of the response rate:

$$d'_{ijh} = d_{ijh} \times \frac{1}{R_h}$$

where d_{ijh} is the design weight, calculated earlier, for the responding household j in sample block i of stratum h; and R_h is the response rate of eligible households in stratum h in which sample household belongs. Eligible households are sample units living in regular dwellings including those who were temporary absent or refused participation in the survey.

Adjustment for non-response is generally based on response rate of households in the same response homogeneity group (RHG), i.e., households who are considered to have similar propensity to participate in the survey.[36] Households in the same response homogeneity group are assumed to have the same probability. RHGs are generally constructed using paradata obtained during survey operations, for example, data on household size obtained by asking from neighbours the number of household members in a non-responding household. The smaller the size of a household, the lower the probability that an adult is at home during survey visits. In the present context, due to the absence of such data, geographical data, in particular, the strata, were used as response homogeneity groups.

Calibration. The adjusted weights for non-response are in turn further adjusted for consistency with population totals obtained from demographic analyses and

[36] Eurostat, *Survey sampling reference guidelines. Introduction to sample design and estimation techniques, 2008 edition*, European Communities, Luxembourg, 2008, pp. 30-3.

population projections. This process of weight adjustment is called calibration and, in its general form, involves the calculation of the minimum required adjustment factor to be applied to the weights so that the resulting survey estimates agree exactly to the known population aggregates.[37] Thus, the problem may be formulated as follows: derive the calibrated weights w_{ijh} so as to minimize the distance between the initial weights and the calibrated weights measured in terms of,

$$D(w,d) = \sum_{ijh} (w_{ijh} - d'_{ijh})^2$$

where d'_{ijh} is the non-response adjusted weight of sample household j in sample block I of stratum h, subject to the constraints that the calibrated weights produce population estimates consistent to the population projections. It should be mentioned that, in practice, other measures of distance different that the Euclidean measure defined above could be used.

It can be shown that the calibrated weights minimizing D(w,d) subject to the constraints are given by

$$w_{ijh} = d'_{ijh}(1 + x'_{ijh}\,\lambda)$$

where d'_{ijh} is the adjusted weight for non-response, x'_{ijh} is the vector of calibration variables for which the aggregate totals are known, and λ is the adjustment factor given by

$$\lambda = T^{-1} \times (t_x - t_x^d)$$

$$T = \sum_{ijh} d'_{ijh} \times x_{ijh} \times x'_{ijh}$$

where t_x is the vector of known population aggregates and t_x^d the vector of corresponding survey estimates using the adjusted weights obtained from the previous round of the adjustment process.

In the present context, t_x is the vector of the total number of male and female persons by governorate and urban and rural location of the population projections for 2020, available at the time for calibration. The data are shown in Table 1-3. In principle, the population projections refer to the population within the scope of the survey, that is the civilian non-institutional population excluding people living in institutional households such as military barracks, prisons, hospitals, dormitories, and other non-standard living quarters. The KRSO data are calibrated to male and female population totals for Duhok, Erbil and Sulaymaniyah governorates and urban-rural locations within governorates, and Halabja, separately, using KRSO population projections for 2020.

[37] Särndal, Carl-Erik, and Jean-Claude Deville, "Calibration Estimators in Survey Sampling," *Journal of the American Statistical Association*, June 1992, Vol. 87, No. 418, pp. 376-382.

Table 1-3. Population projections of KRI by governorate, urban-rural and sex, 2020

Governorate	Urban		Rural		Total
	Male	Female	Male	Female	
Erbil[1]	946'480	938'314	186'317	183'311	2'254'422
Duhok[1]	609'644	595'099	219'546	224'322	1'648'611
Sulaymaniyah[1]	928'633	931'964	147'152	144'846	2'152'595
Halabja[2]	48'886	49'747	8'354	8'468	115'455
Total[3]	2'533'643	2'515'124	561'369	560'947	6'171'083

Notes: [1] The population projections of Duhok, Erbil and Sulaymaniyah may differ from population projections calculated for these governorates by the Iraq Central Statistical Organization (CSO). [2] Population projections of Halabja district are taken from KRSO. [3] Estimated population of about 5'941'000 persons in 2020 excluding Makhmur district in Erbil.

The last step in the calculation of calibrated weights is trimming. This involves a procedure to ensure that the final calibrated weights remain within certain lower and upper limits in relation to the weights before calibration. As trimming may rescind the consistency achieved by calibration, an efficient approach is to incorporate trimming within the calibration procedure. This has implemented by the R-function "calib" of the contributed package "sampling", with the following syntax,

```
> library(sampling)
> g<-calib(Xs, d, total, method,="truncated", bounds=c(1/3,3))
> w<-g*d
```

where Xs = the rectangular matrix of the sample values x'_{ijh} with as many rows that there are eligible responding sample households and as many columns as there are calibrated variables. Each row thus represents a eligible responding sample household and each column records the number of household members by sex and geographical location of the household (governorate and urban, -rural area);

d' = a vector of the same length as the number of rows of Xs, giving the household weights before calibration (design weights adjusted for non-response);

total = a vector of the same length as the number of columns of Xs specifying the values of population projections corresponding to the calibration variables (sex, governorate, urban- rural location);

method = "truncated" specifying that the calibration should be performed based on the truncated method with bounds;

bounds = c(1/3, 3) specifying that the resulting calibrated weights should be non-negative and no calibrated weight should be less than one-third (lower bound =1/3) and no more than 3 times higher the original uncalibrated d' (upper bound = 3).

The resulting calibrated weights, w=g*d, ensure consistency with the aggregate totals. It also ensures that the calibrated weights are within the specified limits, thus avoiding any back-and-forth trimming. The resulting calibrated weights of the sample households are then attributed to all individual members of the household. These results may be found in Column V of the same Excel files mentioned earlier:

- Sampling ILO_KRSO_16Nov2021_Weights_V4.xlsx (Column V)

The R-codes used for calculation are given in the sheet "R" where the input data and output data are also given.

Table 1-4 shows the summary statistics of the distribution of the ratio of the calibrated weight relative to uncalibrated weight (that is, the vector g), for three methods of calibration. The first method (Linear) is the calibration method described in this section without the trimming procedure. The second method (Raking) calibrates the weights using iterative proportional fitting. The third method (Truncated) is with the trimming procedure. There are no negative weights for any of the three calibration methods. Also, no calibrated weight exceeds twice the corresponding uncalibrated weight.

Table 1-4. Summary statistics of the distribution of the ratio of the calibrated weight to the uncalibrated weight (design weight adjusted for non-response), KRI LFS 2021

Summary Statistics	Method of calibration		
	Linear	Raking	Truncated
Minimum	0.118	0.278	0.333
Median	0.944	0.935	0.944
Mean	0.914	0.909	0.913
Maximum	1.560	1.632	1.560

• Sampling errors

Sampling errors arise due to the fact that the survey does not cover all elements of the population, but only a selected portion. The sampling error of an estimate refers to the difference between the estimate and the value that would have been obtained on the basis of a complete count of the population under otherwise identical conditions. In principle, sampling errors may be decomposed into two components: (i) sampling bias; and (ii) sampling variance. Sampling bias reflects the systematic

error that may occur due to the failures of the sample design, for example, certain elements of the population receiving zero probability of selection. The sampling variance, on the other hand, reflects the uncertainty associated to a sample estimate due to the particular sample used for its calculation, among all possible other samples that could have been selected with the same sampling design.

The calculation of the sampling variance of survey estimates, or its square-root, the standard errors, in complex multi-stage designs is generally based on the principle that the variance contributed by the later stages of sampling is, under broad conditions, reflected in the observed variation among the sample results for first-stage units. Thus, the standard errors of a variety of statistics, such as totals, means, ratios, proportions, and their differences can be obtained on the basis of values calculated for primary sampling units (PSUs).[38] In the present context, the sampling variances were calculated directly using estimates of the joint selection probabilities obtained on the basis of the method of Deville (1993) computed with the 'varest' function of the R-contributing package "sampling". [39] The procedure allows the specification that the estimates were calibrated. The results for the main labour force aggregates by sex are presented in Table 1-5. Thus, the relative standard error of the estimate of total labour force is 1.3 percent, and the confidence interval of the estimate is in the range of 1'667'300 and 1'753'600 at the confidence level of 95 percent. It can be noted that the standard error of the estimate of the working age population (15 years old and above) is zero, which reflects the fact that the estimates were calibrated to the population aggregates.

Table 1-5. Standard errors of estimates of the main Labour force aggregates by sex, KRI LFS 2021

Aggregates	Estimate	Standard error	Standard error (%)	Confidence interval	
				Lower	Upper
Total					
Population 15 years old and above	3,800,817	0	0.0%	3,800,817	3,800,817
Labour force	1,710,451	22,003	1.3%	1,667,325	1,753,577
- Employed	1,427,838	21,257	1.5%	1,386,175	1,469,502
- Unemployed	282,613	14,753	5.2%	253,698	311,528
Outside labour force	2,090,366	22,003	1.1%	2,047,240	2,133,492
Male					
Population 15 years old and above	1,899,824	0	0.0%	1,899,824	1,899,824

[38] Verma, Vijay, *Sampling Methods*, Manual for Statistical Trainers Number 2, Statistical Institute for Asia and the Pacific (SIAP), Tokyo, Revised 2002.
[39] R-contributing package "Sampling": 'varest' Varian estimation using the Deville's method. https://www.rdocumentation.org/packages/sampling/versions/2.9/topics/varest

Labour force	**1,397,104**	**15,815**	**1.1%**	**1,366,107**	**1,428,101**
- Employed	**1,207,149**	**17,225**	**1.4%**	**1,173,388**	**1,240,909**
- Unemployed	**189,955**	**11,295**	**5.9%**	**167,816**	**212,094**
Outside labour force	**502,720**	**15,815**	**3.1%**	**471,723**	**533,717**
Female					
Population 15 years old and above	**1,900,993**	**0**	**0.0%**	**1,900,993**	**1,900,993**
Labour force	**313,347**	**15,274**	**4.9%**	**283,411**	**343,284**
- Employed	**220,690**	**12,754**	**5.8%**	**195,691**	**254,688**
- Unemployed	**92,658**	**8,785**	**9.5%**	**75,439**	**109,877**
Outside labour force	**1,587,646**	**15,274**	**1.0%**	**1,557,709**	**1,617,582**

It can be observed from Table 1-5 that the relative standard errors of the estimates tend to decrease inversely with the size of the estimate. For example, the relative standard error of the estimate of employment (1.5 percent) is lower than the relative standard error of the estimate of unemployment (5.2 percent). This reflects the fact that smaller-size estimates are based on a more reduced number of sample observations, and, therefore, have lower precision and higher standard errors. The relationship between the relative standard error or relative variance of an estimate and its size is expressed by the generalized function,

$$\frac{var(y)}{y^2} = a + \frac{b}{y}$$

where var(y) denotes the variance of the estimate y; and a and b are the parameters of the generalized variance function. The values of a and b, estimated from Table 1-5, are given below for male and female, separately:

	a	b
Total	-0.000305	852.8569
Male	-0.000423	747.8724
Female	-0.000478	873.6625

The generalized variance function may be used to obtain approximate standard errors of any estimate, with the formula; standard error (y) = square-root ($ay^2 + by$). The generalized variance function may also be used to obtain approximate standard errors of rates and proportions,

$$\frac{Var(r)}{r^2} = (\frac{b}{y} - \frac{b}{x})$$

where r = y/x is a rate or proportion with y in the numerator and x is the denominator. This relationship has been used to obtain the approximate standard errors of the main labour force rates by sex shown in Table 1-6. The results show, for example, that the approximate standard error of the estimate of the total unemployment rate is 0.8 percentage points. It is about the same for the male unemployment rate, but much larger for the female rate (2.4 percentage points).

Table 1-6. Standard errors of estimates of the main Labour force rates by sex, KRI LFS 2021

Rates	Estimate (%)	Standard error (Percentage points)	Confidence interval	
			Lower (%)	Upper (%)
Total				
Labour force participation rate	45.0%	0.7%	43.5%	46.5%
Employment-to-population ratio	37.6%	0.7%	36.1%	39.0%
Unemployment rate	16.5%	0.8%	14.9%	18.1%
Male				
Labour force participation rate	73.5%	1.4%	70.9%	76.2%
Employment-to-population ratio	63.5%	1.0%	61.7%	65.4%
Unemployment rate	13.6%	0.8%	12.0%	15.2%
Female				
Labour force participation rate	16.5%	0.8%	14.8%	18.1%
Employment-to-population ratio	11.6%	0.7%	10.3%	13.0%
Unemployment rate	29.6%	2.4%	24.8%	34.3%

The generalized variance function has also been used here to obtain guidelines on data reliability for the dissemination of the survey results. In particular, it is found that aggregate estimates above 120’000 persons have, approximately, relative standard errors (or, equivalently, coefficients of variation, cv) of 20 percent or less. Such estimates are considered, in the present context, to have a sufficient degree of reliability for use. By contrast, estimates below 20’000 persons have, approximately, relative standard errors, or cv, of 50 percent or more. Such estimates are considered, in the present context, to have insufficient reliability for data dissemination. They are marked with the symbol “-“. In-between, estimates more than 20’000 and less than 120’000 persons have approximate standard errors or cv ranging from 50 to 20

percent. It is considered in the present context that such estimates should be used with caution. For clarity, these thresholds are re-expressed in tabular form below: [40]

	Estimate	Relative standard error	Reliability
1.	120'000 or more	20 percent or lower	Sufficient
2.	20'000 – 120'000	20-50 percent	Use with caution
3.	Below 20'000	50 percent or higher	Insufficient

For rates and proportions, the thresholds apply roughly to the estimate of the denominator.

• Non-response, non-coverage and other errors

In addition to sampling errors, survey data are subject to different types of non-sampling errors (coverage errors, non-response errors, response errors, and other errors such as editing, coding and processing errors). In many situations, the non-sampling errors may have considerable impact on the quality of the survey results.[41] Two aspects are briefly reviewed below, namely, non-response and coverage errors.

- **Non-response errors.** In principle, the overall non-response rate should take into account all the different levels of unit non-response (dwellings, households and persons). In practice, unit non-response of dwellings and households are confounded and failure to obtain information on a particular member of an eligible household is extremely rare, particularly, in household-based surveys where proxy response is allowed.
- **Coverage errors.** Coverage errors may occur from the use of imperfect frames such as under-coverage, over-coverage, or duplication of units. It may also occur implicitly due to confusion in boundary of units and in rules of association between units of different types. In multi-stage household surveys, coverage errors may arise at any of the stages of selection of sample units: area units; dwellings or households; and persons.

Table 1-7 shows the total number of sample units by type of response. Temporary absences and refusals are considered as non-response, while the other types of failure of survey interviewing are considered as non-coverage. As expected, the non-response rate in rural areas (3.0 percent) is lower than in urban areas (4.4 percent) where households tend to be more often away from home and less inclined to participate in surveys than rural households. The non-coverage rates (5.5 percent in

[40] For similar calculations with different thresholds, reference is made to Statistics Canada, *Guide to the Labour Force Survey*, Catalogue no. 71-543-G, 2014, p. 31.
[41] European Union, *Task force on the quality of the Labour Force Survey, Final report, 2009 edition*. Eurostat Methodologies and Working Papers, Luxembourg, Publication of the European Union, 2009.

urban areas and 4.0 percent in rural areas) also reflect the expected pattern.

Table 1-7. Type of response of sample households by urban and rural area, KRI LFS 2021

	KRI		
	Total	Urban	Rural
Total	**3,638**	**1,816**	**1,822**
- Response	3,340	1,642	1,698
- Temporary absence	75	32	43
- Refusal	52	43	9
- Address not found	14	13	1
- Dwelling vacant, demolished, transformed, …	133	71	62
- Other	24	15	9
- Null	-	-	-
- Blank	-	-	-
Non-response rate (%)	3.7%	4.4%	3.0%
Non-coverage rate (%)	4.7%	5.5%	4.0%
Unknown (%)	-	-	-

In addition to unit non-response, which was relatively low as shown in Table 1-7, the survey was also subject to item non-response, where information on certain items of the questionnaire were missing. These cases occurred for a number of reasons, such as the respondent did not reply to the question or the information provided was not sufficient for coding the specified response categories of the questionnaire. Finally, as in all surveys, responses obtained from responding units are in some cases inconsistent. An example is the situation where the relationship to head of household is specified as “spouse”, but the marital status of the head of household is coded as “widowed” or “separated”. Another example is the situation where the reason from absence from work is coded as “educational leave or training”, but the questions on current school attendance and participation in training programme are both coded as “no”.

Annex 2: Questionnaire Design

Module 1: Household Characteristics

Question Number		
1.1		
	List the usual Household members starting with Household head.	
	List additional Households members starting by spouse of head of household and children from the eldest to the youngest.	
	Additional persons living in this household. Include other relatives and domestic servants if they are considered as household members. Do not forget babies.	
1.2	Sex	
	1. Male	2. Female
1.3	What is the relationship of (NAME) to head of household?	
	01. Head	06. Brother or Sister
	02. Spouse (Wife/Husband)	07. Son or Daughter in law
	03. Child (Son/daughter)	08. Other relative
	04. Grandchild	09. Non-relative
	05. Parent	10. Domestic worker /Maid/Servant (Live-in)
1.4	What is (NAME)'s date of birth?	
1.5	What was (NAME)'s age at last birthday?	
1.6	What is (NAME)'s marital status?	
	01. Single / Never married	04. Divorced
	02. Married	05. Widowed
	03. Separated	

Module 2: Education

Question Number		
2.1	What is the highest level of education that (NAME) has completed	
	01.No degree, illiterate	
	02. No degree, can read	09. Vocational High School
	03.No degree, can read and write	10. Diploma
	04. Elementary	11. Bachelor degree (BSC)
	05. Basic	12. Higher diploma
	06. Intermediate	13. Master (MSc)
	07. Religious High School	14. Doctorate (PhD)
	08. Academic High School	15. Other
2.2	In which field of study is (NAME)'s highest education qualification?	
2.3	In which year did (NAME) complete the highest level of education?	
2.4	Is (NAME) attending school in the current school cycle? If yes, specify level of education and grade.	
	01. Yes	02. No
2.4.1	What the current level of education that (NAME) is attending?	
	01. Elementary	07. Inistitute (5 Years)
	02. Intermediate	08. Inistitute (2 Years)
	03. Basic	09. Under graduate (University)
	04. Academic High School	10. Higher diploma
	05. Vocational High School	11. Master (MSc)
	06. Religious High School	12. Doctorate (PhD)
		13. Other
2.5	What is the affiliating entity of the educational institution?	
	01. Public	03. Public Private Partnership (PPP)
	02. Private	04. Other
2.6	In the last 4 weeks, did (NAME) participate in any unpaid apprenticeship, internship or work-place training?	
	01. Yes	02. No

2.7	Or, in the last 4 weeks, did (NAME) attend any courses, seminars or other training to develop specific skills, for example languages, computer skills etc?	
	01. Yes	02. No

Module 3: International Migration Status

Question Number		
3.1	Was (NAME) born in Iraq?	
	01. Yes	02. No
3.2	In which country was (NAME) born?	
3.3	In which month and year did (NAME) most recently arrive to live in Iraq?	
3.4	How long have (NAME) been living in Iraq?	
	01. Less than 6 months	04. Five years to less than 10 years
	02. 6 months to one year	05. Ten years or more
	03. One year to less than 5 years	
3.5	What is (NAME)'s main reason for moving to Iraq?	
	01. To take up a job	07. Family moved/Joining family
	02. Job transfer	08. Health
	03. To look for work, clients	09. Refugee
	04. To start a business	10. Other (specify)
	05. To study	
	06. Marriage	
3.5.1	Insert other reason	
3.6	Is (NAME) a citizen of...?	
	a. Iraq	c. No citizenship (stateless)
	b. Another country (specify)	
3.7	What other country is (NAME) a citizen of?	
3.8	In what country did (NAME) last live?	
	01. Name of country	97. Don't know
	02. Refuse to answer	

Module 4: Disability Status

Question Number		
4.1	Does (NAME) have difficulty seeing, even if wearing glasses?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.1.1	What was (NAME)'s age when the difficulty was discovered?	
4.1.2	What is the main reason of difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.2	Does (NAME) have difficulty hearing, even if using a hearing aid?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.2.1	What was (NAME)'s age when the difficulty was discovered?	
4.2.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.3	Does (NAME) have difficulty walking or climbing steps?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.3.1	What was (NAME)'s age when the difficulty was discovered?	
4.3.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	

4.4	Does (NAME) have difficulty remembering or concentrating?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.4.1	What was (NAME)›s age when the difficulty was discovered?	
4.4.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.5	Does (NAME) have difficulty with self-care such as showering or getting dressed?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.5.1	What was (NAME)'s age when the difficulty was discovered?	
4.5.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.6	Using his/her usual/customary language, does (NAME) have difficulty communicating for example understanding or being understood by others?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all
4.6.1	What was (NAME)'s age when the difficulty was discovered?	
4.6.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.7	Does (NAME) have difficulty with his/her upper body?	
	01.No, no difficulty	03. Yes, a lot of difficulty
	02. Yes, some difficulty	04. Cannot do it at all

4.7.1	What was (NAME)'s age when the difficulty was discovered?	
4.7.2	What is the main reason of the difficulty?	
	01. At birth	05. Terrorism
	02. Accident	06. Disputes
	03. Work related accident	07. Physical, psychological or sexual violence
	04. War	
4.8	Have (NAME)'s difficulty/ difficulties been officially recognized (certified)?	
	01. Yes	03. Refused
	02. No	04. Don't know

Module 5: Respondent Status

Question Number		
5.1	Is (NAME) available?	
	01.Yes	02. No
5.2	Is (NAME) him/herself responding to the questions?	
5.3	Select the PPNO of the person responding to the questions	
5.4	What is your relationship to (NAME)?	
	01. Spouse or partner	05. Brother or Sister
	02. Son or daughter	06. Son or Daughter in law
	03. Grandchild	07. Unrelated
	04. Mother or father	08. Other relative

Module 6: Employed at work

Question Number		
6.1	During the last 7 days, did (NAME) work for someone else for pay at least for one hour?	
	01.Yes	02. No
6.2	During the last 7 days, did (NAME) run or do any kind of business, farming or other activity to generate income, even if only for one hour?	
	01.Yes	02. No
6.3	During the last 7 days, did (NAME) provide unpaid help in a business owned by a household or family member, or help a member of household or family in his/her paid job, even if only for one hour?	
	01.Yes	02. No

Module 7: Temporary Absence

Question Number		
7.1	Even though (NAME) did not work last week, did (NAME) have a paid job or a business?	
	01.Yes	02. No
7.2	What is the main reason (NAME) was absent from work temporarily?	
	01. Waiting to start new job or business	08. Other personal leave (Care for family, civic duties,…)
	02. Low or off-season	09. Bad weather, natural disaster
	03. Shift work, flexi time, nature of work	10. Temporary layoff, no clients, work break
	04. Holidays, vacation	11. Strike or lockouts or labour dispute
	05. Sickness, illness, accident	12. Long-term disability
	06. Maternity, paternity leave	13. Other (specify)
	07. Education leave or training	
7.2.1	Insert other reason	
7.2.2	During the low/off season , does (NAME) continue to do some work for that job/business?	
	01.Yes	02. No
7.3	Including the time that (NAME) has been absent, will (NAME) return to that same job or business in 3 months or less?	
	01.Yes	97. Don't know
	02. No	
7.4	Does (NAME) continue to receive an income (whether partial or full) from (his/her) job or business during this absence?	
	01.Yes	97. Don't know
	02. No	

Module 8: Main Job Characteristics

Question Number		
8.1	Last week, did (NAME) have more than one job or income-generating activity?	
	01.No, only one job/business	02. Yes, more than one job/business
8.2	What is (NAME)'s occupational position?	
8.3	What are (NAME)'s main tasks and duties?	
8.4	In (NAME)'s job, does (NAME) work…?	
	01. As an employee for someone else	04. As an apprentice, intern
	02. In (NAME)'s own business activity	05. Helping a family member who works for someone else
	03. Without pay in a household or family business	
8.5	Who usually makes the decisions about the running of the business?	
	01. (NAME)	03. Other family member(s) only
	02. (NAME) together with others	04. Other (non-related) person(s) only
8.6	Did (NAME) have any paid employees last week?	
	01.Yes	02. No
8.7	Which of the following types of pay does (NAME) receive for his/her work?	
	a. A wage or salary	f. Payment with meals and/or accommodation
	b. Payment by piece of work completed	g. Payment in products
	c. Commissions	h. Other cash payment (specify)
	d. Tips	i. NOT PAID
	e. Fees for services provided	
8.7.1	Insert other cash payment	
8.8	How much was the value of (NAME)'s income or net profit from his/her job during the last month whether the value was cash or in kind?	
	01. Less than 250,000 IQD	06. 1,500,000 - 1,999,999 IQD
	02. 250,000 - 499,999 IQD	07. 2,000,000 - 2,999,999 IQD
	03. 500,000 - 749,999 IQD	08. 3,000,000 - 4,999,999 IQD
	04. 750,000 - 999,999 IQD	09. 5,000,000 IQD and above
	05. 1,000,000 - 1,499,999 IQD	

Characteristics of the economic unit		
8.9	In the main job, is (NAME) employed by…?	
	01. The government or a state owned entreprise	05. An NGO, non-profit institution, religious institutions
	02. A farm	06. An international organization or a foreign embassy
	03. A private business (non-farm)	07. Public institutions
	04. A household(s) as a domestic worker	08. Mixed sector
8.10	Does the business or place where (NAME) work have a name?	
	01. Yes	97. Don't know
	02. No	
8.10	Does (NAME)'s business have a name?	
	01. Yes	97. Don't know
	02. No	
8.11	What is the name of the business or place where (NAME) work?	
A		
8.11	What is the name of (NAME)›s business?	
B		
8.12	What is the main activity of the business or place where (NAME) works?	
A		
8.12	What is the main activity of (NAME)›s business?	
B		
8.13	How many persons including (NAME) work at (NAME)›s place of work?	
A/B/C		
8.13	How many persons including (NAME) work at (NAME)'s place of work?	
	01. From 1 to 5	04.30+
	02. From 6 to 9	
	03. From 10 to 29	
8.14	In what kind of place does (NAME) typically work?	
	01. At (NAME)'s own home	06. On a vehicle (without daily base)
	02. At the client's or employer's home	07. Door-to-door
	03. At a farm, agricultural land or fishing site	08. Other (specify)
	04. At a fixed premise (business, office, factory, site)	09. Cannot say
	05. On the street or another public space	
8.14.1	Insert other place	

Legal Organization of Economic Unit		
8.15	Is (NAME)'s business a [Limited Company, Trading Partnership, Limited Partnership]?	
	01. Yes	97. Don't know
	02. No	
8.15	Is the business/farm (NAME) works for a [Limited Company, Trading Partnership, Limited Partnership]?	
	01. Yes	97. Don't know
	02. No	
8.15	Is the family business/farm (NAME) works for a [Limited Company, Trading Partnership, Limited Partnership]?	
	01. Yes	97. Don't know
	02. No	
Informal Sector Employment		
8.16	Is (NAME)'s business registered with the Iraqi Revenue Authority or pay PAYE/TPR?	
	01. Yes	97. Don't know
	02. No	
8.16	Is the business/farm where (NAME) works for registered with the Iraqi Revenue Authority or pay PAYE/TPR?	
	01. Yes	97. Don't know
	02. No	
8.16	Is the family business/farm registered with the Iraqi Revenue Authority or pay PAYE/TPR?	
	01. Yes	97. Don't know
	02. No	
8.17	What kind of accounts or records does the business/farm keep? Are they…	
	01.A complete set of written accounts for tax purposes	04. No records are kept
	02. Simplified written accounts not for tax purposes	97. Don't know
	03. Informal records of orders, sales, purchases	
Contract Characteristics		
8.18	Does (NAME) have a written contract or oral agreement for the work he/she does?	
	01. Yes, written contract	97. Don't know
	02. Yes oral agreement	
8.19	Is (NAME)'s contract or agreement…?	
	01. For a specified period of time	02. For the completion of tasks
	03. Permanent or until retirement	04. Not permanent but without a specified end date
8.20	How long in total is (NAME)'s current agreement?	
	01. Daily contract/agreement	05. 6 to less than 12 months
	02. Less than 1 month	06. 12 to less than 24 months

	03. 1 to less than 3 months	07. 2 years or more
	04. 3 to less than 6 months	08. No specified duration
Informal Employment of Employees		
8.21	Does (NAME)'s employer pay contributions to a [Pension/Fund/Health/Unemployment Insurance] for (NAME)?	
	01. Yes	97. Don't know
	02. No	
8.21	Are contributions paid to a [Pension/Fund/Health/Unemployment Insurance] for (NAME) for doing this work?	
	01. Yes	97. Don't know
	02. No	
8.22	Does (NAME)'s employer pay contributions to a Health Insurance Scheme for (NAME)?	
	01. Yes	97. Don't know
	02. No	
8.22	Are contributions paid to a Health Insurance Scheme for (NAME) for doing this work?	
	01. Yes	97. Don't know
	02. No	
8.23	Does (NAME) get paid annual leave?	
	01. Yes	97. Don't know
	02. No	
8.24	Does (NAME) get paid sick leave in case of illness or injury?	
	01. Yes	97. Don't know
	02. No	

Module 9: Second Job Characteristics

Question Number		
9.1	What is (NAME)'s occupational position in this second job?	
9.2	What is (NAME)'s main tasks and duties?	
9.3	What is the main activity of the business or place where (NAME) works?	
9.4	In (NAME)'s second job, does (NAME) work…?	
	01. As an employee for someone else	04. As an apprentice, intern
	02. In (NAME)'s own business activity	05. Helping a family member who works for someone else
	03. Without pay in a household or family business	

9.5	Did (NAME) have any paid employees on a regular basis?	
	01.Yes	02. No
Dependent Contractors		
9.6	Which of the following types of pay does (NAME) receive for his/her work?	
	a. A wage or salary	f. Payment with meals and/or accommodation
	b. Payment by piece of work completed	g. Payment in products
	c. Commissions	h. Other cash payment (specify)
	d. Tips	i. I am not paid
	e. Fees for services provided	
9.6.1	Specify other cash payment	
9.7	How much was the value of (NAME)'s income or net profit from his/her job during the last month whether the value was cash or in kind?	
	01. Less than 250,000 IQD	06. 1,500,000 - 1,999,999 IQD
	02. 250,000 - 499,999 IQD	07. 2,000,000 - 2,999,999 IQD
	03. 500,000 - 749,999 IQD	08. 3,000,000 - 4,999,999 IQD
	04. 750,000 - 999,999 IQD	09. 5,000,000 IQD and above
	05. 1,000,000 - 1,499,999 IQD	

Module 10: Working Time

Question Number		
10.1	How many hours per week does (NAME) usually work in the main job?	
10.2	How many days per week does (NAME) usually work in the main job?	
10.3	How many hours per day does (NAME) usually work in the main job?	
10.4	During the last 7 days, did (NAME) have any absences or take time off for any reason, for example, holiday, illness, family reasons?	
	01.Yes	02. No
10.5	During the last 7 days, were there any days when (NAME) worked more than usual extra hours in his/her main job, paid or unpaid?	
	01.Yes	02. No
10.6	For the entire week, how many extra hours was this?	

10.7	In total, last week did (NAME) work the same hours as usual in the main job?	
	01.Yes	02. No
10.8	Earlier (NAME) said that he/she was absent from the job, just to confirm, last week did (NAME) work any hours at all in the main job?	
	01.Yes worked	02. No, did not work at all
10.9	How many hours did (NAME) actually work in total in the main job last week?	
A		
10.9	How many hours did (NAME) actually work in total in the main job last week? Please consider the extra hours or absences already mentioned.	
B		
10.10	How many jobs did (NAME) have in total, even if he/she was absent?	
	01. One job	03. More than two jobs
	02. Two jobs	
10.11	How many hours does (NAME) usually work per week in the second job?	
10.12	Last week, is that the number of hours (NAME) actually worked in the second job?	
	01.Yes	02. No
10.13	How many hours did (NAME) actually work last week in the second job?	
10.14	How many hours does (NAME) usually work per week in other job(s)?	
10.15	Last week, is that the number of hours (NAME) actually worked in the other job(s)?	
	01.Yes	02. No
10.16	How many hours did (NAME) actually work last week in other jobs?	
10.17	This means that (NAME) usually works [WKT_USHRSTOT] hours in his/her jobs per week, is that correct?	
	01.Yes	02. No
10.18	How many hours does (NAME) usually work in total per week?	
10.19	Is it correct that (NAME) actually worked [WK_ACHRSTOT] hours in his/her jobs in total last week?	
	01.Yes	02. No
10.20		
10.21	During the last 4 weeks, did (NAME) look for additional or other paid work?	
	01. Yes	02. No

10.22	Would (NAME) want to work more hours per week than he/she usually works provided the extra hours are paid or profitable?	
	01.Yes	02. No
10.23	If an opportunity for additional work became available, could (NAME) start working more hours within the next two weeks?	
	01.Yes	02. No
10.24	How many additional hours per week could (NAME) work?	
Inadequate Employment Situations		
10.25	Does (NAME) want to change his/her current employment situation?	
	01.Yes	02. No
10.26	What is the main reason that (NAME) wants to change his/her employment situation?	
	01. Present job(s) is/are temporary	06. To match better with skills
	02. To have a better paid job	07. To work closer to home
	03. To have more clients/business	08. To improve other working conditions
	04. To work more hours	09. Other (specify)
	05. To work fewer hours	
10.26.1	Insert other reason	

Module 11: Job search and availability

Question Number		
11.1	During the last 4 weeks, did (NAME) do anything to find a paid job?	
A	01. Yes	02. No
11.1	During the last 4 weeks, did (NAME) look for additional or other paid work?	
B	01. Yes	02. No
11.2	During the last 4 weeks, did (NAME) try to start a business?	
A	01.Yes	02. No
11.2	During the last 4 weeks, did (NAME) try to start another activity to generate income, a business for example?	
B	01.Yes	02. No
11.3	What did (NAME) do in the last 4 weeks to find a paid job or start a business?	
	01. Apply to prospective employers	08. Seek help from relatives, friends, others
	02. Place or answer job advertisements	09. Check at factories, work sites
	03. Study or read job advertisements	10. Wait on the street to be recruited
	04. Post/update resume on professional/ social networking sites online	11. Seek financial help to start a business
	05. Register with public employment center	12. Look for land, building, equipment, materials to start a business
	06. Register with private employment center	13. Apply for permit or license to start a business
	07. Take a test or interview	14. Other (specify)
11.3.1	Insert other	
11.4	In addition to reading job advertisements, did (NAME) do anything else in the last 4 weeks to find a paid job or start a business?	
	01.Yes	02. No
11.5	What else did (NAME) do?	
	01. Apply to prospective employers	08. Check at factories, work sites
	02. Place or answer job advertisements	09. Wait on the street to be recruited
	03. Post/update resume on professional/ social networking sites online	10. Seek financial help to start a business
	04. Register with public employment center	11. Look for land, building, equipment, materials to start a business
	05 Register with private employment center	12. Apply for permit or license to start a business
	06. Take a test or interview	13 Other (specify)
	07. Seek help from relatives, friends, others	

11.5.1	Insert other	
11.6	For how long has (NAME) been without work and trying to find a paid job or start a business?	
	01. Less than 1 month	04. 6 to less than 12 months
	02. 1 to less than 3 months	05. 1 to less than 2 years
	03. 3 to less than 6 months	06. 2 years or more
11.7	At any ime in the last 12 months, did (NAME) look for a paid job or try to start a business?	
	01.Yes	02. No
11.8	At present, does (NAME) want to work?	
	01.Yes	02. No
11.9	What is the main reason (NAME) did not try to find a paid job or start a business in the last 4 weeks?	
	01. Waiting for results of a previous search	08. In studies, training
	02. Awaiting recall from a previous job	09. Family/household responsibilities
	03. Waiting for the season to start	10. In agriculture/fishing for family use
	04. Waiting to start a new job or business	11. Own disability, injury, illness
	05. Tired of looking for job, no jobs in area	12. Retired, pensioner, other sources of income
	06. No jobs matching skills, lacks experience	13. Cultural / social reasons
	07. Considered too young/old by employers	14. Other (specify)
11.9.1	Insert other reason	
11.10	How soon does (NAME) expect to start working in this new job or business?	
	01. One month or less	03. More than three months
	02. More than one month and up to three months	
11.11	If it depended on (NAME), could (NAME) have started working last week?	
	01.Yes	02. No
11.12	If a job or business opportunity had been available, could (NAME) have started working last week?	
	01.Yes	02. No
11.13	Or could (NAME) start working within the next two weeks?	
	01.Yes	02. No
11.14	What is the main reason why (NAME) could not start working in the past week or within the next two weeks?	
	01. Awaiting recall from a previous job	05. In agriculture/fishing for family use
	02. Waiting for the season to start	06. Retired, pensioner

	03. In study, training	07. Own disability, injury, illness
	04. Maternity/paternity leave, child care	08. Family member(s) consider that (NAME) should stay home
11.15	Which of the following best describes what (NAME) is mainly doing at present?	
	01. Studying or training	05. With a long term illness, injury or disability
	02. Engaged in household or family responsibilities	06. Doing volunteering, community or charity work
	03. Farming or fishing to produce food for the family	07. Engaged in cultural or leisure activities
	04. Retired or pensioner	08. Other (specify)
11.15.1	Insert other	

Module 12: Time use and own use production of foodstuff among employed persons

Question Number		
12.1	During the last 7 days, did (NAME) plant, maintain or harvest any crops, vegetables or fruits to produce food mainly for consumption by himself/herself or the family?	
12.2	During the last 7 days, did (NAME) raise or tend farm animals such as sheep, goat, chicken, etc to produce food mainly for consumption by himself/herself or the family?	
12.3	During the last 7 days, did (NAME) go fishing or collecting shellfish to produce food mainly for consumption by himself/herself or the family?	
	01.Yes	02. No
12.4	During the last 7 days, how many hours per day did (NAME) spend doing this activity/ these activities?	
12.5	During the last 7 days, how many hours did (NAME) spend manufacturing household goods for own or family use (such as furniture, textiles, clothing, footwear, pottery, crafts or other durables, excluding foodstuff)?	
12.6	During the last 7 days, how many hours per day did (NAME) actively spend doing household chores including shopping, preparing meals?	
12.7	During the last 7 days, how many hours per day did (NAME) actively spend looking after children ?	
12.8	During the last 7 days, how many hours per day did (NAME) actively spend looking after elderly?	

12.9	During the last 7 days, how many hours per day did (NAME) actively spend looking after Sick person?
12.10	During the last 7 days, how many hours per day did (NAME) actively spend looking after person with difficulty?

Module 13: Disability attitudes and Social Protection

Question Number	
Transfers	
13.1	During the past 12 months did any household member receive….?
13.1.1	Transfers for retirement pensions
13.1.2	Transfers for invalidity/disability pensions
13.1.3	Transfers for health insurance
13.1.4	Cash assistance from the Social Protection Network programe (SSN programme)
13.1.5	Other cash assistance from the government
13.1.6	Cash assistance from international organizations (e.g. UN)
13.1.7	Cash assistance from NGOs/charitable organizations
13.1.8	Cash assistance and transfers from other sources
13.1.9	In kind aid from PDS (rations)
13.1.10	Other in kind aid from the government, excluding PDS
13.1.11	In kind aid from internatonal organizations (e.g. UN)

13.1.12	In kind aid from from NGOs/charitable organizations	
13.1.13	In kind aid from other sources	
13.2	During the past 12 months what is the total amount per month in cash assistance and transfers that your household received ….?	
Barriers to enter the labour market		
13.3	Which of the following would make it more likely for (NAME) to seek and/or find a job?	
	01. Getting higher qualifications/ training/skills	06. A work place/ a work schedule that is more accomodative
	02. Availability of suitable transportation to and from workplace	07. Other (specify)
	03. Help in locating appropriate jobs	08. Refused
	04. More positive attitudes towards persons with disabilities	9. Don't know
	05. Availability of assistive devices, such as a wheel chair, or special technology to help with the disa0bility	

Accommodations in case the person has a disability		
13.4	Is (NAME)'s work schedule arranged to account for difficulties he/she has in doing certain activities?	
	01. Yes, fully	04. Do not have difficulties that require accomodation
	02. Yes, partially	05. Refuse
	03. Not at all	06. Don't know
13.5	Has (NAME)'s workplace been set up in a way to account for difficulties (NAME) has in doing certain activities?	
	01. Yes, fully	04. Do not have difficulties that require accomodation
	02. Yes, partially	05. Refuse
	03. Not at all	06. Don't know

Module 14: Unions

Question Number		
14.1	Are you a member of a trade union or other workers' organization?	
	01. Yes	02. No
14.2	What is the type of the union?	
	01. Enterprise union	04. Workers' Committee
	02. Sectoral union	05. Other
	03. Workers' association	
14.3	Why did you become a member of that union?	
	01. The union defended the rights of workers	03. Because I thought it was mandatory
	02. Because of the services provided by the union	04. Other reasons (specify)
14.3.1	Specify other reasons	
14.4	Did you use the services provided by that union?	
	01.Yes	02. No
14.5	Which services?	
	01. Legal assistance	05. Insurance services (primary or supplimentary)
	02. Medical or dental agreement/services	06. Education and Training
	03. Agreement with an educational institution/childcare	07. Mutuality or solidarity fund/ cooperative
	04. Agreement with a commercial or service establishment	08. Other (specify)

14.6	Did you participate in any activities supported by that union?	
	01. Yes	02. No
14.7	Did you hold any workers' representation role in that Union (steward, secretary, treasurer, etc…)?	
	01. Yes	02. No
14.8	Did that union participate in collective bargaining/collective dispute?	
	01. Yes	02. No
14.9	Which matters were handled in that collective bargaining/collective dispute?	
	01. Monetary income (wages, remunerations, bonuses, etc…)	05. Vocational training or skills development
	02. Benefits (card or meal voucher, transportation or food, child-care assistance, health assistance, etc)	06. Equal opportunities and treatment
	03. Working time (working hours, leave days, overtime, etc)	07. Other matters (specify)
	04. Safety and health conditions at work	
14.10	Although you were not a union member, did you participate in union activities linked to some job previously held?	
	01. Yes	02. No
14.11	Why were you not affiliated to a union?	
	01. Out of work or stopped working	05. Did not know how to become a member of a union
	02. The union did not provide interesting services	06. Afraid of company reprisal
	03. Did not know a union that represented my profession	07. The union fee was expensive
	04. The union did not represent my interests/ Did not trust the union	08. Other reasons (specify)
14.12	Have you ever been a union member in the past?	
	01. Yes	02. No
14.13	What is the number of persons benefitting from collective bargaining agreements at (Name)'s place of work?	
14.14	Who determines your annual salary increase?	
	01. Negotiation between myself and employer	05. No regular annual salary increase
	02. Negotiation between union and employer	06. Government after consulting with workers and employers organizations
	03.National sectoral bargaining council	07. No annual salary increase
	04. Employer only	08. Other

Kurdistan Region Statistics Office