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Labour Market Assessment Libya

Macro economic analysis and migrant workers skill gap assessment - Final Report

Prepared by Key Aid Consulting for the International Organization for Migration

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KEY AID CONSULTING

Acknowledgments

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Executive Summary

Introduction

Libya has traditionally had a non-diversified economy with a labour market dominated by the public sector. The 2011 revolution brought political, security and economic unrest that continues to have an adverse impact on state institutions and the economy and reduces incentives to invest and create jobs. Businesses have also been affected by reduced revenues, higher input costs, supply disruptions, and lost days of production/operation.[1] In 2021, GDP per capita was still 40% below its pre-crisis level. The COVID-19 pandemic has further aggravated the job crisis by reducing oil revenues and aggregate demand, and by disrupting international trade and increasing production costs.[2]

The economic downturn, accompanied by scepticism about the banking system and a scarcity of foreign currency, has further led to a liquidity crisis. Therefore, Libya is experiencing rising inflation and a shortage of imported goods.

The decade old crisis has had a disproportionate effect on migrant workers, that represents about a third of the work force in Libya.[3] The recent cash shortages have increased their security risks[4] and the COVID induced restrictions on movement have had negative impact on their livelihoods. In Libya, migrant workers are overwhelmingly young males. The distribution of sectors shows that 37% of migrant workers are employed in construction, 7% in agriculture, 5% in the care economy and only 2% in food processing.

Objectives and Methodology

This labour market analysis commissioned by the International Organisation for Migration (IOM) focuses on migrant workers. It aims to a) identify the sectors with the highest potential to create decent and productive employment and b) assess the skill gaps of the migrant labour force in these promising sectors.

To do so, the report presents first a macroeconomic analysis for the whole of Libya. It then presents a skill gap assessment of the migrant labour forces in the construction, agriculture, food processing and care sectors in six economic centres.[5] The macroeconomic analysis served to inform the sectors' selection for the skill gap assessment and to outline a plausible strategy to create better jobs for locals and migrants, that could be implemented in parallel

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[1] 'Libya Economic Monitor'.

[2] COVID-19 deepened the reduction in oil revenue that was already resulting from the ongoing conflict and the interruption in oil production (2019-2020).

[3] Labour Force Survey data

[4] "COVID-19 Mobility Tracking #2: Impact on Vulnerable Populations on the Move in Libya," June 25, 2020, https://displacement.iom.int/system/tdf/reports/DTM_COVID-19_Impact_Assessment_2_20200625_0.pdf?file=1&type=node&id=9039.

[5] Misrata, Zliten, Sebha, Benghazi, Tripoli, Ejdabia

to more structural reforms.[6] The skill gap assessment served to outline interventions targeting migrant workers.

This report can be read in conjunction with the UNDP Labour Market Assessment that focuses on the Libyan labour force.

The macro economic analysis, conducted between June and September 2020, relied on an input/output model of the Libyan economy as well as on the country's existing product space.[7] The subsequent skills gap assessment was conducted between October and 2020 and February 2021. The skill gap assessment utilised a combination of primary statistics and labour market information, both qualitative and quantitative.

Macro-economic analysis for the whole of Libya

Jobs, Labour Productivity and Growth

The Libyan labour market has adjusted to persistent economic crisis by severe reductions in labour productivity and earnings and not by major changes in employment levels. This implies that the quality of jobs and related earnings have both declined. These types of adjustments take place when households cannot afford unemployment. Instead, they move to subsistence and/or low productivity informal activities in an attempt to maintain a certain level of income.

Labour market adjustments through labour productivity have had profound effects on standards of living because, historically in Libya, labour productivity has been the main driver of GDP per capita grow. Since average labour productivity has been falling or stagnant and jobs reallocations seem to have been limited, productivity within sectors is likely to have fallen.

In the coming years, the demand in terms of job creation will be affected by ongoing demographic changes, including the aging of the population that will eventually reduce the size of the working age population. Depending on what happens with participation rates, Libya would need to create between 510,000 and 1.4 million jobs in the next 30 years to keep employment rates constant. However, if participation rates for both women and men increase approaching OECD averages by years 2040 and 2050, the pressure on the labour market could be more significant. From the total number of new jobs that the economy needs to create, between 13% and 18% would be jobs for migrants.

To keep employment rates constant and recover pre-revolution levels of labour productivity in the next decade, the economy would need to grow at a rate of over 7% per year.[8] Achieving pre-revolution levels of labour productivity within the next five years would

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6 Better jobs are defined as jobs that generate higher earnings, respect core labour standards and provide access to social insurance programmes.

[7] The Product Space is a network representation of the relatedness or proximity between products traded in the global market

[8] In 2019 the GDP growth was of 2,56%. Source: data.worldbank.org/indicator.

require growth rates above 12% per year, which in the current circumstances does not seem feasible.

Workers and Labour Market Outcomes

Libya has today an estimated labour force of around 2.5 million workers, mostly concentrated in five urban centres and with a level of education above that of other countries in the region. Five districts – Tripoli, Benghazi, Jabal al gharbi, Misrata, and Murqub – capture 62% of this labour force. Although women represent half of the working age population, they account for only 40% of the labour force given lower participation rates. The share of skilled workers in the labour force is higher than that observed in the other countries in the region.

Unemployment and, more recently, growing informality are two of the main challenges the country is facing. An estimated 20% of the labour force is unemployed. There are important variations in unemployment rates by district, age, gender and education. Informality is also likely to have increased from 10% in 2013 to a conservative estimate of 20% today. This is a direct consequence of the 2011 crisis who has had crippling effects on the private sector, particularly medium and small firms, and has reduced dramatically incentives to invest and create jobs. Informal wage employment is mainly explained by geographic factors[9] and the level of education.

It is estimated that the share of public employment declined from 85% prior to the 2011 crisis to 70% in the last six years.[10] If the share of employment in the other sectors is adjusted pro-rata, the two second largest employers are the manufacturing and wholesaling/retailing sectors. The agricultural sector continues to be an abnormally low contributor to jobs.

The main factors influencing participation in the labour market are education, geography, age and to some extent gender. Workers with some level of education are more likely to participate in the labour market than workers without education. Participation rates also increase with age. Women are 40% less likely to participate in the labour market than men. Regardless of individual characteristics, participation rates are higher in Ghart, Murzuq, and Wadi al Hayaa districts.

The level of education and, to a certain extent, gender are the main correlates of earnings. Education increases hourly earnings, but rates of return seem to be low: there seems to be little monetary payoff to invest in higher education. This again suggests the existence of skills mismatches: an overqualified population *vis à vis* the opportunities available. Women earn, on average, 10% less than men.

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[9] In regions like Benghazi, for example, the probability of entering informal wage employment relative to formal wage employment is lower regardless of individual characteristics.

[10] The growth rates in the share of public employment is given by: $s_p(2020) = s_p(2013) * \left(1 - \frac{\dot{e}}{1+\dot{e}}\right)^7$ where $\dot{e}$ is the average annual growth rate of employment in the period.

Opportunities for Job Creation and Diversification

Libya's economy is poorly diversified, and its economic complexity is among the lowest in the world (ranking 128th out of 130th in 2018 as per the Economic Complexity Index[11]). Close to 95% of Libya exports are petroleum oils and crude, petroleum gases, and petroleum oils refined. Although the country has added a few, low complexity, products to its product space, it has also lost market shares. The current product space for the country shows very few opportunities for economic diversification and therefore for economic growth and employment creation.

Over the last two decades there have not been structural transformations in the economy; the distribution of value added across sectors has remained, to a large extent, unchanged. The main economic engine continues to be the mining and the oil sector, capturing 63% of total value added. The other productive sectors play a minor role in the economy, particularly the agricultural sector which generates less than 1% of total value added. The manufacturing, transport, and communications sectors are small for Libya's level of development producing only 3,5% and 4,6% of value added respectively. At the other end, other services, which include mainly those provided by the public administration, are supposed to generate 23% of total value added.

From the demand side there has been more variation in terms of the sources of growth with oil exports and government expenditures taking the lead. Current growth patterns imply that jobs will remain concentrated in the public sector and in low productivity activities.

Today, close to 70% of jobs are in the public administration where labour productivity is lower than in any other sector other than construction. Given that economic growth is being driven by oil exports and the resources demanded by the public administration (mainly human resources), there are limited opportunities for economic diversification and faster employment growth.

The lack of structural transformations also reduces the number of jobs that can be created relative to scenarios where some economic sectors expand faster than others. But, if investment and output grow faster in certain economic sectors, the economy could more than double the number of jobs. Simulations suggest that the sectors with the highest potential to create jobs, direct and indirect, are construction, followed by agriculture and manufacturing.[12] The potential for job creation in social services can also be quite large. These sectors have therefore been chosen for the skill gap assessment.

However, achieving the maximum potential in terms of job creation also implies accepting lower labour productivity growth.

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[11] Harvard Atlas of Economic Complexity : https://atlas.cid.harvard.edu/rankings

[12] For instance, expanding output in the construction sector by the equivalent of 1% of GDP, around 330 million Libyan Dinars (LD), could create 70,000 new jobs. Of these, 55,000 would be created in the construction sector and 15,000 in other sectors.

Skill gap assessment – migrant labour force

Demand in skills

In 2020, businesses were confident they would be in a position to grow; the larger the businesses, the more positive the outlook for growth. Businesses in Tripoli and Sebha are the most optimistic about growth. The key constraints they faced while doing so included liquidity issues, political climate[13], and insecurity, in addition to electricity cuts. The ongoing COVID-19 pandemic is currently aggravating these key challenges.

The large majority (78%) of businesses surveyed hire migrant workers where migrants make up 48% of the total workforce. There are disparities in between sectors[14] and in the occurrence of businesses hiring migrants versus the share of migrant workers within these businesses. The agriculture sector is the one where businesses are the more likely to hire migrants (97% of the survey businesses do) but where the migrant work force represents the smallest share (migrant workers represent 23% of the staff). Reversely in the care economy, businesses are less likely to hire migrants (59% of the businesses do) but the migrant work force represents the highest share (74% of the staff). This correlates with the size of the business: the larger the business, the more likely it is to hire migrant workers. Businesses surveyed in the care economy have the highest number of staff and those in the agriculture sector the lowest.

Preference for hiring migrants or Libyans largely depends on the job itself. Business owners with a stated preference for migrants are most likely to be in the agriculture sector (41%). More than half of employers (56%) expressed a preference for hiring male over female workers. This was especially the case in the agriculture and construction sector with companies in the care economy being the only businesses which preferred to hire females for roles typically considered female tasks (cooking, cleaning, taking care of children).

Businesses mainly recruit through word of mouth and rarely use other methods of recruitment. Businesses do not report major difficulties to recruit team members for lower-skilled jobs. The skills most in demand are technical skills related to the type of work conducted in each business as per the below table.

Sectors, skills and locations[15] where skills are hardest to find

	Agriculture	Construction	Food processing	Care economy
Benghazi	No reported difficulties	No reported difficulties	No reported difficulties	Technical: Physiotherapists, lab technicians

[13] Since the 2011 revolution, there is a lack of institutions to regulate markets and enforce a viable social contract

[14] 97% of surveyed businesses in the agriculture sector employ migrant workers, 82% in the construction sector, 79% in food processing and 59% in the care economy. Migrant workers represent 23% of the staff in the surveyed businesses in the agriculture sector, 48% in the food processing, 41% in the construction and 74% in the care economy.

[15] Ejdabia and Zliten do not appear in the table as no difficulties were reported there

Misrata	**Technical:** Machinery technicians and electricians **Cognitive skills:** Plant knowledge	**Technical:** Electricians, carpenters	**Technical:** Dough and bread making, pastry making	**Technical:** Pharmacists, sewing, lab technicians **Socio-emotional:** Dealing with children, patience
Sebha	No reported difficulties	**Technical:** Electricians **Cognitive:** Calculation skills	**Technical:** Dough and bread making **Cognitive:** Calculation skills	**Technical:** Physiotherapy **Cognitive:** Calculation skills, reading
Tripoli	No reported difficulties	**Technical:** Carpenters, plumbers	No reported difficulties	No reported difficulties

The smaller the business, the harder it is to find the skills needed.[16] Misrata and Sebha-based employers were also the most likely to report having a hard time finding certain skills or attributes, like physical strength. A factor that explains this difficulty is that in both these locations, migrants do not feel safe, albeit for different reasons: 98% of migrants in Sebha feel unsafe due to security risks, while 70% of migrants in Sebha feel unsafe due to health risks. Migrants are mobile and are likely to move on to more secure locations to find work when possible.

Opportunities for migrants are available in every sector, in every location, in the informal economy. While these daily-wage jobs are easy to find, they are low-skilled and physical with poor contract conditions. Across all surveyed locations, migrants tend to have poor working agreements and conditions: most do not have contracts with a fixed end-date, nor do they have pre-set working hours. In spite of these conditions, most migrants have no/limited intention of changing their current work. Yet, workers with verbal agreements and unspecified working hours change jobs more often and the main reason to change work is to earn more money. Migrants often do not change jobs because they do not know how. However, when they do, finding a job is relatively easy and most migrant workers find employment in under a month.

Migrants' accommodation tends to be overcrowded, uncomfortable and unsanitary. When provided by employers (as was the case with 38% of the employers surveyed), accommodation tends to be close to work.

Skills supply

The Libyan economy has historically relied on migrants to meet labour and skills shortages within the domestic labour market, but regular and irregular migrations have evolved over

[16] While 41% of micro-businesses reported that technical skills were difficult to find, only 25% of medium size businesses reported the same. It is important to note that due to the methodology used, which focused on businesses with fewer than 100 employees, it is possible that the lack of mismatch between labour supply and demand could be explained by the limitation to small, micro and medium enterprises.

the past decade. The Libyan labour law takes a protectionist stance toward the labour market. Legal entry into Libya is granted through visas. The recruitment of skilled foreign labour is facilitated by government authorities, but lower-skilled labour demands are generally met through unregulated channels.

Migrants face barriers to access formal jobs in Libya because obtaining work permits to work legally is difficult. Migrant workers often lack official documents authorising their employment in Libya, as most of them entered irregularly. Migrant workers without documentation find work in the informal sector. However, due to the informal nature of these jobs, migrants forego the right to be protected under labour laws. Businesses who officially hire migrant workers must fulfil specific obligations but in practice, few of the businesses surveyed register their staff. The average rate of registration is 20% with the highest rate in the care economy and the lowest in the agriculture sector[17]. The larger the business and the larger the city, the more likely they are to register their staff.

As a result of their undocumented status, migrants' biggest barrier in accessing employment is the lack of security. They fear robbery, employer abuse, or non-payment for work completed.[18] Moving between regions for work opportunities is a barrier, due to check points and the possible problems migrants could encounter if they were asked for official documents. Security-related barriers are more common in the south, in and around Sebha.[19] Restrictions due to COVID-19 have exacerbated movement restrictions.[20]

Social considerations and traditions tend to restrict female migrants' ability to work in certain sectors, be it formal or informal sector work. However, the care economy [21]is mainly composed of female workers.

Migrant workers surveyed have low levels of education. They are largely low-skilled with less than five years' professional experience before arriving in Libya. Work experience differs between sectors[22] and locations.

Migrant workers tend to learn on the job only 7% of migrants surveyed had received informal training[23] while only 1% received any formal training. The skills for which employers provide training directly correlates with the skills that employers cited as being the most difficult to find in their respective sectors.

There is little public data available on Technical and Vocational Education and Training centres in Libya. They lack electronic platforms and recruit students through private training

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[17] 27% of staff in the care economy are registered while only 11% in the agriculture sector

[18] In almost every group discussion with migrant youth and adult men and women, security was the most common, and sometimes only, answer.

[19] IOM Flow Survey, March 2020.

[20] In 34% of assessed locations, migrants were reported to be unable to move freely within the municipality (due to the mobility restrictions/curfew) Source: "COVID-19 Mobility Tracking #2: Impact on Vulnerable Populations on the Move in Libya."

[21] services for childcare, early childhood education, disability and long-term care, elderly care.,

[22] The majority of workers in the agriculture sector have less than one year of working experience. Meanwhile, the food processing sector has the highest share of migrants with five years of experience or more (20%).

[23] Through interactions with peers, employers, friends.

contracts offered by government agencies or large companies. They are limited in quantity and quality, with little coherence between labour market needs and courses.

Conclusions

There are a number of constraints faced by businesses in Libya, a majority of which are related to context, rather than skills. The country needs higher rates of job creation than in the past and better quality/higher productivity jobs that can only come from structural transformations. Several reforms are needed to build institutions,[24] improve liquidity and access to financing, promote investments and improve regulatory policies that integrate low-skilled, migrant labour into the labour market.

As the private sector grows, it will create jobs and thus provide opportunities for migrant workers and Libyans alike. The potential for migrant employment will however remain low-skilled jobs that are not desired by Libyans and for which there is little to no education or experience required. There does not appear to be a significant problem between skills supply and demand in the assessed sectors for lower skill jobs, except in Misrata and Sehba.

Migrant workers find work quickly and this is a concern because it is to the detriment of their safety. As a result of their undocumented status, they lack security in informal jobs. They do not have security in the form of health or legal protection, nor the ability to resort to legal recourse in the event of work-related disputes. Migrant workers face barriers to information about their legal rights and how to change jobs should they so wish. Migrant workers also face a risk of dependency on regulated companies who provide them with work permits.

Recommendations

These recommendations are developed in full in the main body of the report.

Macro-economic level recommendations

Consider a set of **targeted initiatives aiming to mobilize private investment to four economic sectors where there seems be potential for job creation and economic diversification**: i) Agriculture and agribusinesses, ii) Manufacturing; iii) Construction; iv) High-end services: information and communication technologies, digital platforms, and social services.

These interventions would combine three sets of policies and programs: i) Investment subsidies conditional on job creation that can take place at the business level, at the level of specific value chains, or within special economic zones; ii) Active labour markets programs, including training and retraining programs, managed by specialized private institutions under P4R contracts, aiming to facilitate labour market transitions from inactivity/unemployment into a job and/or from low to higher productivity jobs and iii) More efficient labour regulations to better protect workers and the rights of migrants, reduce labour costs, and improve incentives to create formal job.

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[24] See recommendations.

Consider measures to reduce the "rents" associated with illicit activities and the war economy. These would include interventions to address fraud with lines of credit (LCs), corruption in the allocation of public contracts, and smuggling of subsidized goods including fuel. Making this happen would require starting a Public-Private Dialog (PPD) that aims to develop information systems and promote transparency for the management of LCs and public expenditures. It would also be necessary to reduce incentives to smuggle by replacing implicit subsidies on products by, targeted, explicit subsidies to households. [25] Libya would also need to complete a set of unfinished regulatory reforms conducive to foreign direct investments (FDIs) and public-private partnerships (PPPs).

The Libyan government could also consider strategic investments in sectors/products that, although somewhat distant, could be produced through public private partnerships. There are products that could attract private investments *if* the government creates the right conditions. In the case of the manufacturing sector, for instance, high productivity activities include the production of different types of machinery, instruments for physical and chemical analysis, and aluminium wire. These products are distant from the current product space but with the right policy instruments to diversify risks, the necessary investments could be mobilized. There are also several investment opportunities in agribusiness that could be less risky. Examples include edible animal products; fish products; food preparations; preparations of vegetables, foods and nuts; and beverages.

Libya could consider setting up a Jobs Fund to promote investments and job creation in selected economic sectors and regions. There are three types of, non-mutually exclusive, programmes that could be considered: i) programmes that support investment at the business level; ii) programmes that support investments at the level of value chains; and iii) programmes that support investments within special economic zones (SEZ). Setting up any of these types of programmes in Libya would require building institutional capacity and outsourcing management and implementation responsibilities to specialized agencies under the right types of contract.

Consider entrepreneurship programmes that treat beneficiaries not as real entrepreneurs but more as wage employees, or contract workers, who are paid for the provision of certain goods and services. Part of the design of the programmes would involve profiling applicants. Libya may consider setting up new active labour market programmes to facilitate transitions into wage or self- employment for both local and migrant workers.

Ensure regulatory neutrality between types of contracts jobs, and workers. Rethink minimum wage policy to avoid ad-hoc adjustments and explore other instruments to guarantee a minimum level of income to all workers, be they Libyan nationals or not. Replace severance pay by a small dismissal tax and introduce a properly designed unemployment insurance system.

Consider structural reforms to expand the coverage of social insurance programmes to all workers while controlling labour costs and ensuring the financial sustainability of the system.

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[25] Smuggling takes place, in part, because local prices are too low as a result of the subsidies. Smugglers generate higher earnings by selling abroad.

In parallel, advocate for the regularisation of foreign workers who, as a result, would have access to social security and pay taxes.

Continue building institutional capacity to enforce labour regulations, particularly given the presence of a large informal sector and the prevalence of small, low productivity businesses.

Advocate for minimum labour standards for migrant workers alongside contracts and options for workers in the "grey zone." Support the government in developing a policy and an accompanying national protection scheme that ensure the minimum standards of living and working conditions for migrant workers.

Regulate the activities of the companies' employers use to regularise their employees to avoid abusive situation and make sure the employers are the ones paying for such services, not the employees.

Supply side recommendations

Establish target capacity development programmes to boost migrants' cognitive skills to increase their employability across the board in Libya. Provide basic training in electrical skills and machine reparation and on the most common skills in the food processing sector. Programmes in Misrata and Sebha should be prioritised.

Provide cash grants to migrants undertaking training. While migrants are interested in increasing their skill sets, their ability to do so is limited by their need to earn a living. IOM could provide cash grants to support migrants' access to training classes. These could be payable upon successful completion of the course, or in tranches throughout the course on a weekly or bi-weekly basis.

IOM could support Libya to establish or outsource market-driven active labour market programmes (ALMPs) to facilitate transitions into wage or self- employment for both newly arrived migrant workers and migrant workers already working in Libya. IOM could also work with economic hubs to provide information centres, in collaboration with migrants working in Libya, to provide access to information for migrants.

Demand side recommendations

Link migrants who have undergone basic skills training with employers engaged in providing decent work conditions through specialised agencies.

IOM could consider setting up a skills mobility partnership, whereby the private sector would invest in the skills training needed for the workforce in Libya.

IOM can work directly with employers to promote safer working conditions for migrant workers

Promote entrepreneurship and SMEs growth in leading sectors

Promote the development of value chains in agribusinesses

Services and infrastructure related recommendations

Improve and strengthen basic infrastructure (electricity, fuel, roads) to help support the growth of private businesses.

Work with TVETs in Misrata and Sebha to create programmes that respond to labour market needs and support the development of a curriculum.

Rethinking entrepreneurship/livelihood programmes. The goal is to use the profiling system to separate *vocational entrepreneurs* who can join traditional entrepreneurship programmes from *subsistence entrepreneurs*.

Introducing robust M&E systems for the above suggested program to regularly monitor costs and performance, and to introduce corrective measures as needed.

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List of Acronyms

ALMP	Active Labour Market Programmes
CBL	Central Bank of Libya
ETF	European Training Foundation
EU	European Union
DTM	Displacement Tracking Matrix
FGD	Focus Group Discussion
GBV	Gender-based violence
GDP	Gross Domestic Product
GNA	Government of National Accord
ICT	Information and Communications
IOM	International Organisation for Migration
IRC	International Rescue Committee
JLE	Job Linked Externalities
KII	Key Informant Interview
LNA	Libyan National Army
LYD	Libyan Dinar
MoL	Ministry of Labour
TVET	Technical and Vocational Education and Training

I. Introduction

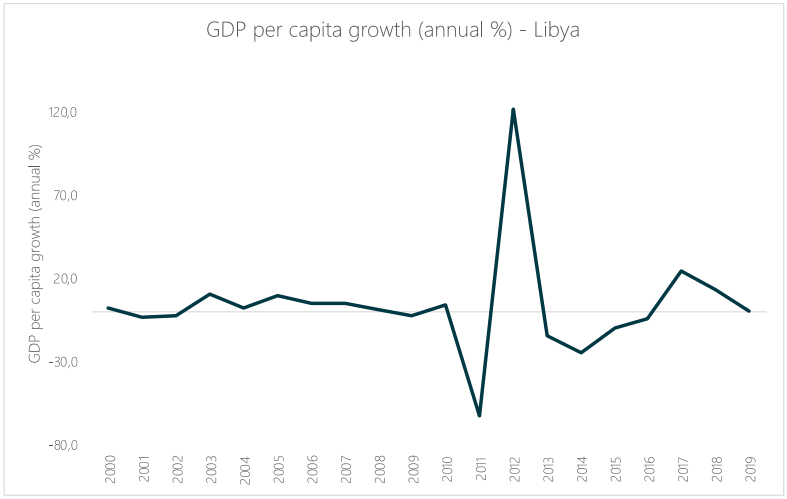
I.1. Libya Economic Overview

As of the start of 2021, the crisis in Libya has begun to stabilise, with both sides agreeing to an election roadmap. The United Nations-backed Government of National Accord, headed by the Prime Minister Fayez al-Sarraj, is based in Tripoli. In the East, different factions are allied with the Libyan National Army, under the command of Khalifa Haftar.

The Libyan economy however still faces important obstacles for private sector growth and the labour market is currently dominated by the public sector. Starting from before the 2011 revolution, the centralised government dominated all activities: manufacturing, agriculture, retail trade, banking, insurance, and major services. State trading companies were also responsible for industrial, manufacturing, and agricultural imports.[26]

The economy is highly dependent on oil revenues: between 1999 and 2010, the economy grew by an average of 4.5% per year (Figure 1), largely due to the mining and oil sectors.

Figure 1: GDP per capita growth - Libya



Source: World Bank, https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=LY

The revolution brought **political, security and economic unrest.** that continues to have an adverse impact on state institutions and the economy. In 2011, as a result of the political turmoil in the country, the economy contracted by 60% and ten years after, GDP per capita is still 40% below its pre-crisis level. Falling exports' revenues due to lower commodity prices and a reduction in trade flows have aggravated existing problems.

Attempts to jumpstart economic development in Libya have yielded limited results.[27] **The crisis has had crippling effects on the private sector, particularly medium and small businesses, and has reduced dramatically incentives to invest and create jobs.** In 2018, close to 97% of businesses surveyed across sectors experienced a direct adverse impact from the conflict, relative to 77% in 2014.[28] Material damage and site closures are direct effects of the conflict particularly in the eastern region. But businesses have also been affected by reduced

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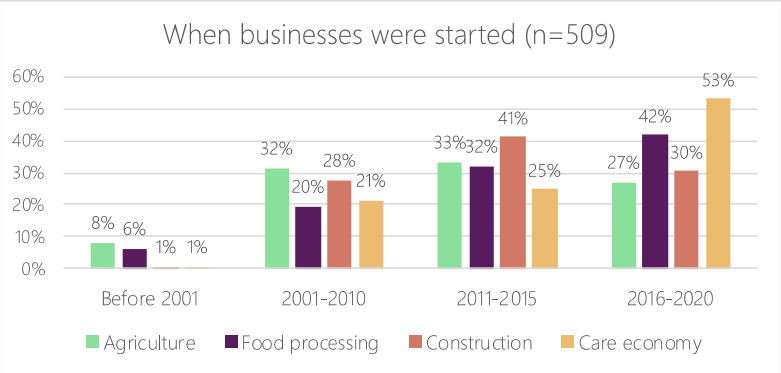
[26] "SMEs in Libya's Reconstruction Preparing for a Post-Conflict Economy" (OECD, 2016), https://read.oecd-ilibrary.org/development/smes-in-libya-s-reconstruction_9789264264205-en#page4.
[27] "Youth Motivations to Employment and Entrepreneurship," October 2016.
[28] Rahman Aminur and Michele Di Maio. (2020). "Libya: The Private Sector amid Conflict." The World Bank. Draft Report, non published.

revenues, higher input costs, supply disruptions, and lost days of production/operation.[29] There are also issues in terms of purchasing intermediate inputs and hiring workers. Economic uncertainty has also affected the banking system creating liquidity problems that constrain access to finance. **The majority of businesses surveyed as part of this research were started within the last 10 years, e.g., after the 2011 revolution, and most cater to the domestic market.**[30] About 40% of businesses started after 2015, while only 4% of surveyed businesses began before 2001. Most of these businesses are small businesses with five to 19 employees and most are run by men.[31]

Figure 2: Business start dates



A direct consequence of the constraints facing the private sector has been a reduction in the number of formal jobs and an increase in the share of informal and illicit jobs. Businesses report an average net loss of jobs of close to 10% between 2013 and 2017. Losses, however, have been more important among micro and small businesses which shaded jobs at a rate of 30% and 15% per year respectively. The construction and trade sectors have been the most affected with losses of 28% and 16% respectively.[32] For those outside the public sector, job opportunities in the formal private sector are scarce. Some reports suggest that the number of self-employed workers has increased since 2014 and that youth, in the absence of public sector jobs, are now more likely to engage in entrepreneurship.[33]

The economic downturn, accompanied by scepticism about the banking system and a scarcity of foreign currency, has led to a **liquidity crisis**. As a consequence, Libya is experiencing **rising inflation** and a **shortage of imported goods**. The Central Bank of Libya (CBL) has limited funds that can only cover government expenses (e.g., salaries and administrative costs), while government investment projects have been put on hold.[34]

The crisis has significantly hit the **private sector**, especially medium and small businesses, and has reduced incentives to invest and create jobs. A decrease in the number of formal jobs has meant an increase in the number of informal and illicit ones.

The ongoing **COVID-19 pandemic** has aggravated the job crisis by reducing oil revenues and aggregate demand, and by disrupting international trade and increasing production

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[29] 'Libya Economic Monitor'.
[30] Key Aid Consulting 2020 Employer survey; non representative.
[31] Key Aid Consulting 2020 Employer survey.
[32] Rahman Aminur and Michele Di Maio. (2020). "Libya: The Private Sector amid Conflict." The World Bank. Draft Report, non published.
[33] 'Libya Economic Monitor'.
[34] Jason Pack, "Libya's Liquidity Crunch and the Dinar's Demise: Psychological and Macroeconomic Dimensions of the Current Crisis" (US-Libya Business Association, April 2017).

Figure 3: Biggest challenges for the demand and supply of labour in Libya

Source: Labour Market Dynamics in Libya: Reintegration for Recovery," 2015

costs.[35] Under the current situation of disrupted oil production, it is estimated that the economy could contract by 31% in 2020.[36] Foreign reserves are also expected to go down by USD 3.2 billion and the resulting depreciation of the exchange rate [37] will increase the prices of imports and production costs. Import prices are also likely to increase given the reduction in trade volumes in 2020.[38]

The pandemic affects social interactions and the viability of jobs that require direct contact between producers and consumers. These are often low-skilled jobs in the informal sector and/or small enterprises, occupied by migrants and other mobile populations.[39] Figure 3 summarises the biggest challenges for the demand and supply of labour.

I.2. Migrants profile in Libya

The Libyan labour law takes a protectionist stance toward the labour market.[40] These laws stipulate that at least 20% of (declared) workers in foreign companies must be Libyan nationals, and the companies must also provide training to an additional number of Libyan citizens every year.[41] The Ministry of Labour decision no. 590 (2013) allows foreigners to work in twelve different types of activities. There is a list of professions that are meant to be reserved for Libyans, which changes on a regular basis. However, from anecdotal evidence collected, these restrictions are not necessarily respected. While no official document could

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[35] COVID-19 deepened the reduction in oil revenue that was already resulting from the ongoing conflict and the interruption in oil production (2019-2020).

[36] https://www.worldbank.org/en/country/libya/overview

[37] In early January 2021 the Central Bank of Libya board agreed to the new rate of 4.8 dinars to the United States dollar trying to bring the official rate closer to the black market rate.

[38] World Trade Organization, 'Trade Set to Plunge as COVID-19 Pandemic Upends Global Economy', April 2020, https://www.wto.org/english/news_e/pres20_e/pr855_e.htm.

[39] See Carolina González-Velosa and David Robalino, "Hacia Mejores Mecanismos de Protección de Riesgos Para La Clase Media y Vulnerable: Un Análisis Para Los Países Andinos" (Inter-American Development Bank, June 2020), https://doi.org/10.18235/0002406.

[40] Altai Consulting, "Draft Rapid Assessment of Migrant Entrepreneurship in Benghazi and Kufra" (European Union, September 2019).

[41] Dia Sadek Abuhadra and Tawfik Taher Ajaali, "Labour Market and Employment Policies in Libya" (European Training Foundation, 2014).

be found, press releases from mid-2020 outline 22 professions from which non-Libyans are officially barred, according to the Ministry of Labour (MoL).[42]

Legal entry into Libya is granted through visas; work visas may be provided for a maximum of five years.[43] The law requires foreigners officially entering Libya for the purpose of work to pay an annual fee of 500 dinars[44] (a maximum of 1,500 dinars) per family to the Department of Passports, Nationality and Foreigners' Affairs.[45] The recruitment of **skilled foreign labour** is facilitated by government authorities, but **lower-skilled labour** demands are generally met through unregulated channels.[46]

Undocumented migrants generally do not have work authorisations, which are subject to specific conditions including health assessment certificates and employer's sponsorship. Hence, they resort to the available irregular employment to sustain their livelihood. This often makes them vulnerable to labour exploitation.[47]

The decade old crisis has had a disproportionate effect on migrant workers. While the revolution already began to disrupt the country's long history of migrant labour,[48] the recent cash shortages have increased their security risks, including the risks of being kidnapped, robbed, or not being paid for their work.[49] Moreover, migrant workers' ability to send remittances back home has been curtailed, and they have to stay in Libya for longer periods of time than initially expected. This has worsened since the COVID-19 crisis.[50] The restrictions on movement imposed to counter the spread of COVID-19 have had a negative impact on migrant workers' livelihoods. In a survey conducted by the Displacement Tracking Matrix (DTM) from the International Organization for Migrants (IOM) between March and April

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[42] "Education (kindergarten, primary, middle and secondary education); administrative professions (including printing, secretarial, data entry and administrative services); cashier work in all categories (whether payment or the receipt of revenues in all its forms); drivers of all categories and types, and transport supervisors; security guards (the profession of guarding facilities and sites of any kind or nature); mail distributors in offices, companies, ministries and institutions; ticket cutter for any activity; note takers; print and photography technicians; telephone exchange operators; library coordinators; metre readers; key cutters; sales professions of any type; store keepers; legal professions; session writers; calligraphers; social researchers, tour guides and public relations." Source: Sami Zaptia, "Labour Ministry Warns against Employing Foreign Workers in 22 Occupations Reserved for Libyans – No New Work Permits Will Be Issued for These," *Libya Herald* (blog), July 2020, https://www.libyaherald.com/2020/07/20/labour-ministry-warns-against-employing-foreign-workers-in-22-occupations-reserved-for-libyans-no-new-work-permits-will-be-issued-for-these/.

[43] International Center for Migration Policy Development, "The Legal Guide for Foreigners in Libya," n.d.

[44] 500 Libyan ≈ 110 USD (January 2021).

[45] International Center for Migration Policy Development, "The Legal Guide for Foreigners in Libya."

[46] "Assessment of Migrant Labour Skills in the Agricultural Sector."

[47] Claire Healy, "The Strength to Carry On: Resilience and Vulnerability to Trafficking and Other Abuses among People Travelling along Migration Routes to Europe" (International Centre for Migration Policy Development, February 2019).

[48] "Assessment of Migrant Labour Skills in the Agricultural Sector" (IOM, January 2014).

[49] Reach Initiative and UNHCR, "Access to Cash and the Impact of the Liquidity Crisis on Refugees and Migrants in Libya," June 2018.

[50] "COVID-19 Mobility Tracking #2: Impact on Vulnerable Populations on the Move in Libya," June 25, 2020, https://displacement.iom.int/system/tdf/reports/DTM_COVID-19_Impact_Assessment_2_20200625_0.pdf?file=1&type=node&id=9039.

2020, most of the migrants that depend on daily labour reported being negatively impacted by the economic slowdown as a result of the sanitary crisis.[51]

The demographic profile of migrant workers is overwhelmingly composed of males. IOM's Displacement Tracking Matrix (DTM) report for September and October 2020 estimated an adult migrant population composed of 89% men and 11% women.[52] Daily wage labour is often physical in nature and therefore likely to be done by men. The distribution of marital status reveals that about two-thirds (64%) of migrant workers are single, and about one third (34%) are married, while only a small fraction (2%) is divorced, separated or widowed. The average age is 28.89 years: females tend to be older than males.

The distribution of sectors shows that 37% of migrant workers are employed in construction, 7% in agriculture, 5% in the care economy and only 2% in food processing. While 42% of females work in the care economy, none of the female respondents work in construction or agriculture. Half of the workers in Tripoli are employed in construction, and half of the workers in Zliten are employed in agriculture.

II.Objectives and intended use

This report intends to contribute to a job rich inclusive labour market in Libya by shedding light on persisting labour market challenges that migrant workers face in the country. It also aims to outline plausible strategies to create better jobs[53] for locals and migrants, that could be implemented in parallel with more structural reforms.

More specifically, the research endeavours to:

1. Analyse labour market dynamics from the supply and demand sides, looking at which sectors have been creating jobs, how jobs have been contributing to labour productivity and economic growth, and the distribution of occupational states by gender, age and education.
2. Identify the structural dynamics of employment in the labour market: which economic sectors have the highest potential to create decent and productive employment for locals and migrants, under different scenarios about the evolution of exports and aggregate domestic demand;

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[51] International Organization for Migration, 'Libya's Migrant Report Round 30: March - April 2020', 2020.
[52] IOM, "Libya's Migrant Report: September - October 2020, Mobility Tracking Round 33," 2020.
[53] Better jobs are defined as jobs that generate higher earnings, respect core labour standards and provide access to social insurance programs.

3. **Assess the skill gaps** between the skills embodied in the migrant labour force and the skills needed by the private sector in the economic sectors that have the highest potential for the migrant labour force;
4. **Map the current labour market situation and key challenges** related to accessing decent and productive employment for migrant workers.

To meet these objectives, this labour market assessment presents first a macroeconomic analysis of Libya and then a skill gap assessment focusing on the migrant labour forces in the construction, the agriculture, the food processing sectors as well as the care economy. The assessment of the skills present within the migrant labour force can be read in conjunction with the UNDP Labour Market Assessment that focuses on the Libyan labour force.

The report provides macro and micro level recommendations targeting both institutional and governmental actors in Libya. All areas of engagement under the 'skills and attitude' component of the study focus on their relevance to employment and jobs promotion as informed by the macroeconomic analysis. Hence, the skill gap assessment provides analysis and recommendations that aim to strengthen interventions targeting migrant workers' skill development in their broader labour market and macro-economic context.

Furthermore, the analysis of the supply side labour statistics and information in combination with the labour market demand side information sheds light on the key labour market challenges that can inform key policy direction towards inclusive job-rich growth. As such, the study can be used by the Ministry of Labour and inform the development of a comprehensive and needs-based Labour Migration Policy for Libya and as well as contribute to strengthen international cooperation efforts for a Labour Mobility Strategy.

III. Methodology

The macro economic analysis scope is the whole of Libya. It relied on an input/output model of the Libyan economy as well as on the country's existing product space.[54] The macro economic analysis was conducted between June and September 2020. The skills gap assessment utilised a combination of primary statistics and labour market information, both qualitative and quantitative. It focused on adult migrant workers (male and female) living in six economic centres: Misrata, Zliten, Sebha, Benghazi, Tripoli, Ejdabia and considers migrant workers in different types of jobs: formal wage employees, informal wage employees, and self-employed workers. The skill gap assessment was conducted between October and February 2021.

Figure 4 below presents an overview of the methodology while the details of it as well as the details of the analysis and economic models used are presented in Annex IX.1.

[54] The Product Space is a network representation of the relatedness or proximity between products traded in the global market

Figure 4: Summary of methodology

Inception phase & desk review	Inception report	Desk review
	Briefing with IOM consultancy managers (28 February 2020) Inception workshop on 15 April 2020	Comprehensive and structured review of 80 documents such as contextual reports, legal guidelines and economic data
Macroeconomic Analysis	Research & Analysis	Report Writing & Presentation
	July and August 2020: Methodology, data gathering and analysis	September to October 2020: Report writing, first draft and final version
Skills Gap Assessment Quantitative Data collection	Supply Side	Demand Side
	The Libya Flow Monitoring Survey was conducted by IOM in March 2020 on a sample of 4652 migrant workers in Libya. Non-representative sample analysed consisted of 1749 random migrant workers from the cities of Benghazi, Ejdabia, Misrata, Sebha, Tripoli and Zilten.	A survey with 509 local businesses was conducted between October and December 2020. The sampling was based on sector, firm size and location. It is non-representative.
Skills Gap Assessment Qualitative Data collection	Key Informant Interviews	Focus Group Discussions
	46 interviews with relevant actors from the private and public sector, national and international organisations, and researchers.	25 FGDs in six locations, 18 FGDs with men with a total of 168 participants; 5 FGDs with women for a total of 51 participants.
Data analysis and reporting	December 2020: Data coding and analysis.	29 January 2021: first draft of final report March 2021: Finalisation the final report
Limitations	A considerable number of KIs declined to participate (lack of interest, time or knowledge). Given the low proportion of female migrants, conducting FGDs with them proved challenging as it could be difficult to find women. TVET centres closed due to COVID.	During the trader survey, a number of businesses refused to answer questions that were sensitive (salaries, number of staff officially registered) despite the assurance that their answers were anonymous. As a result, the survey was adapted to collect primarily non-sensitive data

IV. Macro-economic analysis – whole of Libya

This macro-economic analysis is organized in three sections. Section 1 discusses labour market from a macroeconomic perspective, analysing past trends in terms of job creation and future needs given demographic changes, migration patterns, and changes in participation rates. Section 2 analyses the labour market from the perspective of workers.

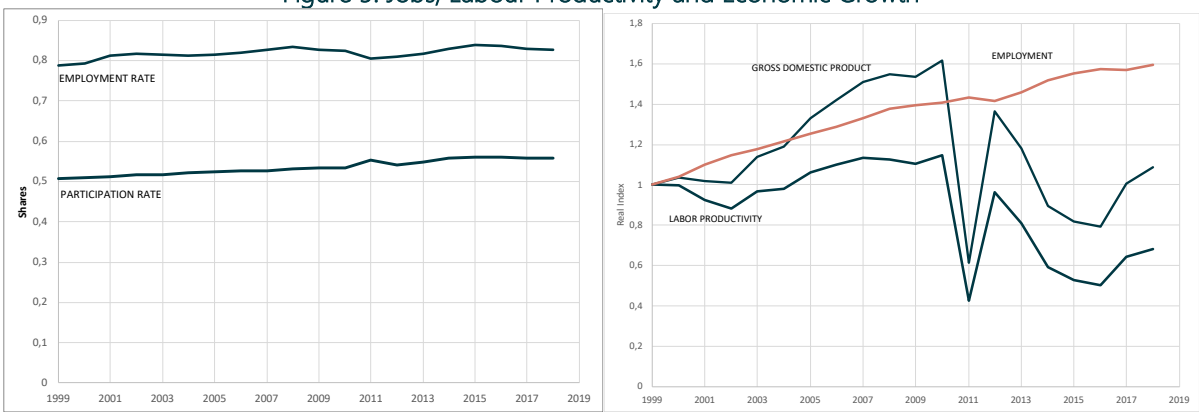
The section uses the latest labour force survey[55] and econometric models to identify the main determinants of labour market outcomes in terms of activity and employment rates, types of jobs and earnings. Section 3 assesses the potential for job creation across economic sectors and opportunities for economic diversification. The first part of that assessment in Section 3, is based on a simple input/output model of the Libyan economy whereas the second part uses the country's existing product space.[56]

IV.1. Jobs, Labour Productivity and Growth

The Libyan labour market has adjusted to persistent economic crisis by severe reductions in labour productivity and earnings and not by major changes in employment levels. This implies that the quality of jobs and related earnings have both declined. These types of adjustments take place when households cannot afford unemployment. Instead, they move to subsistence and/or low productivity informal activities in an attempt to maintain a certain level of income.

In Libya, during the 2011 economic contraction, the share of employed workers in the labour force declined marginally, but participation rates increased. Essentially, the number of workers who enter the labour market increased; more workers needed to find alternative sources of income. Since 2011, both employment and participation rates have remained more or less constant. Adjustments in aggregate demand have been accommodated exclusively by changes in labour productivity (see Figure 5). The large share of public employment is also likely contributing to a certain stability in employment rates.

Figure 5: Jobs, Labour Productivity and Economic Growth



Source: Authors Calculations based on National Accounts Data and data on employment and participation rates from the International Labour Organization.

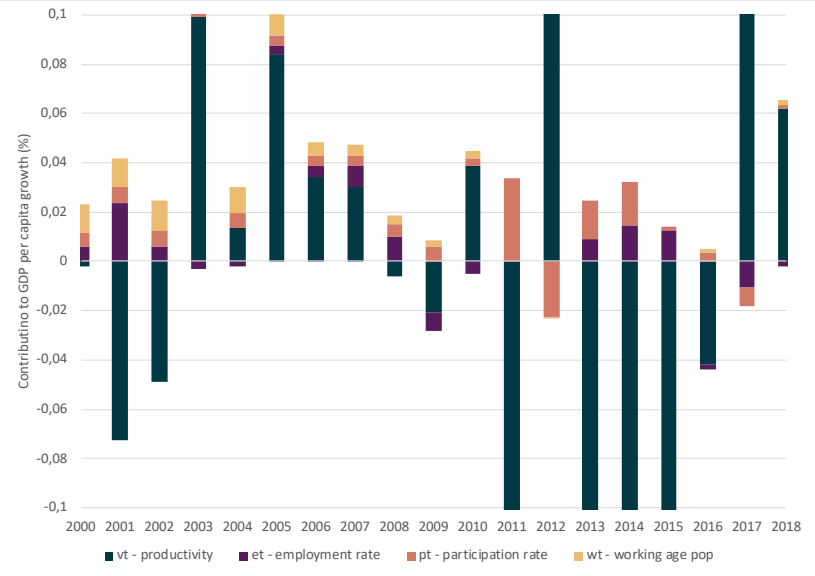
Labour market adjustments through labour productivity have had profound effects on standards of living because, historically in Libya, labour productivity has been the main driver of GDP per capita growth. Indeed, in any economy, total GDP per capita increases when the share of the population who has jobs increases (the population employment rate increases) and when each job becomes more productive (average labour productivity increases). In turn, the share of the total population who has jobs increases when there are

[55] The last nationally representative survey corresponds to year 2016.
[56] The Product Space is a network representation of the relatedness or proximity between products traded in the global market

more people who are old enough to work and when more of them participate in the labour market. Thus, the growth rate of GDP per capita depends on the growth rates of: labour productivity, the employment rate, the participation rate, and the share of working age population. In Libya, with the exception of the first years of the century, the growth rate of GDP per capita, and therefore changes in standards of living, have been mainly explained by changes in labour productivity (see Figure 6).

Given limited data availability, it is difficult to ascertain the labour productivity within sectors, but it is likely to have fallen across the board. The dynamics of labour productivity depend on the reallocation of jobs between sectors and what happens with labour productivity within sectors. Since average labour productivity has been falling or stagnant and jobs reallocations seem to have been limited, productivity within sectors is likely to have fallen. An alternative scenario would have been having important gains in labour productivity in certain sectors with sharp reductions in others. But, as discussed in the previous section, given how the private sector has been affected since the 2011 crisis, it is unlikely that there have been entire sectors where one could see the types of innovations needed to increase total factor productivity.

Figure 6: Decomposition of GDP per Capita Growth



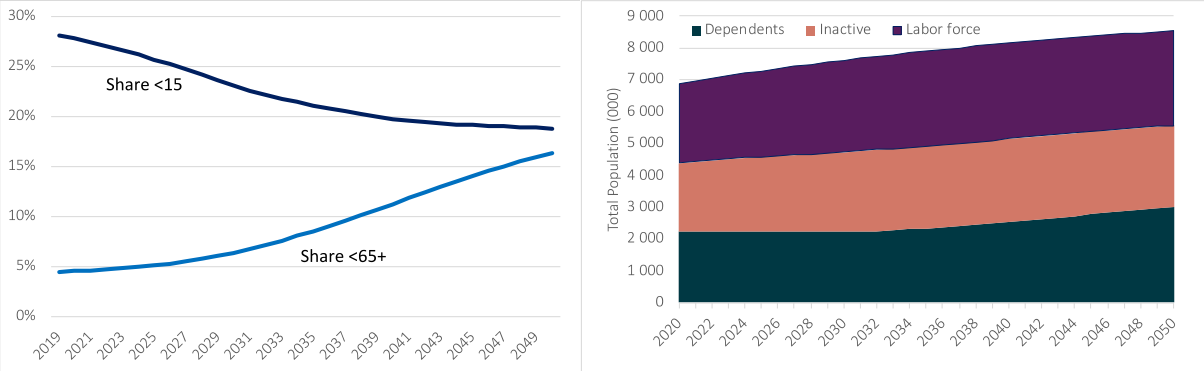
Source: Authors Calculations based on National Accounts Data and data on employment and participation rates from the International Labour Organization.

In the coming years, the demand in terms of job creation will be affected by ongoing demographic changes, including the aging of the population that will eventually reduce the size of the working age population. Without changes in migration patterns, [57] it is expected that the Libyan population will growth at an average rate of 1% per year over the next decade. Demographic projections show that the share of the population aged 65 years and above is going to increase relatively fast from 4,5% today to 16% in the year 2050.

[57] The net migration in Libya is close to zero. The net migration rate is the net total number of migrants during the period per 1,000 persons of the population of the respective country. The net total of migrants is the total number of immigrants less the annual number of emigrants, including both citizens and non-citizens.

At the same time, the share of the population aged 15 years and younger will fall from 28% today to 19% in the year 2050. Under these conditions, the working age population (the inactive and those in the labour force) will go from 4.6 million today to 5.6 million in the year 2040, declining afterwards to 5.5. million in 2050 (see **Error! Not a valid bookmark self-reference.**).

Figure 7: Share of Dependents and Composition of the Total Population



Source: Author's calculations based on United Nations demographic projections.

Depending on what happens with participation rates, Libya would need to create between 510,000 and 1.4 million jobs in the next 30 years to keep employment rates constant. The first scenario assumes that participation rates in the labour market do not change. In this case, the growth rate of the labour force would average 1,4% over the next decade which is close to the average of the past decade. The growth rate of the labour force would be declining gradually, becoming negative around the year 2040. At that pace, the economy would need to create close to 40,000 jobs each year between now and 2030.

However, if participation rates for both women and men increase approaching OECD averages by years 2040 and 2050 respectively, the pressure on the labour market could be significant. Under this scenario, the labour force would be growing at an average of 2.5% per year over the next decade and the economy would need to create close to 70,000 jobs each year. **It is likely that the real number of jobs that the economy needs to create is around 55,000 jobs per year.**

From the total number of new jobs that the economy needs to create, between 13% and 18% would be jobs for migrants. This calculation assumes that the shares of migrants in the population by gender remain constant[58] at current levels, and that their participation rates are similar to those of the general population.[59] This implies creating between 7,500 and 9,000 new jobs per year for migrants depending on the evolution of participation rates. It is likely, however, that participation rates for migrants are higher than for local workers.[60]

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[58] This assumption was discussed and agreed with IOM.
[59] From the labour force survey, it is not possible to obtain participation and employment rates for migrants.
[60] Prior to the 2011 conflict nearly 50% of the labour force in Libya were foreigners (between 1.2 and 1.5 million). It is estimated that as a result of the crisis 1 million migrant workers left (see Di Maio et al., 2020).

Figure 8. Demand in Terms of Job Creation: Constant Participation Rates[61]

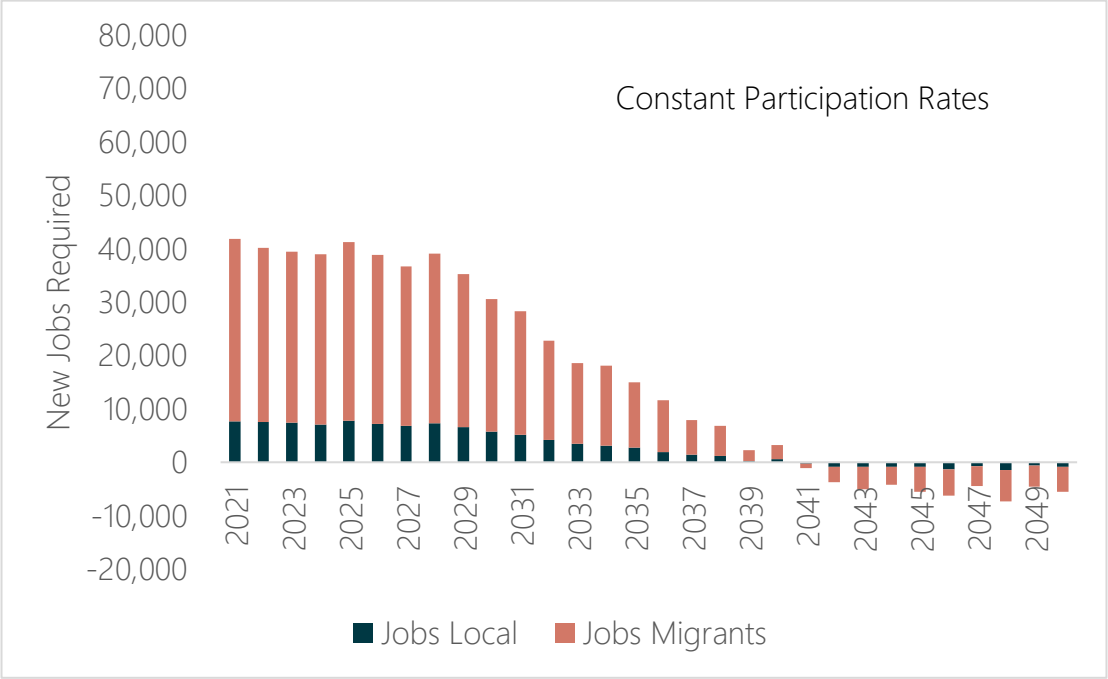
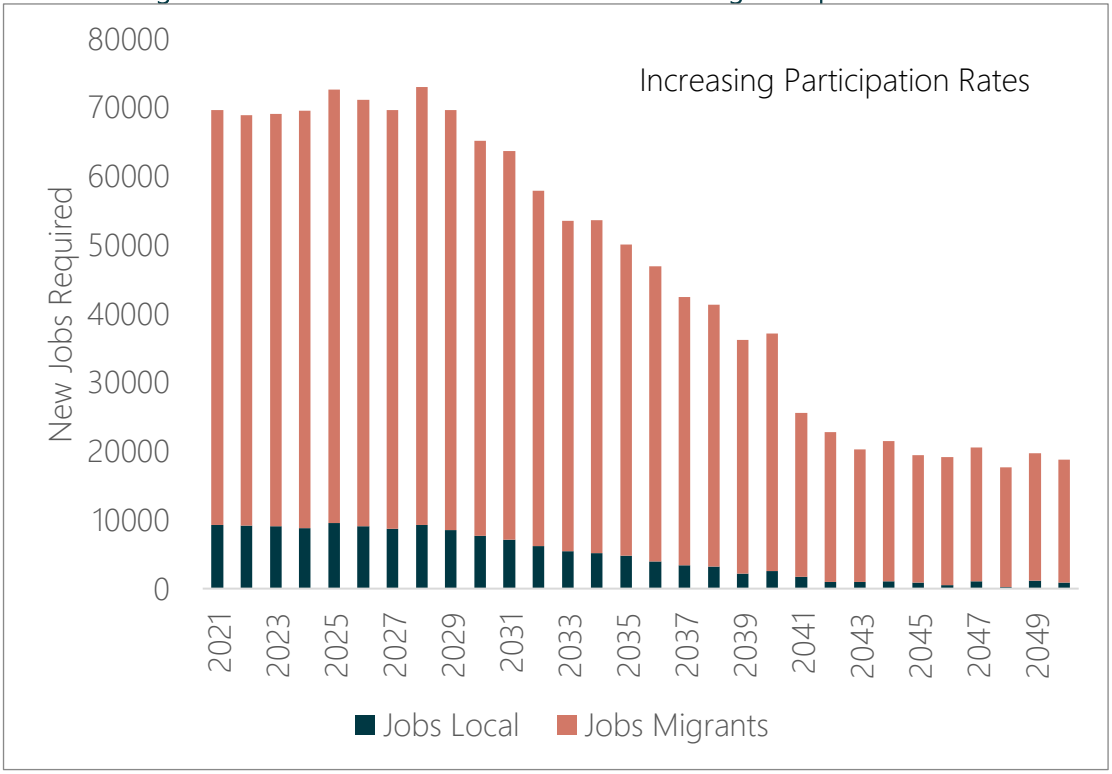


Figure 9. Demand in Terms of Job Creation: Increasing Participation Rates[62]



To keep employment rates constant and recover pre-revolution levels of labour productivity in the next decade, the economy would need to grow at a rate of over 7% per year.[63]

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[61] Source: Authors calculations based on United Nations demographic projections. The numbers need to be interpreted with caution. While demographic projections within countries tend to be reliable, there is uncertainty about future migration flows and changes in participation rates.

[62] Source: Authors calculations based on United Nations demographic projections

[63] In 2019 the GDP growth was of 2,56%. Source: data.worldbank.org/indicator.

Indeed, the demand in terms of economic growth to keep employment rates constant depends on what happens with labour productivity. If labour productivity remains constant, the growth rate of the economy would need to be equal to the growth rate of employment. Hence, given the expected growth rates of the labour force, the economy would need to grow at a real rate between 1.4% and 2.5% per year.

Keeping labour productivity constant, however, is not a realistic scenario, since the economy still needs to recover the labour productivity losses of the last decade through innovation and structural transformations. To give an idea of the challenge, just to go back to pre-revolution levels over the next 10 years, labour productivity would need to grow at 5.3% per year. This implies that to keep employment rates constant the economy would need to expand at between 7 and 8% per year.[64] Achieving pre-revolution levels of labour productivity within the next five years would require growth rates above 12% per year, which in the current circumstances does not seem feasible.

IV.2. Workers and Labour Market Outcomes

This section analyses the Libyan labour force and the determinants of labour market outcomes. Because the country has not had a recent labour force survey, the 2013 survey and demographic statistics were used to update numbers about:[65]

1) the size of the existing labour force, its geographic distribution, its composition by level of education, and its composition in terms of unemployed and employed workers;
2) the number and distribution of employed workers by type of job, formal/informal contract, and economic sector;
3) the number and distribution of unemployed workers by region, age, and level of education. The survey was also used to estimate how individual characteristics and geography affect activity and employment rates, the likelihood of different types of jobs (wage/own account, formal/informal), and hourly earnings.

It is estimated that Libya has today a labour force of around 2.5 million workers, among which 818,000[66] being migrant workers concentrated in five urban centres and with a level of education above that of other countries in the region. Five districts – Tripoli, Benghazi, Jabalalgharbi, Misrata, and Murqub – capture 62% of this labour force. Although women represent half of the working age population, they account for only 37% of the labour force given lower participation rates (see Table 1). The share of skilled workers in the labour force is higher than that observed in the other countries in the region, but also countries like

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[64] The growth rate of the economy is given by: $g = v + l + vl$ where v is the growth rate of labour productivity and l is the growth rate of the labour force (or the growth rate of employment if the employment rate remains constant).

[65] The assumption we used here is that the various statistical distributions from the last survey have not changed. This is a strong assumption and therefore the results from the analysis should be interpreted with caution.

[66] This figure is based on modelling from the Labour Force Survey and as such does not correspond to the IOM DTM data that identified 570,000 migrants in Libya.

Malaysia or Chile.[67] Thus, 37% of workers have tertiary education and only 12% have primary education or less. Education levels are higher among women where one in two have a university diploma (see Table 2).

Table 1: Size and Distribution of the entire Labour Force by Gender and Region

	Male		Female		total	national %
District						
alwahat	40,817	60%	26,657	40%	67,474	3%
benghazi	178,104	69%	80,446	31%	258,550	10%
butnan	42,637	60%	28,949	40%	71,586	3%
derna	40,856	54%	34,229	46%	75,086	3%
ghat	7,688	58%	5,473	42%	13,161	1%
jabalalakhdar	62,278	56%	48,788	44%	111,067	4%
jabalalgharbi	84,445	61%	54,755	39%	139,200	6%
jafara	125,780	61%	81,405	39%	207,185	8%
jufra	13,560	52%	12,394	48%	25,954	1%
kufra	11,339	61%	7,316	39%	18,655	1%
marj	53,916	56%	41,606	44%	95,521	4%
misrata	144,158	72%	56,354	28%	200,513	8%
murqub	122,032	69%	55,758	31%	177,789	7%
murzuq	23,824	53%	21,096	47%	44,921	2%
nalut	22,993	55%	18,835	45%	41,828	2%
nuqatalkhams	78,491	56%	62,603	44%	141,094	6%
sabha	35,887	60%	23,757	40%	59,643	2%
sirte	36,328	62%	21,844	38%	58,172	2%
tripoli	307,651	67%	154,016	33%	461,667	19%
wadialhayaa	23,732	56%	18,881	44%	42,613	2%
wadialshatii	21,671	53%	19,224	47%	40,894	2%
zawiya	80,788	60%	54,685	40%	135,473	5%
Total	1,558,976	63%	929,072	37%	2,488,048	100%

Source: Author's calculations based on Labour Force Survey 2013 and demographic data

Table 2: Distribution of the Labour Force by Level of Education

	Male		Female		total	national %
Levels of education						
Primary or less	229,726	75%	77,331	25%	307,057	12%
Preparatory	307,881	82%	67,070	18%	374,951	15%
Secondary	544,572	62%	330,076	38%	874,647	35%
Tertiary	476,742	51%	454,650	49%	931,392	37%
Total	1,558,921	63%	929,127	37%	2,488,048	100%

Source: Author's calculations based on Labour Force Survey 2013 and demographic data

Even before the COVID19 pandemic, unemployment and growing informality were two of the main challenges the country was facing. An estimated 20% of the labour force is unemployed. Informality is also likely to have increased from 10% in year 2013 to a conservative estimate of 20% today (see **Error! Not a valid bookmark self-reference.**). Indeed, by some estimates, between 30% and 40% of official GDP could come from the informal economy.[68] Thus, consistent with trends in labour productivity growth, an important share of the jobs created in the last six years have been jobs in the informal sector or informal jobs in formal businesses. Two thirds of these jobs are held by own account workers.

Table 3: Distribution of the Labour Force and the Employed Population 2020

[67] World Bank Development Indicators, 2020.

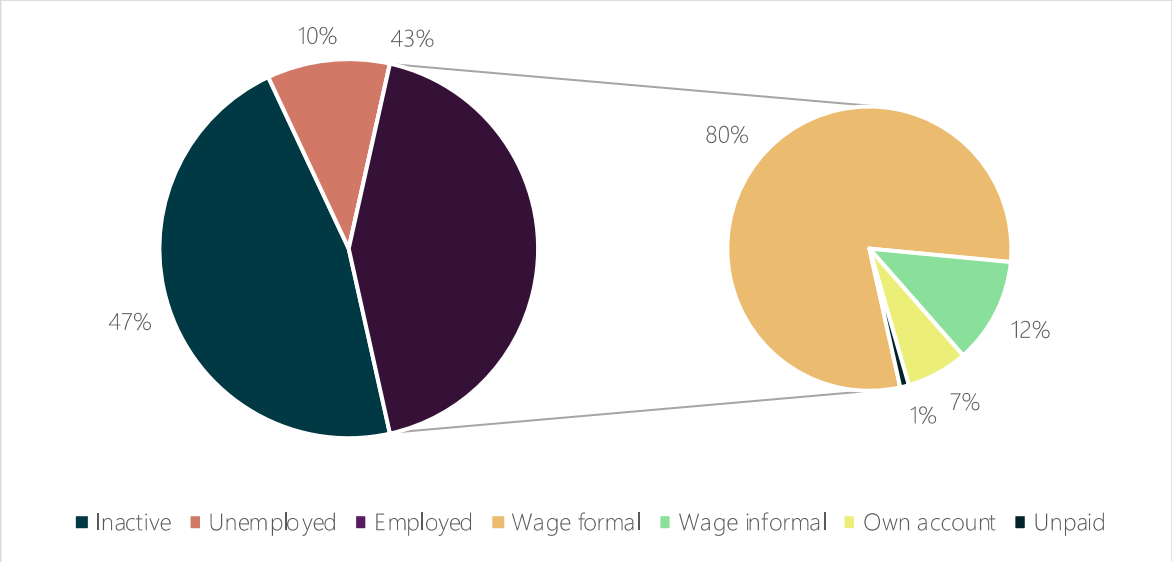
[68] See 'Economic Perspectives in the Middle East and North Africa Region' (African Development Bank, 2020).

Working Age	4,651,000	
Labor Force	2,488,048	*53%*
Unemployed	486,956	*20%*
Employed	2,001,092	*80%*
Wage formal	1,600,874	*80%*
Wage informal	240,131	*12%*
Own account	140,076	*7%*
Unpaid	20,011	*1%*

Source: Author's calculations based on Labour Force Survey and demographic data. The share of formal work was estimated under the assumption that only 10% of new jobs since 2013 were created in the public sector and that, per the data, only half of private sector jobs are formal jobs.

The pandemic is very likely to have increased both unemployment and informality and reduced earnings. The number of COVID cases and deaths in Libya have been increasing continuously, although the fatality rate has dropped. Like in other countries, social distancing and lockdown measures have created simultaneously a *supply* and *demand* shock, by affecting the ability of businesses to operate and by reducing consumption.[69] Workers are then affected in different ways: workplace closures, loss in working hours, and reductions in labour income.[70] The international evidence suggests that the impacts are likely to be more severe for workers in the construction, services, and commerce sectors and those in small and medium enterprises, particularly in the informal sector. In general, low-skilled workers in occupations where telework is not possible are more at risk.[71] In the case of Libya, given that a large number of workers remain employed in the public sector, the impact of the pandemic on job losses is likely to have been less severe.

Figure 10. Composition of the Working Age Population (n= 4 651 000)

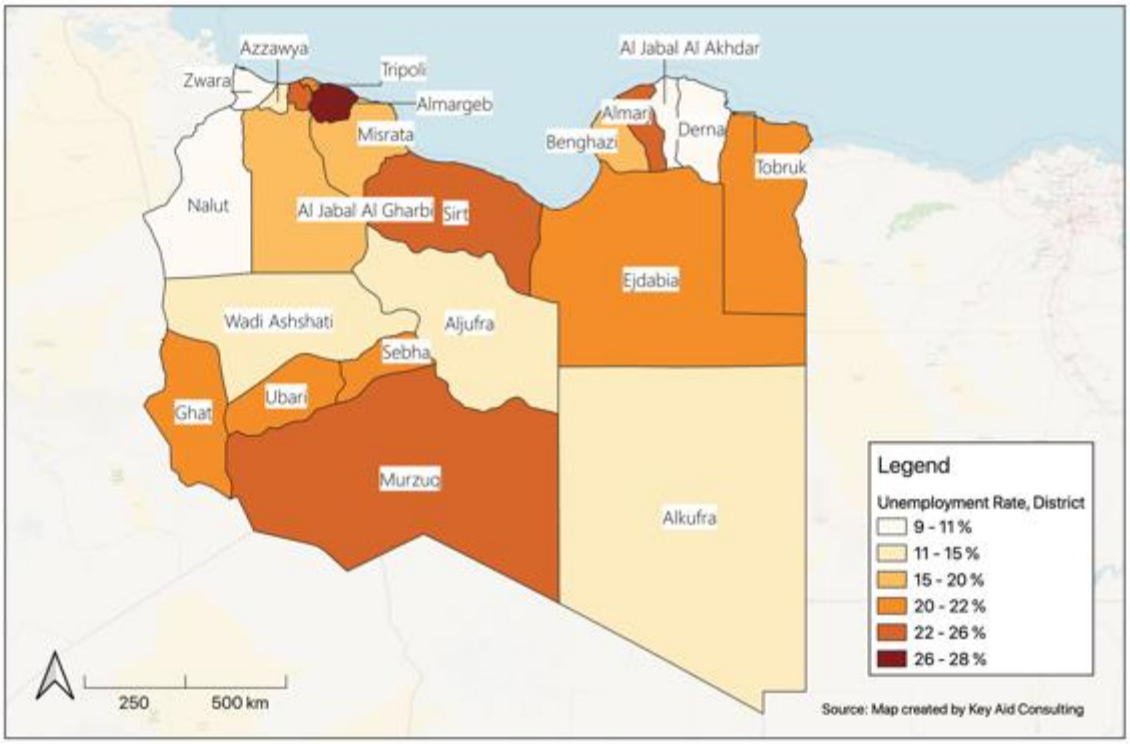


There are important variations in unemployment rates by district, age, gender and education. The highest unemployment rates, above 25%, are found in Kufra, Murzuq, and

[69] Robalino David (2020). "The Covid-19 Conundrum in the Developing World: Protecting Lives or Protecting Jobs?" IZA Discussion Paper No. 13136.
[70] ILO Monitor: COVID-19 and the world of work. Sixth edition Updated estimates and analysis.
[71] Bonavida Foschiatti C. y Gasparini L. (2020). El Impacto Asimétrico de la Cuarentena. CEDLAS. Documento de Trabajo Nro. 261.

Sirte[72]. Ghat and Nalut, on the other hand, have unemployment rates below two digits.[73] Most of the unemployed, however, are concentrated in the same five urban centres as the labour force. In terms of age, unemployment affects youth more than adults; around 77% of the unemployed have less than 34 years of age (Table 4).

Figure 11. Unemployment Rate by District (2020)



Women also have a higher risk of unemployment. Although they represent a smaller share of the labour force there are as many women unemployed as men. This can be explained, in part, by women being more constrained in terms of employment choices probably as a result of social norms.[74] For instance, as shown below, women are less likely to enter self-employment. Finally, the majority of the unemployed are semi-skilled and skilled workers (65% have secondary education or more) which suggests that there are problems in terms of skills mismatches in the labour market (see Error! Not a valid bookmark self-reference. and Table 5).

[72] This can be explained by several factors such as the distribution of different types of workers in different cities, which goes beyond the scope of this analysis.

[73] Given available data is has not been possible to identify the causes of these differences in unemployment rates.

[74] Based on discussions with key informants.

Table 4: Distribution of the Unemployed by Age and Region

	15 to 24		25 to 34		35 to 44		45 to 54		55 to 64		65 and above		total	Unemploy rate
District														
alwahat	3 797	26%	7 655	53%	2 988	21%	107	1%	0	0%	0	0%	12 360	21,7%
benghazi	13 509	27%	22 337	45%	9 366	19%	2 882	6%	1 441	3%	540	1%	42 546	19,5%
butnan	5 780	36%	7 467	47%	2 047	13%	603	4%	0	0%	0	0%	13 506	22,3%
derna	1 603	24%	2 726	40%	1 979	29%	375	6%	0	0%	94	1%	5 758	9,1%
ghat	1 038	37%	1 604	57%	126	4%	32	1%	0	0%	0	0%	2 379	21,4%
jabalalakhdar	5 771	52%	3 899	35%	780	7%	468	4%	157	1%	0	0%	9 410	10,0%
jabalalgharbi	8 603	31%	15 575	56%	2 967	11%	148	1%	297	1%	0	0%	23 441	19,9%
jafara	14 011	29%	21 760	45%	8 198	17%	3 429	7%	298	1%	298	1%	40 776	23,3%
jufra	896	27%	1 422	42%	685	20%	315	9%	0	0%	53	2%	2 864	13,1%
kufra	771	34%	1 301	57%	145	6%	0	0%	0	0%	48	2%	1 924	12,2%
marj	8 520	34%	11 775	47%	2 788	11%	1 239	5%	310	1%	310	1%	21 191	**26,3%**
misrata	11 386	30%	18 254	47%	5 241	14%	2 169	6%	543	1%	904	2%	32 708	19,3%
murqub	13 321	27%	24 351	49%	7 018	14%	3 294	7%	1 003	2%	716	1%	42 229	**28,1%**
murzuq	2 260	21%	5 786	54%	995	9%	1 265	12%	271	3%	181	2%	9 140	**24,1%**
nalut	1 337	33%	2 310	58%	365	9%	0	0%	0	0%	0	0%	3 409	9,6%
nuqatalkhams	3 791	24%	7 424	47%	2 054	13%	1 737	11%	474	3%	158	1%	13 287	11,1%
sabha	3 819	31%	5 728	46%	1 709	14%	804	6%	201	2%	201	2%	10 589	21,0%
sirte	4 297	29%	6 039	41%	2 671	18%	697	5%	465	3%	465	3%	12 433	**25,3%**
tripoli	22 038	22%	50 344	51%	19 187	19%	4 560	5%	2 660	3%	760	1%	84 580	21,7%
wadialhayaa	2 755	29%	4 563	48%	1 205	13%	517	5%	258	3%	172	2%	8 046	22,4%
wadialshatii	1 999	34%	2 693	46%	869	15%	174	3%	0	0%	174	3%	5 020	14,5%
zawiya	4 640	24%	11 164	59%	2 754	15%	435	2%	0	0%	0	0%	16 137	14,1%
Total	135 941	28%	236 176	49%	76 137	16%	25 252	5%	8 375	2%	5 074	1%	486 956	

Source: Author's calculations based on Labour Force Survey.

Table 5: Distribution of the Unemployed by Gender and Level of Education

	Male		Female		total	national %
Levels of education						
Primary or less	47 553	56%	38 036	44%	85 589	18%
Preparatory	54 621	65%	29 092	35%	83 713	17%
Secondary	77 284	53%	68 692	47%	145 976	30%
Tertiary	65 232	38%	106 447	62%	171 678	35%
Total	244 690	50%	242 266	50%	486 956	100%

Source: Author's calculations based on the Labour Force Survey.

The predominant employer continues to be the public sector, but it is likely that its share of total employment has declined. Back in 2013, close to 80% of workers reported to be employed in the public administration. For this share to have remained constant, however, public employment in the public sector would have had to be growing at the same rate than total employment; an average of 1,8% per year. Employment in the public sector, however, has not been expanding. It is estimated therefore that employment in the services and public administration sector declined to 70% in the last six years.[75] If the share of employment in the other sectors is adjusted pro-rata, the two second largest employers are the manufacturing and wholesaling/retailing sectors. The agricultural sector continues to be an abnormally low contributor to jobs. (see Table 6). This is explained only in part by the low availability of agrarian land, especially irrigated land. The lack of investments in the sector is also likely to be explained by low productivity levels and low expected rates of return.

Table 6: Distribution of the Employed Population by Economic Sector

	Male	%	Female	%	total	national %
Agriculture, Forestry and Fishery	21 250	93%	1 484	7%	22 734	1%
Electricy, gas and water supply	65 738	94%	4 145	6%	69 883	3%
Mining and quarrying	31 873	97%	959	3%	32 832	2%

[75] The growth rates in the share of public employment is given by: $s_p(2020) = s_p(2013) * \left(1 - \frac{\dot{e}}{1+\dot{e}}\right)^7$ where $\dot{e}$ is the average annual growth rate of employment in the period.

No activity	161 990	98%	3 046	2%	165 036	8%
Processing industries	116 807	88%	16 393	12%	133 200	7%
Services sector	807 659	58%	593 106	42%	1 400 765	70%
Structures, construction and building	42 773	95%	2 124	5%	44 897	2%
Wholesaling and retailing and repairing motor vehicles	128 036	98%	2 473	2%	130 509	7%
Total	1 376 126		623 730		1 999 856	100%

Source: Author's calculations based on Labour Force Survey and demographic data

Figure 12. Distribution of Employed Population by Sector

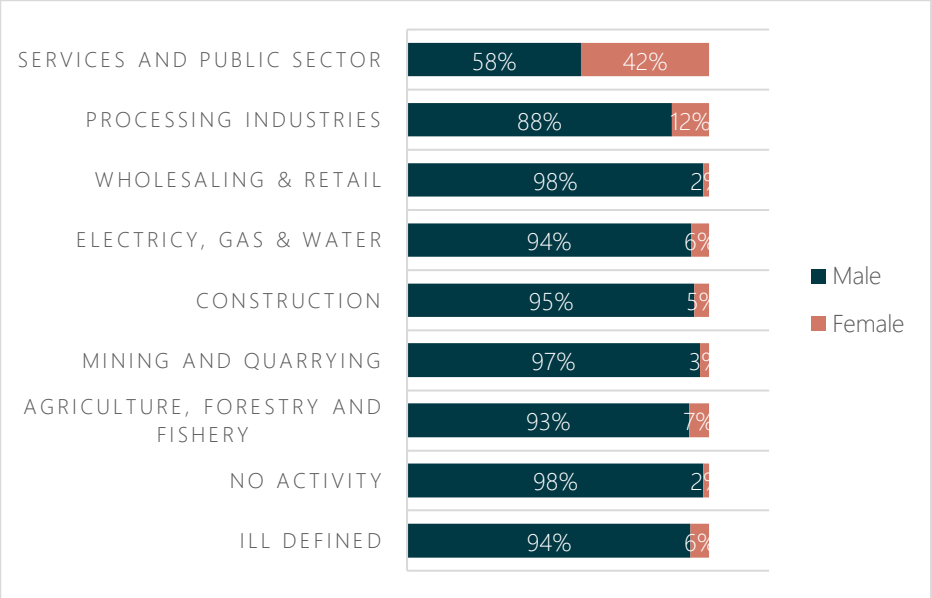
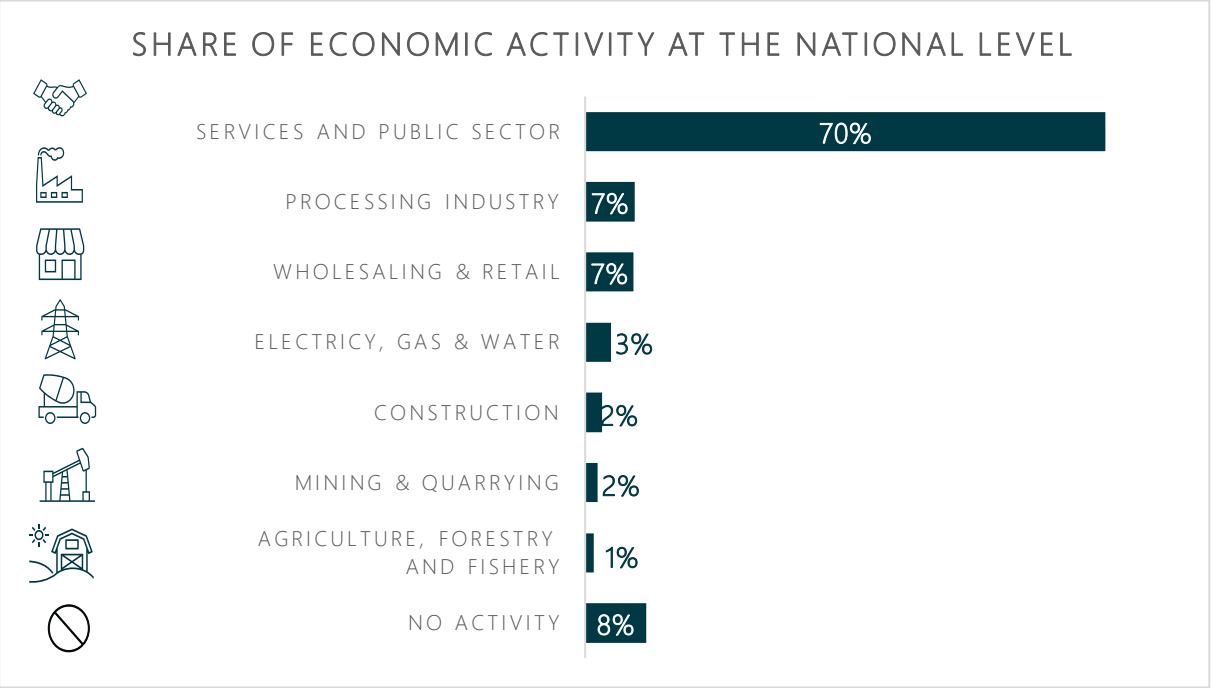


Figure 13. Share of Economic Activity at the National Level (2020)



It is possible to rank the individual and geographic factors that affect labour market outcomes to guide the design of alternative policy interventions.[76] For instance, if the objective is to strengthen the economy by reducing the unemployment rate, it is important to understand whether the interventions should take place across sectors in specific regions or if the government should target specific population groups. Similarly, with informal wage employment and own account work. In some cases, these types of jobs are more likely in certain economic sectors or regions, which would require interventions at the business level. In other cases, individual characteristics drive informality which requires interventions that also target certain population groups.

The main factors influencing participation in the labour market are education, geography, age and to some extent gender. Workers with some level of education are more likely to participate in the labour market[77] than workers without education (see top bars in Figure 14). And those with higher education are more likely to do so than those with secondary education who, in turn, are more likely than those with only primary education. In Libya, participation rates also increase with age, and regarding gender, women are 40% less likely to participate in the labour market than men. Regardless of individual characteristics, there are districts such as Ghat, Murzuq, and Wadi al Hayaa where participation rates are higher. This is usually the result of a higher opportunity cost for inactivity (net gains of participating in the labour market are higher) and/or liquidity constraints (workers cannot afford to remain inactive).

In terms of unemployment vs. employment the most important variables are age and gender, followed by regional factors and to a lesser extent education. Other things being equal, women are twice as likely to be unemployed than men (see Figure 14). Age, on the other hand, reduces the likelihood of unemployment up to a point when unemployment

[76] See Appendix for a description of the methodology and a summary of the results.
[77] The labor market is composed of formal and informal jobs

becomes more likely (around 30-year-old). Essentially, youth and the elderly are more likely to be unemployed than adults. In general, unemployment is less likely in urban areas than in rural areas. In Benghazi, Jabal al Gharbi, and Sirte unemployment rates are considerably lower than in Tripoli. It would seem that this is explained, in part, by the migration of certain population groups such as the Muzaratis out of the cities to smaller towns such as Muzarata. This is likely to have reduced competition for jobs or the "tightness" of the labour market.[78]

Been married and/or being a household head also reduces the probability of unemployment. The level of education has a less important role predicting unemployment. Having some education vs. no education reduces the probability of unemployment. However, those with tertiary education are more likely to be unemployed than those with secondary education who in turn are more likely to be unemployed than those with primary education. This again suggests the existence of skills mismatches: an overqualified population *vis à vis* the opportunities available; or workers having university diplomas for occupations that are not in demand, or without having acquired the relevant skills associated with those diplomas. The result can also be explained if workers with higher levels of education are also more likely to afford waiting for formal jobs in the private (or public) sector; they would have a higher reservation wage.

When it comes to the type of job, informal wage employment is mainly explained by geographic factors and the level of education. In regions like Benghazi, for example, the probability of entering informal wage employment relative to formal wage employment is lower regardless of individual characteristics. This can also be explained by a lower labour market tightness (see discussion about unemployment). Education also plays a role; workers with secondary or tertiary education, other things being equal, have a lower probability of engaging in informal wage employment. Age and gender, however, do not seem to matter much (see Figure 16).

Regarding own account work[79]*, geographic region and age are by far the most important factors*. Own account work is more prevalent in urban areas and young workers are more likely than older ones to be self-employed. This is contrary to what it is observed in middle income countries where the probability of own account work increases with age; workers enter self-employment once they have acquired sufficient work experience. The finding suggests that own account work in Libya is something first-time job seekers engage in given the lack of enough wage employment. Gender and education have a secondary role to play. Women and those with a university diploma are less likely to engage in own account work.

Figure 14. Correlates of Inactivity[80]

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[78] Based on the interviews with key informants.

[79] As per the ILO: "Own-account workers are those workers who, working on their own account or with one or more partners, hold the type of job defined as a self- employed job, and have not engaged on a continuous basis any employees to work for them during the reference period"

[80] Source Figure 14 -

Figure 17: Authors calculations based on the Labour Force Survey. The size of the bar determines how important is the variable that is being analysed.

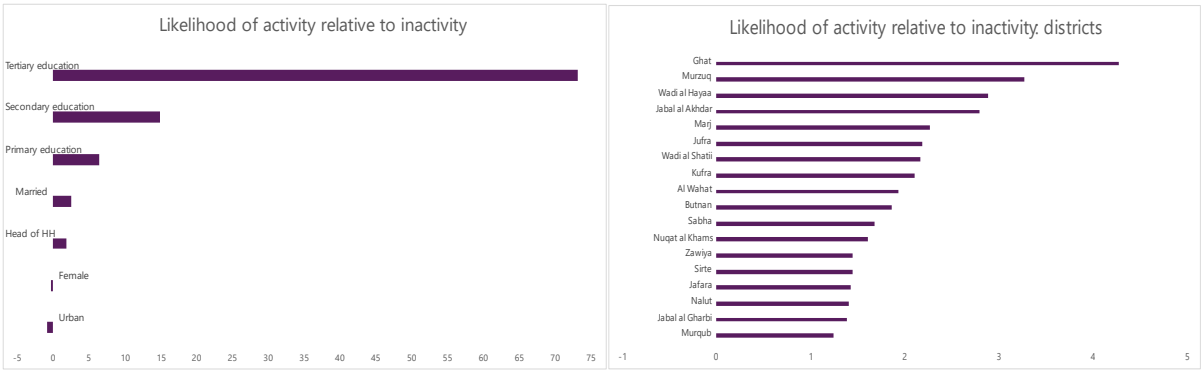


Figure 15. Correlates of Unemployment

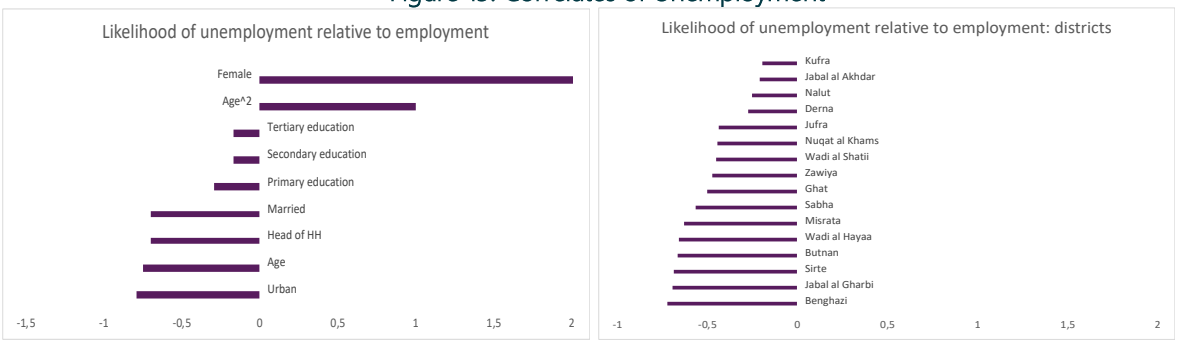


Figure 16: Correlates of Job Type: Informal Employment

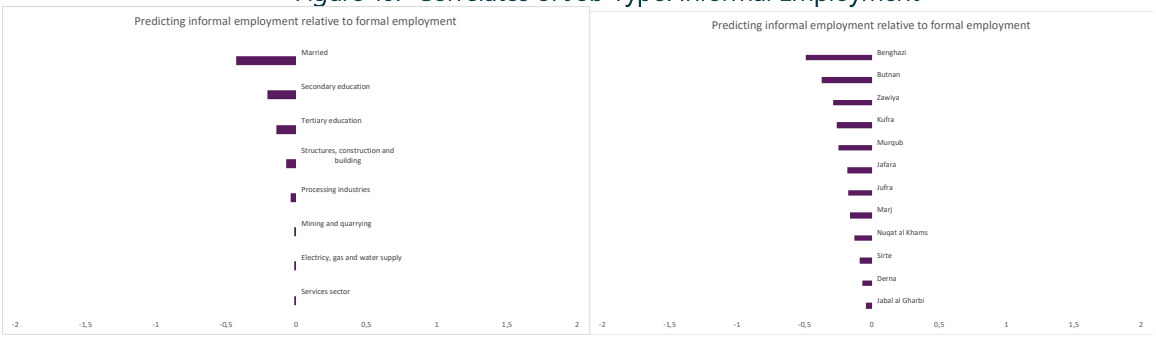
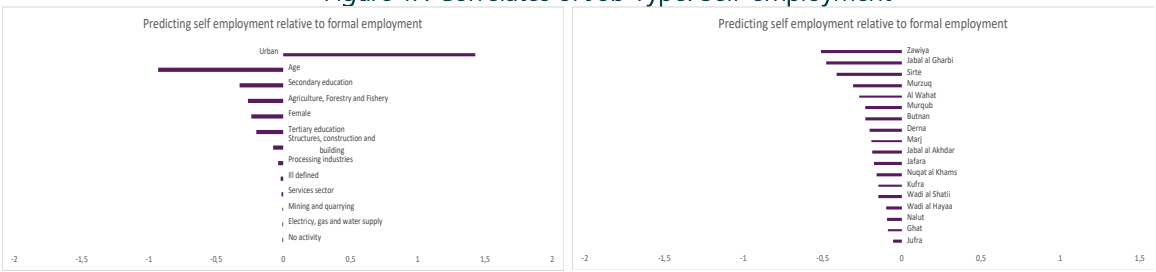


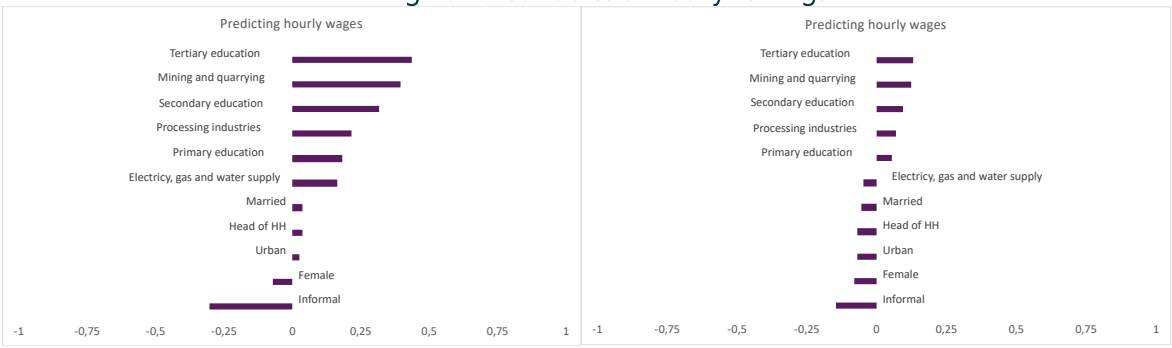
Figure 17. Correlates of Job Type: Self-employment



Regarding earnings, the level of education and, to a certain extent, gender are the main correlates in terms of individual characteristics. Education increases hourly earnings, but rates of return seem to be low. Having a university diploma, for instance, increases earnings only 1,6 times relative to somebody without education and the effects of secondary education are not very different (1,5). Essentially, there seems to be little monetary payoff to invest in higher education. Enrolment rates in tertiary education might have been high because having a university diploma is considered a signalling mechanism or because, in the past, it guaranteed a job in the public sector. Women earn, on average, 10% less than men (see Figure 18).

Sectoral and regional factors are also important predictors of hourly earnings. Hourly earnings are higher in the mining, electricity and utilities, and manufacturing sectors. In general, informal workers earn 30% less than formal sector workers. In regions like Butnan, Kufra, and Misrata workers can earn more than average, whereas in regions like Sabha and Nalut earnings are lower. To some extent this is the reflection of the level of unemployment in the region. Earnings are lower where unemployment is higher.

Figure 18: Correlates of Hourly Earnings



Source: Author's calculations based on the Labour Force Survey. The length of the bar is given by the value of the estimated coefficient. It determines how important is the variable that is being analysed.

IV.3. Opportunities for Job Creation and Diversification

This section analyses Libya's current potential for job creation across sectors and opportunities for economic diversification into new economic activities and products. The first part of the analysis relies on a simple input-output model of the Libyan economy calibrated on the basis of National Accounts data (see Annex IX.1.1**Error! Reference source not found.**). The model is used to show how the expansion of output in different economic sectors could translate into a given number of direct and indirect jobs. This number can then be compared to the number of jobs that would be created if all sectors grew at the same rate without changes in labour productivity. The second part of the analysis on opportunities for economic diversification uses Libya's existing product space to identify new products and economic activities where private investments could take place.[81]

IV.3.1. Existing Potential for Job Creation

Over the last two decades there have not been structural transformations in the economy; the distribution of value added across sectors has remained, to a large extent, unchanged. The main economic engine continues to be the mining and the oil sector, capturing 63% of total value added (see Table 7). The other productive sectors play a minor role in the economy, particularly the agricultural sector which generates less than 1% of total value added. The manufacturing, transport, and communications sectors are small for Libya's level of development producing only 3,5% and 4,6% of value added respectively. At the other

[81] The product space for Libya has been mapped in the Atlas of Economic Complexity from Harvard University.

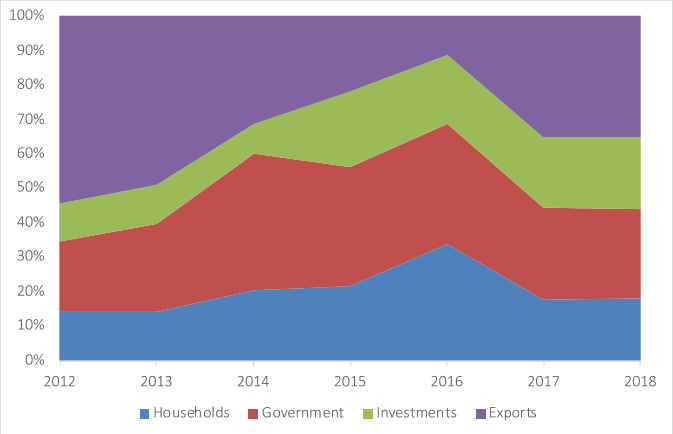
end, other services, which include mainly those provided by the public administration, are supposed to generate 23% of total value added.

From the demand side there has been more variation in terms of the sources of growth with oil exports and government expenditures taking the lead. In the aftermath of the revolution, the main demand for Libyan products came from oil exports to the rest of the world. The share of these exports represented 50% of GDP in year 2012 but declined to only 10% in 2016 and has now stabilized at around 35%. Government expenditures were the main source of growth between 2012 and 2016 and today account for close to 30% of GDP. Contrary to other countries at the same level of income, the contribution of households' consumption has been small fluctuating between 10% and 20% of GDP (see Figure 19).

Table 7: Distribution of Value Added and Employment in the Libyan Economy[82]

	Value Added	Employment	Relative Productivity
Agriculture, hunting, forestry, fishing (ISIC A-B)	0.9%	0.9%	1.02
Mining, Manufacturing, Utilities (ISIC C-E)	63.3%	2.4%	26.83
Manufacturing (ISIC D)	3.5%	8.7%	0.40
Construction (ISIC F)	1.4%	6.8%	0.21
Wholesale, retail trade, restaurants and hotels (ISIC G-H)	4.6%	6.0%	0.76
Transport, storage and communication (ISIC I)	3.3%	6.3%	0.53
Other Activities including Public Administration (ISIC J-P)	23.0%	69.0%	0.33

Figure 19: Sources of Growth[83]



Current growth patterns imply that jobs will remain concentrated in the public sector and in low productivity activities. Today, close to 70% of jobs are in the public administration where labour productivity is lower than in any other sector other than construction. Given that economic growth is being driven by oil exports and the resources demanded by the public administration (mainly human resources), there are little opportunities for economic diversification and faster employment growth.

The lack of structural transformations also reduces the number of jobs that can be created relative to scenarios where some economic sectors expand faster than others. As an illustration, if the Libyan economy grows at 1% per year without changes in its structure, employment would also be growing at 1% per year. This assumes that in the absence of

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[82] Source: Authors calculations based on National Accounts Data. Relative productivity is the ratio is the ratio of the share of value added by the share of employment,.

[83] Source: Authors calculations based on National Accounts Data.

structural transformations labour productivity within each economic sector remains constant. In this case, the growth rate of output and the number of jobs would be the same. Since today there are around 2 million jobs, the economy would be creating some 20,000 jobs per year, less than the growth rate of the labour force. But, as discussed next, if investment and output grow faster in certain economic sectors, the economy could more than double the number of jobs.

Structural transformations can create more and better jobs, particularly when there are productive linkages between, at least some, economic sectors, which appears to be the case in Libya. Essentially, when investments and output increase in a given sector direct jobs can be created. But if the sector in question uses intermediate consumption from other economic sectors, output will also expand in those sectors creating indirect jobs. National accounts data of output by sector suggest that although linkages across sectors are relatively weak, they are nonetheless important for the creation of indirect jobs (see Table 8). The more integrated sectors, that is the sectors that depend more from other sectors, seem to be agriculture followed by construction and manufacturing. These are sectors where private investments are more likely to create jobs in other sectors. The least integrated sectors, not surprisingly, are mining and the public administration.

Table 8: Level of Integration of Different Economic Sectors

	Agriculture	Mining	Manufacturing	Construction	Commerce	Transport	Other
Agriculture	0.054	0.002	0.050	0.040	0.000	0.014	0.000
Mining	0.093	0.032	0.192	0.140	0.166	0.167	0.052
Manufacturing	0.090	0.002	0.023	0.086	0.042	0.048	0.000
Construction	0.068	0.002	0.050	0.079	0.002	0.018	0.000
Commerce	0.194	0.100	0.104	0.101	0.069	0.072	0.000
Transport	0.164	0.100	0.090	0.083	0.062	0.000	0.004
Other	0.214	0.061	0.153	0.140	0.217	0.247	0.077
Integration INDEX	***0.88***	***0.30***	***0.66***	***0.67***	***0.56***	***0.57***	***0.13***

Source: Authors based on National Accounts Data. The coefficients in each column range between 0 and 1 and capture the demand for intermediate consumption from other sectors. The higher the value of the coefficients, the higher the level of demand. The integration index in the last raw is the sum of the coefficients in the column and is used to measure the degree of the integration of the sector in question with other economic sectors.

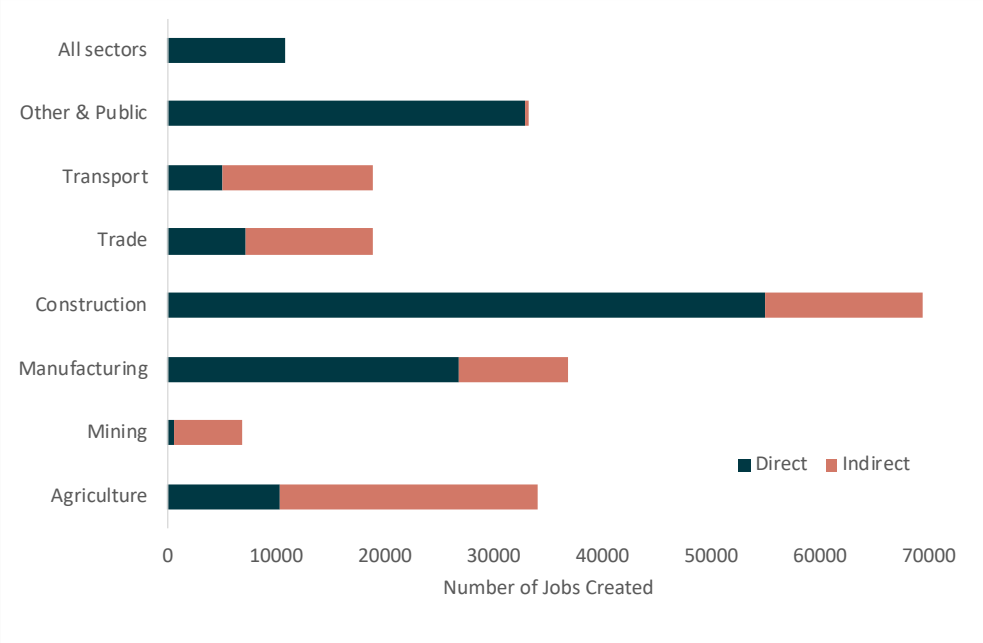
Simulations suggest that the **sectors with the highest potential to create jobs, direct and indirect, are construction, followed by agriculture and manufacturing.** These sectors are also the ones that traditionally have a high share of migrant workers. For instance, expanding output in the construction sector by the equivalent of 1% of GDP, around 330 million Libyan Dinars (LD), could create 70,000 new jobs. Of these, 55,000 would be created in the construction sector and 15,000 in other sectors. This, of course, does not imply that it is realistic to expect that the construction sector alone could contribute 1% of GDP; the sector has been contracting. The point is to illustrate that investments and the expansion of output in that sector are more likely to create jobs, vs investments, for instance, in mining or the transport sector. Similarly, with investments in agriculture and manufacturing; an expansion of output of LD 330 million in agriculture could generate 35,000 jobs in agriculture and 38,000 jobs in manufacturing (see Figure 20).

It is important to acknowledge, however, that **achieving the maximum potential in terms of job creation also implies accepting lower labour productivity growth**. By definition, if the same expansion of output in a given sector creates more jobs, it also means that labour productivity in that sector would be growing at a lower rate. This, however, can be an acceptable trade-off for public policy if the objective is to create more formal jobs for more

workers. As discussed in the next section, in this case policymakers can consider stimulating investments and job creation in lower productivity sectors to improve labour market outcomes at the expense of higher returns to capital.[84]

For public policy it is also necessary to understand that although the results presented in this section are quite aggregate, they provide important information to target particular economic activities within sectors. For instance, in the case of the agricultural sector which also includes forestry and fisheries, there are many options in terms of crops or animal production as well as links to transformation activities in agroindustry. The same in the manufacturing sector; there are multiple options in terms of economic subsectors where investment could take place. Hence, once a broad economic sector has been selected for further exploration and eventual support, local knowledge can be used to identify the economic activities that have the highest chance of success (see next sub-section). This is because usually these are activities where there are already businesses and workers involved and what is needed is to facilitate new investments and the expansion of these businesses.

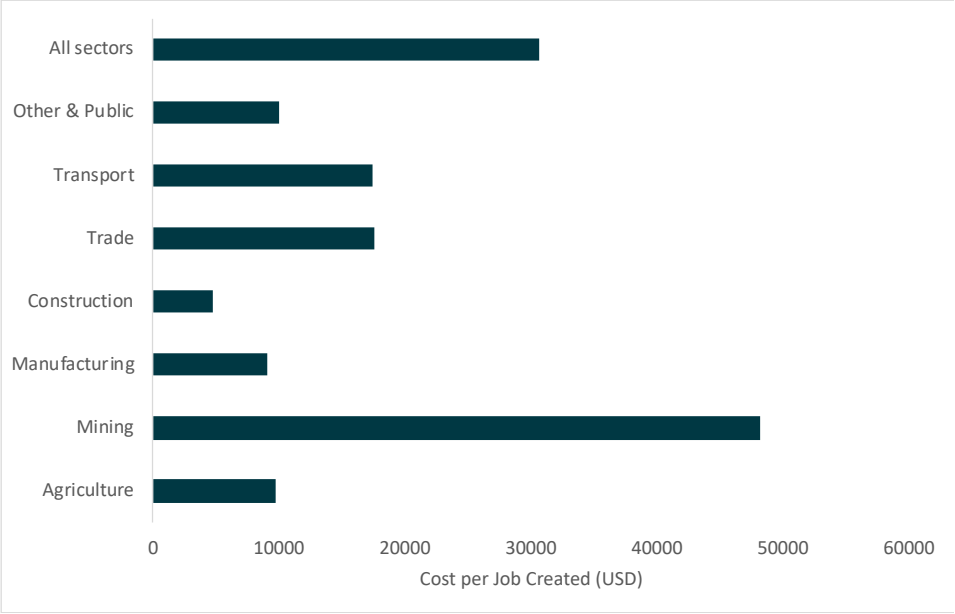
Figure 20: Potential for Job Creation in Each Sector from an Increase in Output Equivalent to 1% of GDP and Output per Job: Number of Jobs Created[85]



[84] See Robalino, Romero, and Walker (2020).

[85] Authors based on National Accounts Data. The bars give the total number of jobs that can be created given an increase in output equivalent to 1% of GPD. Direct jobs are those created within the economic sector in question. Indirect jobs are jobs created in other sectors. All Sectors is the reference scenario. It assumes that that total GDP and output in all sectors grow by 1%, which implies that the share of total value added produced by each sector remains constant.

Figure 21. Potential for Job Creation in Each Sector from an Increase in Output Equivalent to 1% of GDP and Output per Job: Cost per Job Created



Finally, although the "other services" sector does not appear to offer many opportunities to job creation, it deserves to be studied more closely, particularly in the areas of social services, information technologies, and digital platforms. As discussed, in the aggregate, the sector does not appear to be well integrated with the rest of the economy. This could be, in part, due to the overwhelming presence of the public administration. At the same time, it is known from international experiences that the potential for job creation in social services like children and elderly care, can be quite large. Back of the envelope calculations using employment data on education, health, residential care, and social work from OECD countries applied to low and middle-income countries suggest that around 60 million jobs could be created by 2030.[86] These are only specific types of social jobs yet they represent 11% of the total number of jobs that need to be created (around 520 million). In the case of Libya, similar calculations suggest that 66,000 jobs could be created within the next 30 years, around 13% of the total number of jobs needed in that period to keep employment rates constant. Business surveys also suggest that new, high-end jobs, could come from the ICT sector.[87] Digital platforms also offer opportunities for the creation of lower-end jobs (micro work, transportation, delivery services, maintenance and repair) locally or abroad.[88]

IV.3.2. Opportunities for Economic Diversification

When economies diversify, resources, including labour, move from low to higher productivity sectors. The set of *new* products that an economy can produce depends on the

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[86] David Robalino, 'How to Create Jobs Fast: From Public Works and Wage Subsidies to Social Services and Capital Subsidies', *World Bank Blogs* (blog), 2018, https://blogs.worldbank.org/jobs/how-create-jobs-fast-public-works-and-wage-subsidies-social-services-and-capital-subsidies.

[87] David Robalino, Jose Romero, and Ian Walker, 'Allocating Subsidies for Private Investments to Maximize Jobs Impacts' (IZA Institute of Labor Economics, June 2020), https://www.iza.org/publications/dp/13373/allocating-subsidies-for-private-investments-to-maximize-jobs-impacts.

[88] 'Economic Perspectives in the Middle East and North Africa Region'.

set of products the economy is already producing. These products embed knowledge, skills and production technologies that shape what a country can do next. Countries usually diversify into "nearby" products[89] to those in their product space.[90] These are products that require similar knowhow and therefore the investments necessary to produce them become less risky. Investing in products that are "far away" in the product space can be, on the contrary, very risky. The higher the economic complexity[91] of the country the higher the complexity of the products[92] it can produce and therefore the higher the potential for economic growth.

Libya's economy is poorly diversified, and its economic complexity is among the lowest in the world. Libya exported products worth USD $27.3 billion in 2018, mainly to Italy (17.5%), China (13.9%), and Germany (13.4%). Close to 95% of these exports are petroleum oils and crude, petroleum gases, and petroleum oils refined. The rest of the exports include copper, fertilizers, and some agricultural products such as fish, avocados, pineapples and mangoes (see Figure 22). The economic complexity of each of these products is low and therefore Libya is one the countries with the lowest economic complexity index (-1.46), ranking in 128th place out of 133 countries, down from 82 in 1995 (as per the Economic Complexity Index[93]). As a reference, other countries in the region such as Saudi Arabia, Tunisia, and Egypt rank 36th, 46th, and 66th respectively. Saudi Arabia and Egypt have, in fact, increased their economic complexity over the past decade.

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[89] Every two products have a **distance** between them, where products that require similar know-how and capabilities are 'closer' together (i.e. shorter distance, closer to 0), while two products that require completely different capabilities are 'farther' apart (i.e. longer distance, closer to 1). Distance can be thought of as a measure of risk of entering a product, where larger distances express little relatedness to existing know-how and the need to coordinate adding many missing capabilities and inputs in order to enter production, increasing risk. Distance reflects that not every new product has an equal likelihood of success in a location but is dependent on its similarity to the location's existing capabilities, as reflected in the Product Space.

[90] The **product space** depicts the connectedness between products based on the similarities of the know-how required to produce them. The product space visualizes the paths that countries can take to diversify. Products are linked by their proximity to each other, based on the probability of co-export of both of the two products. The product space details the connectedness of nearly 900 products based on the experience of countries' diversification over the past 50 years. It is then possible to map a country's location in the product space from its export basket to understand what they are able to make, what products are nearby (at a short distance) that depend on similar know-how to that which currently exists, and to define paths to industrial diversification.

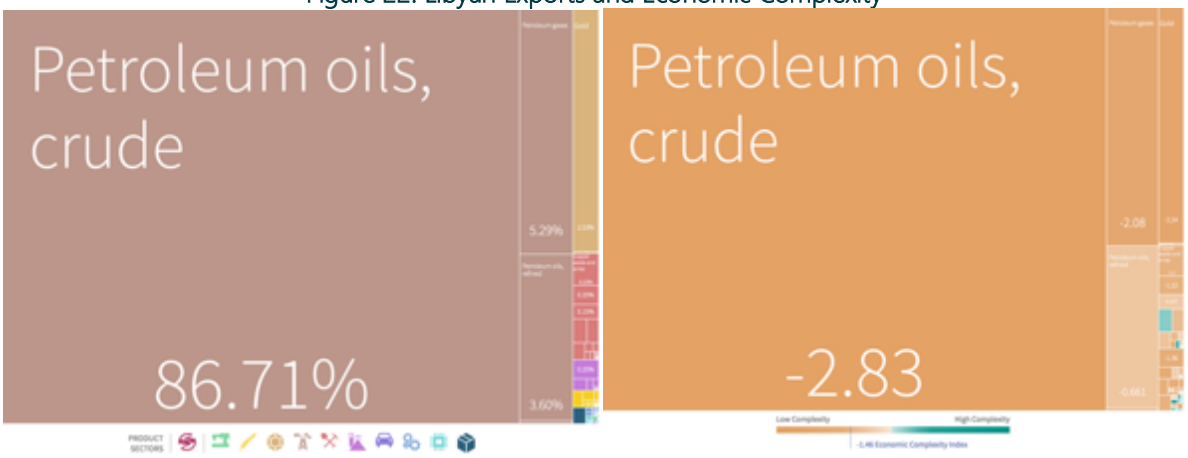
[91] **Economic complexity** is a measure of the knowledge in a society as expressed in the products it makes. The economic complexity of a country is calculated based on the diversity of exports a country produces and their ubiquity, that is the number of other countries able to produce them (and those countries' complexity). Countries can be classified according to an **Economic Complexity Index (ECI)** which reflects how diversified and complex their export basket is.

[92] The **Product Complexity Index** ranks the diversity and sophistication of the productive know-how required to produce a product. PCI is calculated based on how many other countries can produce the product and the economic complexity of those countries. In effect, PCI captures the amount and sophistication of know-how required to produce a product. The most complex products (that only a few, highly complex countries can produce) include sophisticated machinery, electronics and chemicals, as compared to the least complex products (that nearly all countries including the least complex can produce) including raw materials and simple agricultural products.

[93] Harvard Atlas of Economic Complexity : https://atlas.cid.harvard.edu/rankings

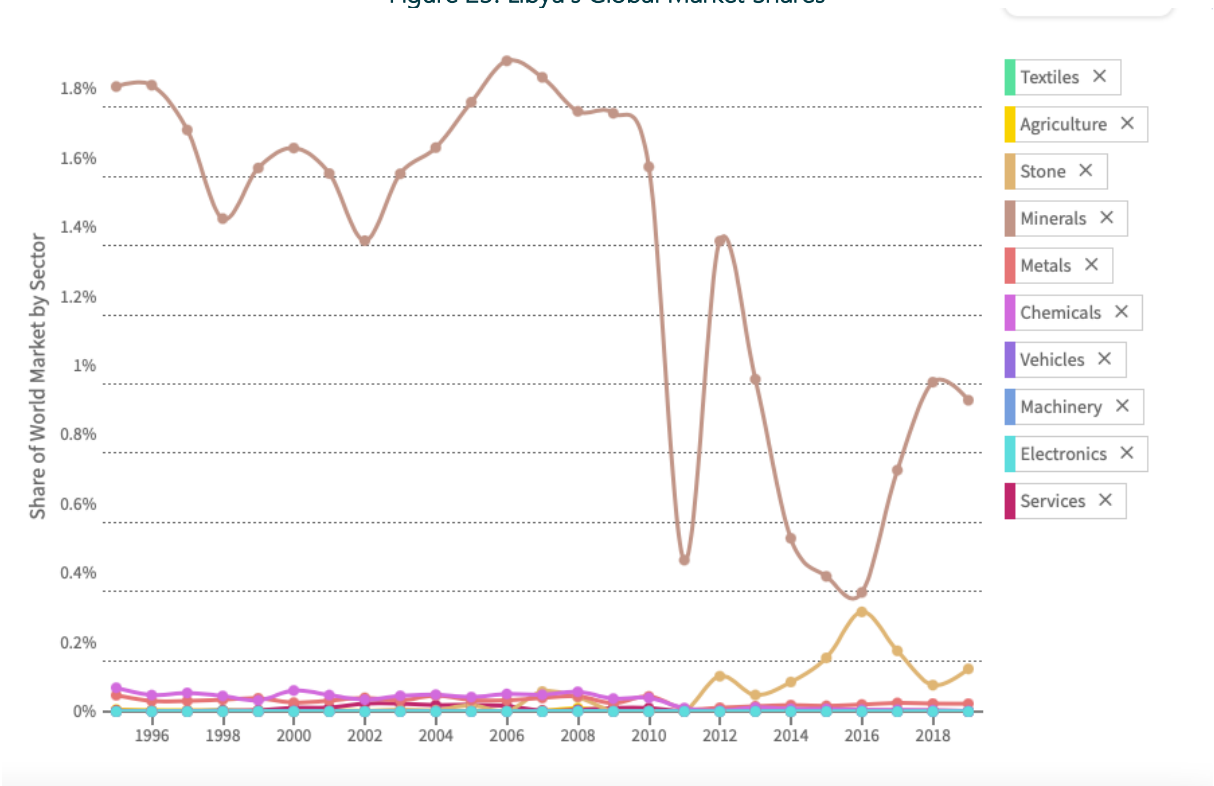
Although the country has added a few, low complexity, products to its product space, it has also lost market shares. Since 2003, three new products have been added to the basket of exports: gold, live fish, and sulphur. At the same time, the global market share in textile exports from Libya stagnated over the previous decade and electronics and machinery have yet to take-off. More recently, over the past five years, exports have been driven by minerals. Unfortunately, exports of minerals have fallen which has affected economic growth (see Figure 23).

Figure 22: Libyan Exports and Economic Complexity



Source: Atlas of Economic Complexity. The left panel gives the distribution of products exported, while the right panel gives the complexity of each of the products and the overal economic complexity of the country.

Figure 23: Libya's Global Market Shares

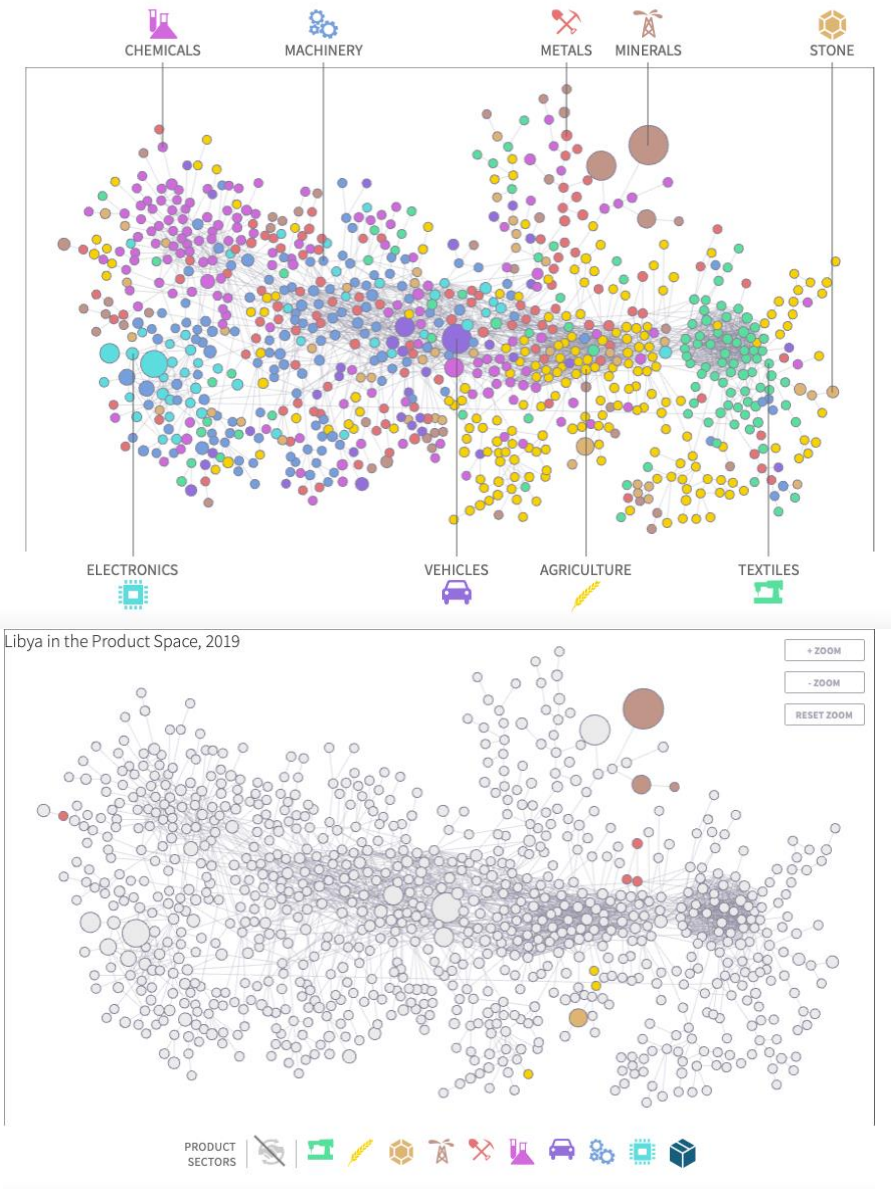


Source: Atlas of Economic Complexity. The panel displays the Libya's global market share for different products.

The current product space for the country shows very few opportunities for economic diversification and therefore for economic growth and employment creation. The network of existing products is quite sparse (see Figure 24). Products in higher productivity sectors

such as machinery, chemicals, or electronics are, in general, "far away". As discussed above, the implication is that the types of investments needed to diversify the economy are risky and therefore very unlikely to take place. Even without taking into account country risks, conflict, and problems with governance and the business environment, the set of investment opportunities is quite limited to attract private investors. As a result, the prospects for economic growth and employment creation are dim. Based on its current level of economic complexity, Libya is expected to grow at average of only 0,5% over the next decade (see Figure 25), far below the 7% needed to maintain employment rates and converge to pre-revolution levels of labour productivity.

Figure 24: Global and Libyan Product Spaces[94]



[94] Source: Atlas of Economic Complexity. The upper panel displays the global product space. Historically, countries have diversified by moving from agriculture into textiles and then, moving to the left, into other sectors such as machinery, chemicals, and electronics. The below panel displays Libya's product space (only coloured dots are part of the product space) which has few interconnections and opportunities for diversification.

Figure 25: Economic Growth Projections for Selected Countries as a Function of the Level of Economic Complexity[95]

However, maintaining the status quo with little, organic, economic diversification would be socially inefficient due to the presence of jobs linked externalities (JLE). These externalities emerge because the social benefit of a given job goes beyond the benefit to the employer and the worker. For instance, when youth have a job they learn new skills and build human capital making other workers and the economy more productive. There is also evidence that women who work tend to invest more in the human capital of their children. In addition, jobs can contribute to social stability. Thus, JLEs create a gap between social and private rates of return on investments. Like in the case of Libya, investments with a low expected private rate of return can have a high social rate of return if the project is able to create jobs for youth or improve the quality of existing jobs. In this case, there is a role for government interventions that align social and private rates of return by offering subsidies to private investors that can take different forms, discussed in the Recommendations section of this report.

On the basis of the above, the research focused on the sectors with the highest potential for job creation and economic diversification to conduct a skill gap assessment focusing on the skill demand and the skill supply within the migrant labour force.

[95] Source: Atlas of Economic Complexity.

V. Skills Gaps Assessment – migrant labour force

The skill gaps assessment focuses on four sectors: a) the agriculture sector, b) the construction sector, c) the agroindustry sector with a focus on food processing and d) social services and the "care" economy. The agriculture, construction and agroindustry sectors resemble the highest potential for job creation and economic diversification. The choice of the care economy as one sector corresponds to the voluntary gendered lens applied to the skill gap assessment.

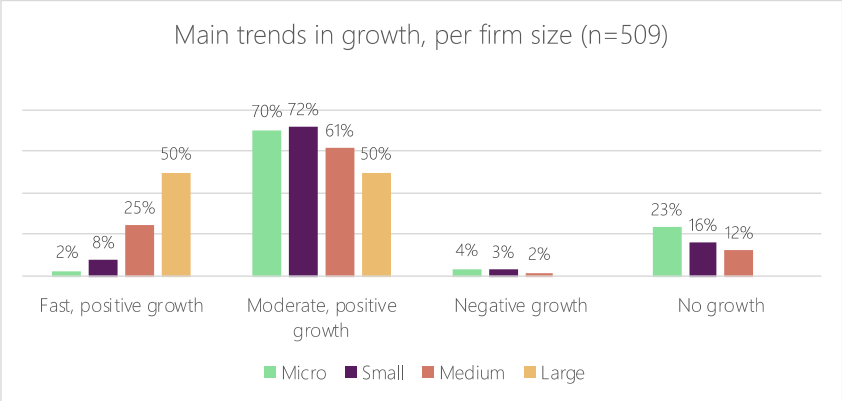
The below examines first the demand in skills and then the skill supply.

V.1. Demand in Skills

V.1.1. Overall private sector profile and key challenges

Political and economic challenges in Libya have obstructed opportunities for private investment, economic diversification, and job creation. Despite this, businesses are generally optimistic about growth. Since the revolution in 2011, Libya has seen a steady increase in the number of businesses. Those surveyed rated their sector as growing with little difference between the sectors. Eight out of ten businesses felt that there was positive growth in their respective sectors. **As the economy grows, an estimated 7,500 to 9,000 new jobs per year will be created for migrants.**

Figure 26: Trends in growth, by firm size



The larger the businesses, the more positive the outlook for growth. Smaller businesses are less optimistic about future growth.[96] The past decade has been unkind to small businesses in Libya: private sector constraints have led to an increase in the share of informal and illicit jobs. Micro-businesses were the most likely to say there would be no growth (27%), and to estimate the lowest growth rates among respondents. Net job losses have been compounded by the COVID-19 pandemic in 2020, which has been particularly tough for occupations where telework is not possible.

[96] While micro-businesses estimated 16% growth over the next year, medium-sized businesses estimated that they will grow 24%. Similarly, over the next five years micro-businesses estimate they will grow 33%, compared with 41% for medium-sized businesses.

Businesses in Tripoli and Sebha are the most optimistic about growth. These two economic hubs are well placed for economic optimism as they are capitals of their respective regions. Tripoli is the most populous city, has an important port, and has the highest share of the workforce (19%).[97] After 2011, Tripoli was one of three economic centres with various "private sector-promoting boards and agencies, with Chambers of Commerce mandated to promote business through organising domestic and international trade and by acting as a key resource for the development of small and medium businesses."[98] Sebha is considered the capital of the Southern region and serves as the region's economic hub.[99] Businesses in Tripoli and Sebha expect to grow 50% and 46%, respectively over the next five years. These estimations are business owners' perceptions of growth and are an important indicator of the private sector's outlook; businesses will need to plan for this level of growth.

Key challenges

Businesses in Libya face numerous structural challenges to growth. Three-quarters of businesses surveyed face constraints to expand their business that range from the economic situation to political climate. The National Planning Board cites inconsistencies and incoherencies in the legislative framework, the lack of social partners' involvement, and insufficient reliable information and statistics among other challenges to growth.[100] The costs associated with establishing a business, e.g., registration, taxes, rental, add to these challenges.

The political climate presents a significant constraint for business growth. Since the 2011 revolution, there is a lack of institutions to regulate markets and enforce a viable social contract. Little effort is made to understand private sector employment trends in Libya: the country lacks a modern labour market information system.[101] The political and economic crisis has had crippling effects on the private sector and has dramatically **reduced incentives to invest and create jobs**, particularly in medium and small businesses.

Since the 2011 revolution, the Libyan environment has been punctuated by conflict and violence. The larger the business, the more visible it becomes and the greater the sense of insecurity, placing owners at "risk from militias, outlaws, risk of being taken hostage."[102] This insecurity was attributed to a lack of political interest in protecting private businesses.

Liquidity issues are a main constraint facing businesses, as reported in 20% of businesses surveyed, and greatly affecting micro-businesses who likely have smaller treasuries.[103] As a result of the difficulties in accessing currency through the banking system, transactions have

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[97] See section IV. Macro-economic analysis

[98] "Libya Workforce Market Survey Report" (Libya Public Financial Management (Libya PFM) Activity co, April 2017), https://voluntasgroup.com/wp-content/uploads/2019/06/Libya-Workforce-Market-Survey-Report-FINAL.pdf.

[99] "Libya Workforce Market Survey Report."

[100] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."

[101] Sadek Abuhadra and Ajaali.

[102] Key informant.

[103] Key informant, Libyan civil servant.

moved from the formal to the informal economy.[104] As a consequence of these currency leakages, a "central bank may find itself faced with continuing pressures on its international reserves and a loss of firm control over the uses of foreign exchange it allocates."[105] The unintended consequences may involve substantial social and economic costs: inflationary effects, distortions caused in the pattern of resource allocation, and bureaucratic corruption.[106] The liquidity crisis may ease in 2021.[107] A new unified exchange rate agreed on in January 2021 has lowered the official rate down towards black market rates. It has allowed Libyans to access dollars through commercial banks and added Libyan Dinars into the banking system.[108]

Poor public infrastructure (lack of electricity and lack of fuel) hamper businesses' ability to grow. The lack of electricity is the primary constraint for 13% of employers surveyed, as they are **heavily reliant on big and small machinery,** with those located in Sebha being the most likely to have electricity issues (29%) and fuel/diesel problems (34%).

The ongoing COVID-19 pandemic is aggravating key challenges to growth, with businesses' revenues decreasing, and jobs not being needed. It has negatively impacted over two-thirds of employers' revenues.[109] The pandemic changed consumption patterns, disrupted international trade, and increased production costs. It has affected social interactions and therefore the viability of jobs that require direct contact between producers and consumers. Businesses in the care economy were the most likely to report that their revenues were greatly affected by COVID-19, as the care economy jobs (taking care of children, the elderly or cleaning homes) cannot be done remotely. Medium-sized businesses and those located in the densely populated cities of Misrata and Tripoli were the most likely to be very affected by revenue loss due to COVID-19.

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[104] "International Bank For Reconstruction And Development and International Finance Corporation And Multilateral Investment Guarantee Agency Country Engagement Note For The State Of Libya FY19 and FY20," 123985-LY (World Bank, June 2018), http://documents.worldbank.org/curated/en/828731550804541999/text/libya-cen-for-board-final-06112018-636863833146376421.txt.

[105] "Black Markets in Foreign Exchange: Origins, Nature, and Implications," n.d.

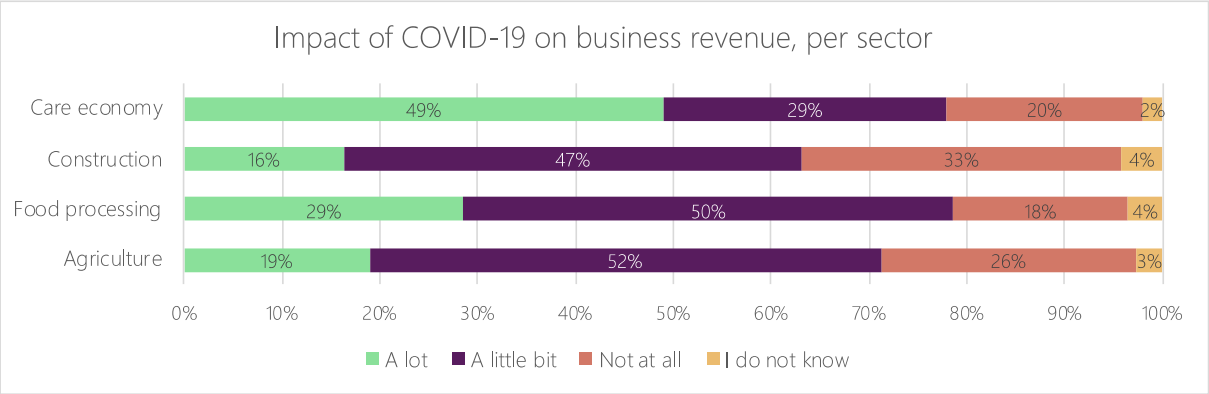
[106] "Black Markets in Foreign Exchange: Origins, Nature, and Implications."

[107] At the time of writing (January 2021) the Central Bank of Libya has devaluated the Libyan dinar in an effort to bring the official and the black-market rate of foreign currency closer. It is still too early to assess the effect of this shift in the banking system.

[108] Source: Reuters, "Libyan Liquidity Crisis Eases after Exchange Rate Shift," n.d., https://www.reuters.com/article/libya-economy-int-idUSKBN2A31SX.

[109] According to the business survey.

Figure 27: Impact of COVID-19 on revenues, per sector



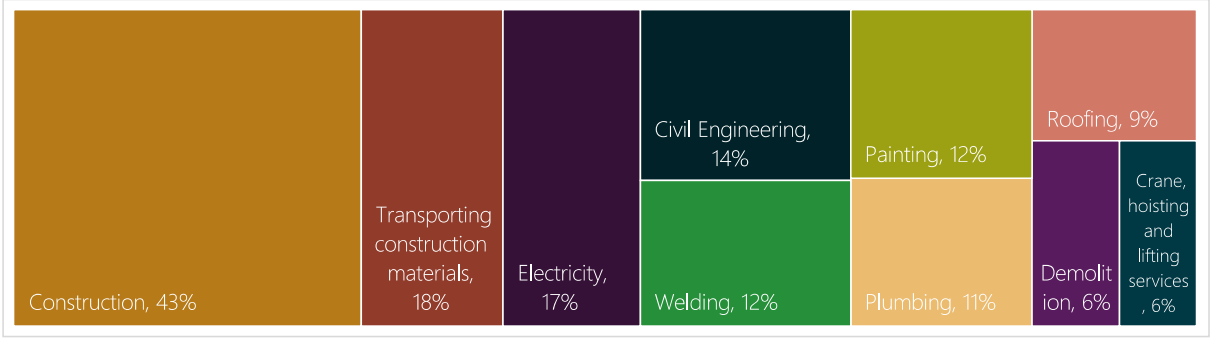
V.1.2. Sector-specific profile and challenges

V.1.2.1. Construction

The construction sector suffered greatly from the 2011 Revolution[110] because many projects were abandoned with the fall of the regime.[111] There has since been strong growth in domestic construction, most of which is constituted by household-sized construction and repairs. Services are designated for the domestic market: individual households and local businesses make up the bulk of clients.[112]

The sector provides numerous services: construction, transportation, and electrical work are the most common. The most used tools in construction are cars, building materials, surveying materials, forklifts, and transportation trucks. Machinery used includes welding tools, saws, plumbing equipment, lasers, mould forming machines, marble grinders, and Information and Communications Technology (ICT) equipment like computers, printers and measuring tools.

Figure 28: Top 3 goods or services delivered, construction (n=141)



Construction businesses tend to be run by men and most of their staff are not registered. Only 19% of the staff are registered to work. The average age of a construction worker is 29 years. The staff is made up of 59% Libyan and 41% non-Libyans. The majority of construction companies hire migrants. This was reported for 82% of construction companies.[113]

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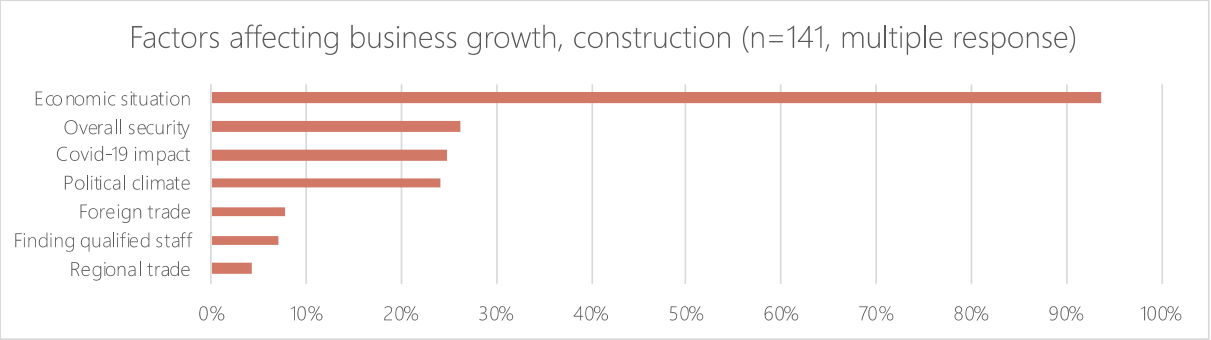
[110] Decreasing from US$5.9 billion in 2010 to US$0.9 billion (−83%) in 2011 and re- bounding to US$1.1 billion in 2012.

[111] "Simplified Enterprise Survey and Private Sector Mapping Libya 2015."

[112] Multiple response question.

[113] In businesses surveyed.

Figure 29: Factors affecting business growth, construction sector



The construction sector offers many employment opportunities for both skilled and low-skilled workers and appears to have great potential in the coming years as post-conflict reconstruction increases. The sector has potential for public infrastructure projects and "plans are in place to launch large-scale national and regional infrastructure projects such as transportation (in the form of roads and airports), water treatment systems, security services, food security, energy security and housing."[114] In 2014, the sector was projected to have the potential to create 4,000 jobs per year[115] (both for Libyans and migrants).[116]

Employers expect their businesses will grow. When asked to estimate how much they felt their business would grow over the next five years,[117] construction businesses estimated they would grow by 39%. While this is based on perceptions, it confirms the finding that construction businesses are optimistic about the future.

Employers in Benghazi, the second largest city in population size in Libya, are the most optimistic. As one of the country's leading economic centres, Benghazi's port is vital to the Libyan economy, serving as the main entry point for the import of food and manufactured products.[118] Construction in Benghazi can also be attributed to the resurgence of "wealthy local businessmen who were ostracised and deprived of their lands under Gadhafi."[119]

A number of factors hamper the sector's growth, in line with general private sector challenges. The construction sector has direct links to domestic manufacturers and import companies who supply construction materials. As a consequence of a reliance on imports, 20% of employers in construction reported that liquidity is their biggest constraint, followed by a lack of investment (13%), and lack of electricity and fuel (11% each). Only 2% reported that they could not find the right people, suggesting that there is no significant skills gap in the construction sector.

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[114] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."
[115] Sadek Abuhadra and Ajaali.
[116] These projects are based on the 2013 Labour Force survey and it is not currently possible to project the current state as there has not been a survey since.
[117] The survey asked employers what their expectations of growth were for the next year and over the next five years. As such, these rates reflect employer's own perception and not macroeconomic projections. The question asked was: "Could you please estimate what your growth rate will be for the next year?" and "Could you please estimate what your growth rate will be for the next five years?"
[118] "Libya Workforce Market Survey Report."
[119] Altai Consulting, "Draft Rapid Assessment of Migrant Entrepreneurship in Benghazi and Kufra."

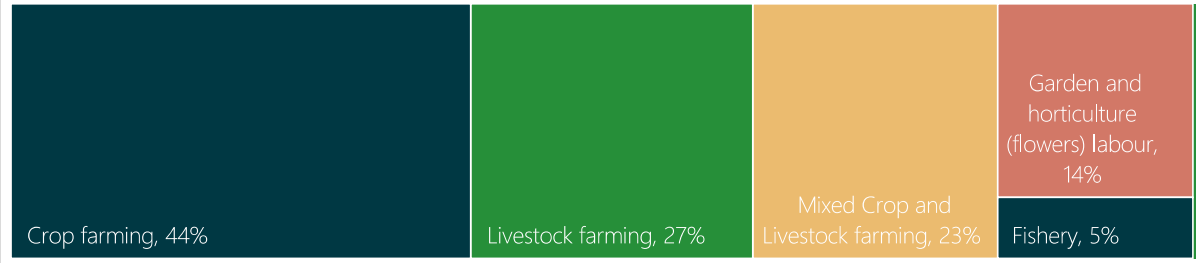
V.1.2.2. Agriculture

The agricultural sector contributes to around 2.7% of the country's GDP.[120] Out of 126 surveyed businesses in the agriculture sector, crop farming represents about 44% of the main delivered services. Livestock, such as chicken and sheep, contribute significantly to the agriculture outputs. Fruit and vegetables, including potatoes, constitute the bulk of agricultural output,[121] and watermelon, fig and peach are produced relatively cheaply in the south, where water and agricultural irrigation are available.[122]

The agricultural sector attracts a significant share of migrant workers, most of whom are seasonal workers.[123] Nearly all (97%) agriculture companies hire migrants and only 11% of their staff is registered. As per the business survey, the staff is made up of 77% Libyan and 23% non-Libyans. All surveyed agriculture businesses were run by men. The sector typically attracts older Libyan workers, as younger workers tend to aspire to white collar jobs.[124] The average age of an agricultural worker is 31 years. In the south, women continue to increase their involvement in agriculture; they work in land preparation and planting operations up to harvesting, in addition to working with animals, especially goats, sheep and poultry.[125]

The majority of businesses (82%) create goods and services destined for households, while local businesses account for 54% of their clients. None of the businesses surveyed provide services to businesses or to public sectors outside of Libya.

Figure 30: Top 3 goods or services delivered, agriculture (n=126)



Tools used in the agriculture sector largely revolve around large agricultural machinery: tractors and their attachments, ploughs, water tanks, utility vehicles, harvesting and irrigation machinery, as well as transportation for livestock.

Businesses in the agriculture sector are optimistic about growth: the majority (63%) of surveyed agriculture companies report that the current trend in their sector is positive growth[126] with employers in Benghazi and Ejdabia being the most optimistic. When asked about projected growth, employers estimated the sector would grow 22% over the next

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[120] "Assessment of Migrant Labour Skills in the Agricultural Sector."
[121] "Agriculture and Livestock Assessment in Kufrah, Sabha & Qatroun" (Farnesina, IOM, Voluntas, May 2019).
[122] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."
[123] "Assessment of Migrant Labour Skills in the Agricultural Sector."
[124] "Agriculture and Livestock Assessment in Kufrah, Sabha & Qatroun."
[125] Daniele Barelli, "Agriculture and Livelihood Needs Assessment Report: A Study of the Fezzan Region" (WFP, March 2020).
[126] Employers were asked, "In the sector in which you operate, which one is the main trend?" They were provided with five options: Fast, positive growth; Moderate, positive growth; No growth; Negative growth and I do not know.

year and 40% over the next five years. While these estimated growth rates are based on employers' perception of growth, as opposed to economic calculations, these estimates are in line with the finding that employers in Libya are generally optimistic about the future and are planning on expanding in one way or another (machinery, staff, client base, etc.).

The main constraints for business growth are electricity issues (19%), closely followed by liquidity issues (18%). Given that most food and agricultural/animal input are imported from outside the country, these liquidity issues and a lack of investment (12%) are serious factors hampering growth. Production is also hampered by limited water resources.[127] Some farmers (1% of businesses surveyed) find it difficult to obtain the labour required for production, mainly due to a lack of willingness to engage in physical labour and a need for technical expertise.[128]

V.1.2.3. Food processing

The food processing sector largely focuses on three types of activities: bakery and pastry making (55%), meat, fish, and food preparation (24%), and dairy transformation (7%). Food processing companies' clients are largely households, either Libyan (79%) or foreign (67%), followed by local businesses in the same region as the business (49%). None of the businesses surveyed provide services to businesses or the public sector outside of Libya.

The main tools used in the food processing sector are either means of transportation (boats or cars) or smaller-kitchen utilities: ovens, machines to knead bread, blenders, refrigerators, meat cutting machines, and basic cooking tools (rolling pins, pots, scales, moulds, knives).

Figure 31: Top 3 goods or services delivered, food processing (n=112)

The majority of food processing businesses surveyed are run by men (93%). Only 22% of their staff were registered to work. The majority of food processing companies hire migrants and migrant workers make up 48% of staff in companies surveyed.

The food processing sector is expected to grow, particularly because the country currently imports 75% of its food.[129] Employers report that the trend in the sector is on average moderate, positive growth (63%). When asked about projected growth, employers project yearly growth to be 24%, and 40% over the next five years. Companies in Benghazi were the most positive, with 35% reporting that the food processing sector in their city was growing quickly, perhaps because of the growth of secondary related services, like Talabat, an online food delivery service active in Benghazi.[130]

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[127] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."
[128] "Agriculture and Livestock Assessment in Kufrah, Sabha & Qatroun."
[129] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."
[130] Altai Consulting, "Draft Rapid Assessment of Migrant Entrepreneurship in Benghazi and Kufra."

The food processing sector suffers from a lack of liquidity and electricity. 19% of employers cited liquidity as the main constraint to growth, followed by lack of electricity (15%) and lack of investment (11%). Labour regulations and inability to find the right people were a constraint for only 2% of businesses surveyed.

V.1.2.4.Care economy

Out of 145 surveyed businesses in the care economy, health care assistants represent about 37% of the main delivered services. The care economy has the highest percentage of female business owners (18%) and registered staff (27%) among all four sectors surveyed. Among these four sectors, the care economy was the most severely impacted by COVID-19, largely due the nature of work which cannot be done remotely. The pandemic has greatly reduced the care economies' revenues, with two out of three companies reporting it is negatively impacting their revenues.

Figure 32: Top 3 goods or services delivered, care economy (n=145)

The care economy serves households and businesses. The majority of businesses provide services to Libyan and foreign households (70% and 63% respectively), with 45% reporting that they serve local businesses.

Migrants make up a large part of the care economy; they account for three quarters of the workforce. Despite regulations that bar foreigners from working in certain occupations of this sector, exceptions are often made.[131] The average age of a worker in the care economy is 28 years.

Tools used in the care economy vary and largely depend on the type of service being provided (medical, cleaning, cooking, etc.). Cars, washing machines, carpet washers, coffee machines, dishwashers, and sewing machines, in addition to cooking equipment, are all used. Toys, chairs, and cleaning supplies were also mentioned in the survey. Those in the medical field use related tools such as blood investigation devices, prescription drugs, MRIs, and general medical equipment. Other tools used include massage machines, and those related to beauty parlours (skin care, hair care, styling, etc.).

The care economy is expected to grow: 72% of businesses reported that they see the main trend as "moderate, positive growth." **The top constraint facing companies in the care economy is a lack of liquidity** (23%), followed by a lack of investment (14%), and fuel and

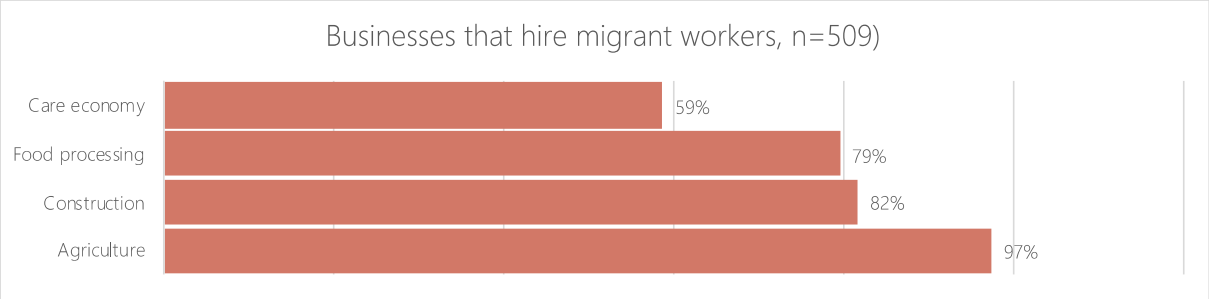
[131] "Foreigners can be employed in some cases, in accordance with the General People's Committee Decree No. 418 of 2009 on the Regulation of the Employment of Workers of Medical and Medical Assistance Professions in Health Facilities." Source: International Centre for Migration Policy Development, "The Legal Guide for Foreigners in Libya."

diesel issues (13%). Only 1% of respondents reported that difficulty finding the right people was a constraint.

V.1.3. Hiring practices

The majority of businesses surveyed hire migrant workers. In the four economic sectors analysed, 78% of employers hire migrant labour, and migrants make up 48% of their total workforce.[132] However, the share of migrant workers across sectors is not evenly distributed. While 97% of respondents in agriculture report hiring migrant workers, for the care economy this figure decreases to 59%. This difference is in part due to the different skills required in the various sectors. In the care economy, the jobs are centred around human interactions (childcare, medical assistance, housekeeping); finding the right level of language and socio-emotional skills may be harder among migrants in this sector. Conversely, in the agriculture and construction sectors, migrants can more easily fill labour demands of low-skilled work.

Figure 33: Employment of migrant workers, by sector



Preference for hiring migrants or Libyans largely depends on the job itself. Employers report a preference for hiring migrant workers for numerous reasons. 62% of employers said it was because of their commitment and skills, 11% because of their experience. There is a large supply of migrant labour, a good part of whom are undocumented given the difficulty of obtaining permits. Business owners with a stated preference for migrants are most likely to be in the agriculture sector (41%). Migrants are willing to do physical work, accept flexibility in their working hours and lower hourly wages.[133] While this contradicts the suggestion by key informants that migrants earn more than Libyans, it is possible that Libyans would demand higher wages for long, physical days of work, or that Libyans would expect a higher wage to compensate for paying taxes.

In certain cases, the preferences relate to the time the job is taking place. For example, a large business owner explained that he preferred to hire migrants for night shifts and Libyans for normal working hours. Across the sectors, out of 111 employers, only 7% prefer Libyans because the business is family owned or because they feel Libyans are more honest and have higher standards of hygiene and security.

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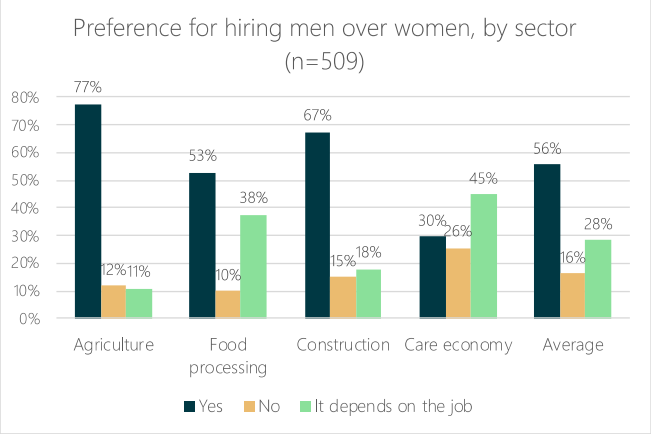
[132] Source : business survey

[133] "Libya Workforce Market Survey Report." Similar findings reported in the employer survey.

The larger the business, the more likely it is to hire migrant workers. The Libyan law states that for each non-Libyan hired, employers are expected to train two Libyans.[134] As such, there is an economic incentive to unofficially hire migrants and this is likely easier in a large business with dozens of employees. While companies hire migrants, the percentage of Libyan vs. migrant staff varies greatly.

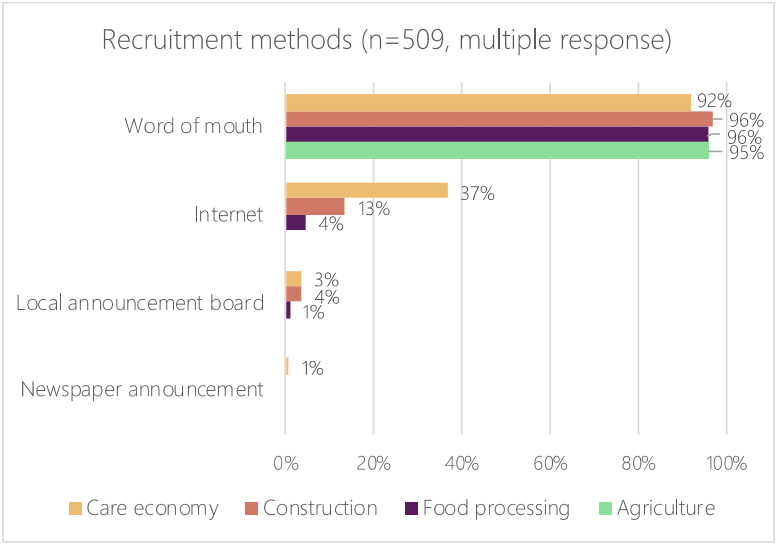
Figure 34: Preference for hiring men over women



More than half of employers (56%) have a preference for hiring male over female workers. Employers prefer males in agriculture and construction: low-skilled jobs that require physical strength, attributes largely associated with men. Companies in the care economy were the only businesses which preferred to hire females for roles typically considered female tasks (cooking, cleaning, taking care of children).

Companies mainly recruit through word of mouth. Companies do not appear to have trouble recruiting through word of mouth and rarely use other methods of recruitment. This is likely because migrants live together and congregate at certain locations during the day to offer their services for day wage labour and share information amongst each other. Only 15% of respondents mentioned using the Internet and 2% mentioned using local announcement boards to publish job vacancies. Recruitment agencies and newspaper announcements are not used by any of the employers surveyed.

Figure 35: Recruitment methods, per sector



Using the Internet to hire workers is more common in the care economy and in larger businesses, where skills may be more technical or difficult to find. Thirty-seven percent of surveyed businesses in the care economy use the Internet, and 13% of construction employers also mentioned using this recruitment tool. The Internet is also more prominent among larger businesses: only 6% of employers use the Internet in micro-businesses, compared with 15% in small business and 30% in medium-sized ones.[135] Businesses in

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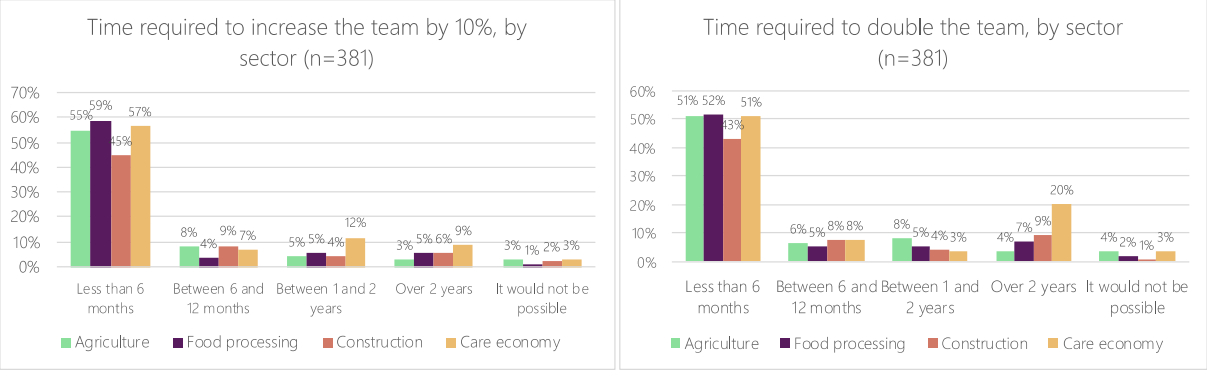
[134] International Centre for Migration Policy Development.

[135] Of the 567 employed workers, 61% have an ongoing contract with no specific end-date, while 25% have an agreement until the date a task is completed. Women are most likely to have contracts for a fixed period (25%) compared with men (10%).

Misrata are the most likely to use the Internet (22%), perhaps because they have a hard time finding the skills they need. This difficulty in finding skills is linked to insecurity (reported by migrants and businesses alike).

There does not appear to be a significant issue with labour supply in Libya. Businesses appear to recruit team members fairly easily and report that growing their team most often takes less than six months. This stands true irrespective of the business size: 52% of micro-businesses, 46% of small businesses, and 65% of medium businesses assert that they would be able to double their teams within six months if needed.

Figure 36: Estimated time to increase team, by sector and business size



In the rare cases where businesses have a hard time finding staff, the reason is that they cannot find the relevant skills or qualifications. The other reason is that the salaries demanded by potential staff are too high.[136] When businesses do have trouble filling positions, they resort to a number of solutions: 10% trained their own staff, 4% continued to search and 3% raised the salaries offered. Even if these businesses have a hard time recruiting, it does not appear to be a big enough issue to dampen their outlooks on growth or their ability to recruit.

Data on migrant salaries are difficult to obtain: the topic was not welcome during the employer survey.[137] Physical labour, an in-demand skill in the construction and agriculture sectors, can pay between 80 and 100 LYD a day, with little difference between locations.[138] According to key informants, and based on the types of contracts that migrants have, it appears that migrants are more likely to work in precarious jobs, day wage jobs with no guarantee of stable income. Migrants' precarious situation makes them more likely to do jobs that Libyans would not do, including physical or sometimes dangerous labour.

Migrants tend to have poor working conditions. Most migrants do not have contracts with a fixed end-date, nor do they have pre-set working hours.[139] In agriculture, most of the

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[136] 87 employers gave reasons for why it is hard to fill vacancies locally.

[137] During the pilot phase, when enumerators asked business owners about salaries, they refused to answer and often refused to complete the survey. As a result of repeated refusals, the team decided to remove questions about salaries.

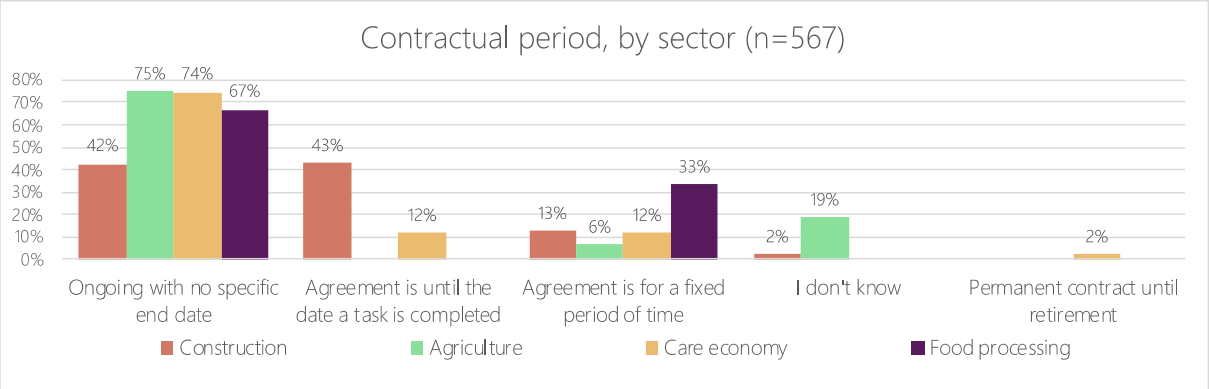
[138] Focus groups also reported the average monthly salary as a range: the low average rate was 880 LYD per month, with the maximum average at 1,815 LYD per month.

[139] There were several different types of contractual periods among employers: contracts that had no end-date, contracts that ended once the task was completed, contracts for a fixed period of time, or full-time contracts until retirement.

contracts have no specific end-dates (75%) and no workers had pre-set hours. Due to its dependency on climate conditions and its task-based nature, it might be difficult to set end-dates or pre-set hours. Migrants with contracts in agriculture tend to have an agreement of between six months to a year, which can be explained by the cyclical nature of the sector.

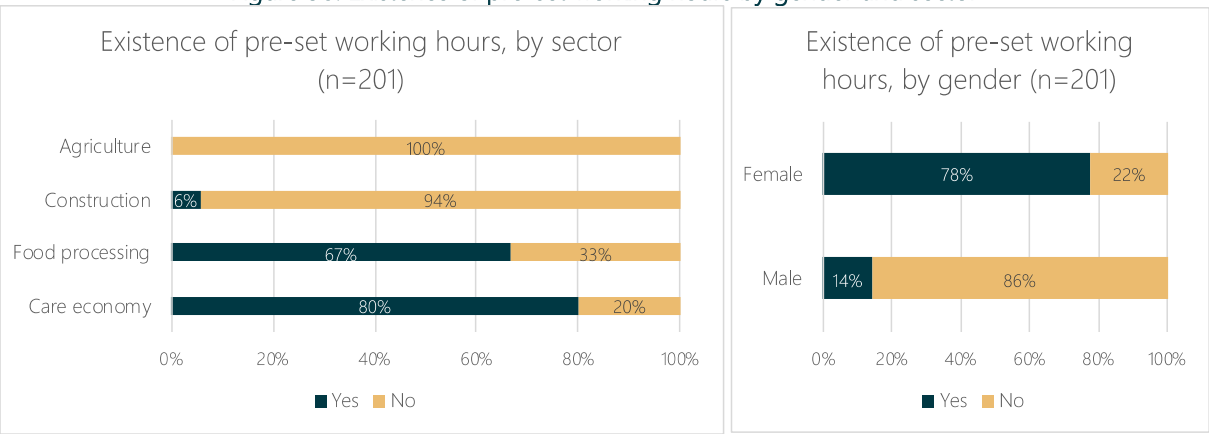
In the construction sector, 43% of contracts are based on the completion of a task and tend to be less than one-year. Contracts are likely aligned with the completion of a particular project.

Figure 37: Contractual period, by sector



In the food processing sector and the care economy, the share of workers with specific working hours is higher, at 67% and 80% respectively. Agreements in the food sector are for two years or more and tend to be fixed term contracts. The share of women with contracts with specific working hours is higher than the share of men (78% for women versus 22% for men, as female workers are more concentrated in the care economy and food processing).

Figure 38: Existence of pre-set working hours by gender and sector



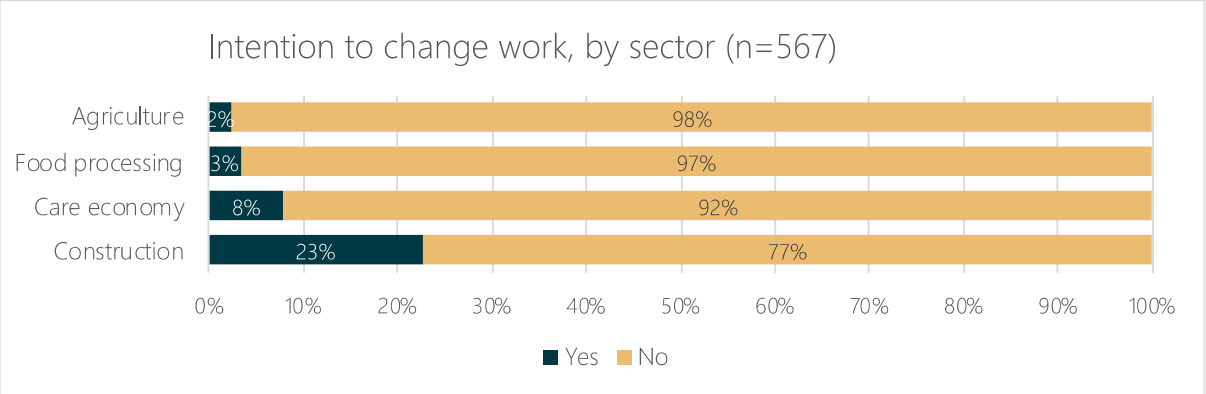
There is one geographical difference in terms of work hours: the majority of respondents from Benghazi (72%) stated that their current contracts specify the weekly working hours, while this falls to 8% in Tripoli, and does not occur at all in the other cities. This is likely due to the nature of the work itself: in Tripoli, half of businesses in which migrants work are construction-sector jobs, which tend to not have pre-set working hours. Meanwhile,

migrants in Benghazi are more likely to work in the care economy or in other sectors, which are more likely to have pre-set working hours.[140]

Most migrants have no intention of changing their current work (86%), **but this retention rate depends on the location, type of contract and contract period.** Migrants working in construction are the most likely to want to change jobs (23%). There is also a significant association between the location and intention to change, as migrants in Tripoli are the most likely to want to change jobs (27%), followed by Misrata (19%).[141] This is again likely due to the nature of the work itself: in Tripoli, half of businesses in which migrants work are construction-sector jobs and do not have pre-set working hours. Women are more satisfied with their current employment than men: care economy jobs tend to have pre-set hours.[142]

Migrant workers with oral agreements and unspecified working hours change jobs more often; the main reason to change work is to earn more money.[143] This may be related to the contract conditions described above (e.g., no set working hours or end-date). The construction sector has the highest percentage of migrants who intend to change their current work (23%), and also has the highest number of migrants who report to not have set working hours. In discussions with migrant workers, participants mentioned that they are looking for permanent opportunities, with an eye to staying in Libya, while others stated that they wanted to work as long as possible in order to earn the highest amount possible before returning to their countries of origin. Interviews with large and medium employers also suggest that Libyans tended to stay in their jobs longer than migrant workers. Again, this is likely because migrant workers try to move on to better paying jobs, return to their countries of origin, or move elsewhere.

Figure 39: Migrants' intentions to change work



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[140] Migrants work an average of 35.53 hours per week, whereby migrants in agriculture and food processing have, on average, the highest number of working hours, at just above 47 hours. In construction, people work 35 hours per week on average. There are no major differences in the hours worked by gender.

[141] There is an association at 0.05 level of significance between contract and intention to change, with a Chi square test of 151,521.

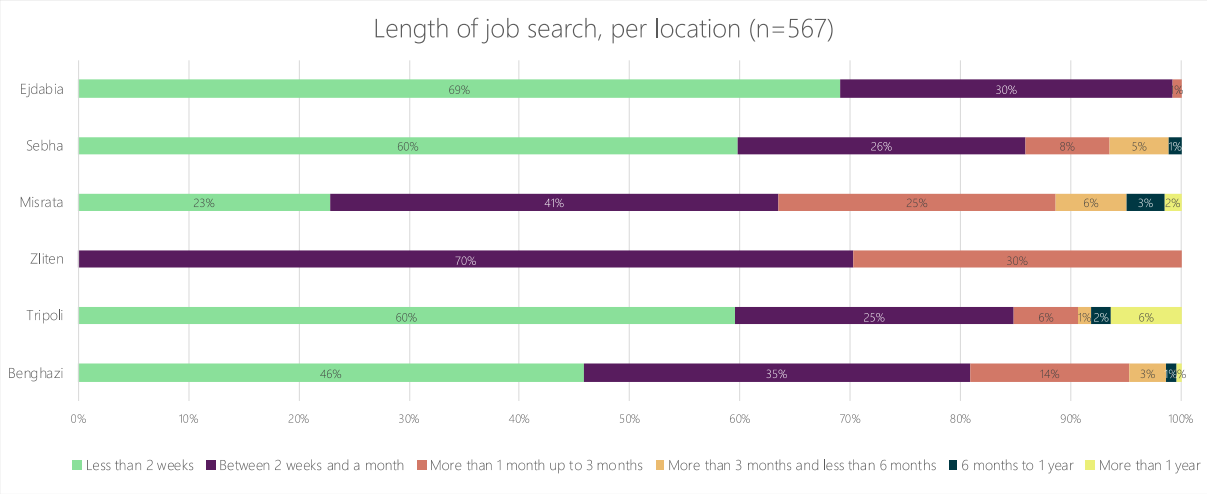
[142] Given the supply data available and analysed for migrant workers, it is not possible to determine the difference between migrants' and Libyans' retention rates.

[143] There is an association at 0.05 level of significance between contract and intention to change, with a Chi square test of 58,95. There is an association at 0.05 level of significance between specified number of working hours and intention to change, with a Chi Square test of 28,80.

Migrants often do not change jobs because they do not know how. Respondents in the construction and agriculture sectors were the most likely to say that they did not know how to change (83% and 75% respectively). These results point to the fact that migrant workers have little to no knowledge about Libyan labour regulations and their rights, or they may not feel comfortable searching for other opportunities once they have found work.

Finding a job is relatively easy: most migrant workers find work within one month: 44% of respondents found their job in less than two weeks, while 36% said it took between two weeks and a month. There is little difference between how quickly men and women find jobs (80% of men found work in under a month, compared with 77% of women).

Figure 40: Length of job search, by location



It is faster to find work in certain locations than others. Workers in Zliten and Ejdabia found their current job in less than one month. Migrants in Zliten work mainly in the agriculture sector, where there is demand for low-skilled labour (picking fruit or vegetables). In Misrata and Tripoli, where migrants spend more time looking for work, migrants tended to work in sectors other than those explored and for which more skills may be required.

V.1.4. Employer perception of cognitive, technical and socio-economic skills needed

V.1.4.1. Overall skills in demand[144]

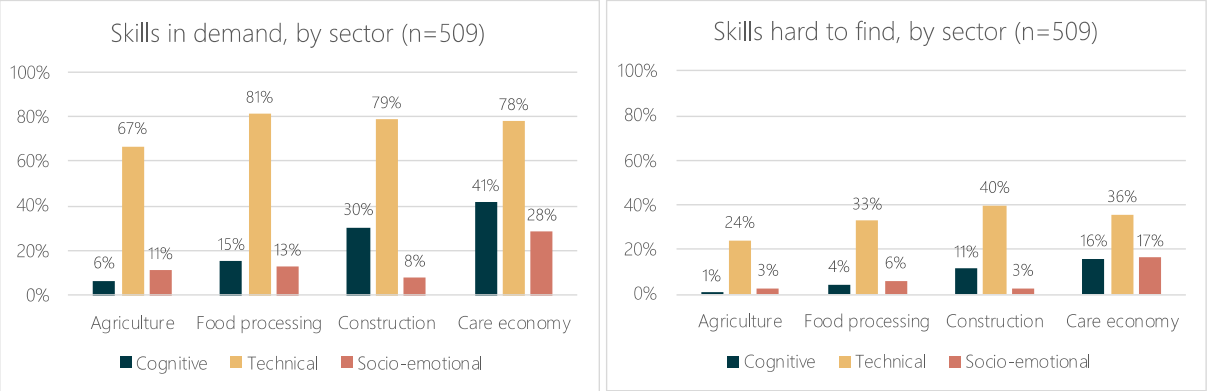
There does not appear to be a problem in labour supply as businesses are able to fill positions with little difficulty. The skills most in demand are technical skills related to the type of work conducted in each business (76%), followed by cognitive skills (25%), and lastly socio-emotional skills (15%). These skills are more or less important depending on the sector. While these skills are in demand, they are not difficult to find. Only 14% of businesses surveyed said that occupations were hard to find locally and only 10% of them said that finding qualified staff is a factor that affects their growth.

[144] Employers were asked about the skills they needed among technical, cognitive, and socio-economic skills, along with how easy these skills were to find.

The smaller the business, the harder it is to find the skills needed.[145] This trend was found to be the case for cognitive skills, like literacy and numeracy skills (reading and calculating), which were found to be universally important across all sectors. Since recruitment is largely through word of mouth, smaller businesses may not have the network to find skills as quickly or easily as larger businesses. It may also be because these smaller businesses are less willing or able to invest in basic on-the-job training or prefer staff with a minimum level of skill.

The only sector that seems to require an important degree of socio-emotional skills is the care economy (28%), likely because these jobs require face-to-face interactions with clients. In other, more task-related sectors (agriculture, construction), there is less need for socio-emotional skills. Cognitive skills like reading are most needed in the care economy (47%), followed by maths skills in the construction sector (30%).

Figure 41: Skills in demand and skills that are hard to find, by location



Of the 72 employers (15% of respondents) surveyed, who stated that it can be hard to find workers locally, half claim that they cannot find the skills they need. Other reasons it can be hard to recruit are due to the high salaries Libyan workers ask for, and the job seekers' lack of official qualifications or work experience. When certain skills were hard to find, employers provided training in 10% of cases or increased salaries (3%).

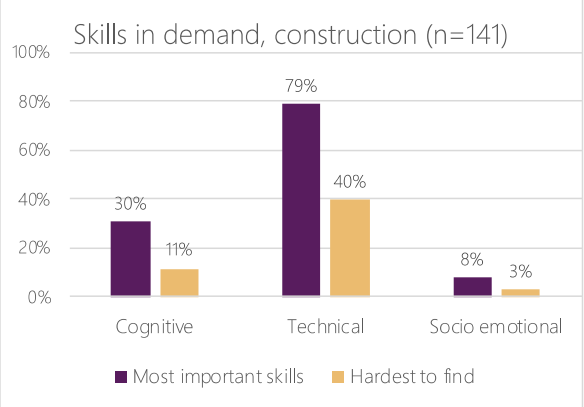
Misrata and Sebha-based employers were the most likely to report having a hard time finding certain skills or attributes, like physical strength. A factor that explains this difficulty is that in both these locations, migrants do not feel safe, albeit for different reasons: 98% of migrants in Sebha feel unsafe due to security risks, while 70% of migrants in Sebha feel unsafe due to health risks. Migrants are mobile and are likely to move on to more secure locations to find work when possible. As informal workers, migrants have little or no legal recourse or health coverage, likely reducing their appetite for unnecessary risk and pushing them to find work in locations that are more secure.

[145] While 41% of micro-businesses reported that technical skills were difficult to find, only 25% of medium size businesses reported the same. It is important to note that due to the methodology used, which focused on businesses with fewer than 100 employees, it is possible that the lack of mismatch between labour supply and demand could be explained by the limitation to small, micro and medium enterprises.

V.1.4.2. Sector-specific skills in demand

Construction

Figure 42: Skills in demand, construction

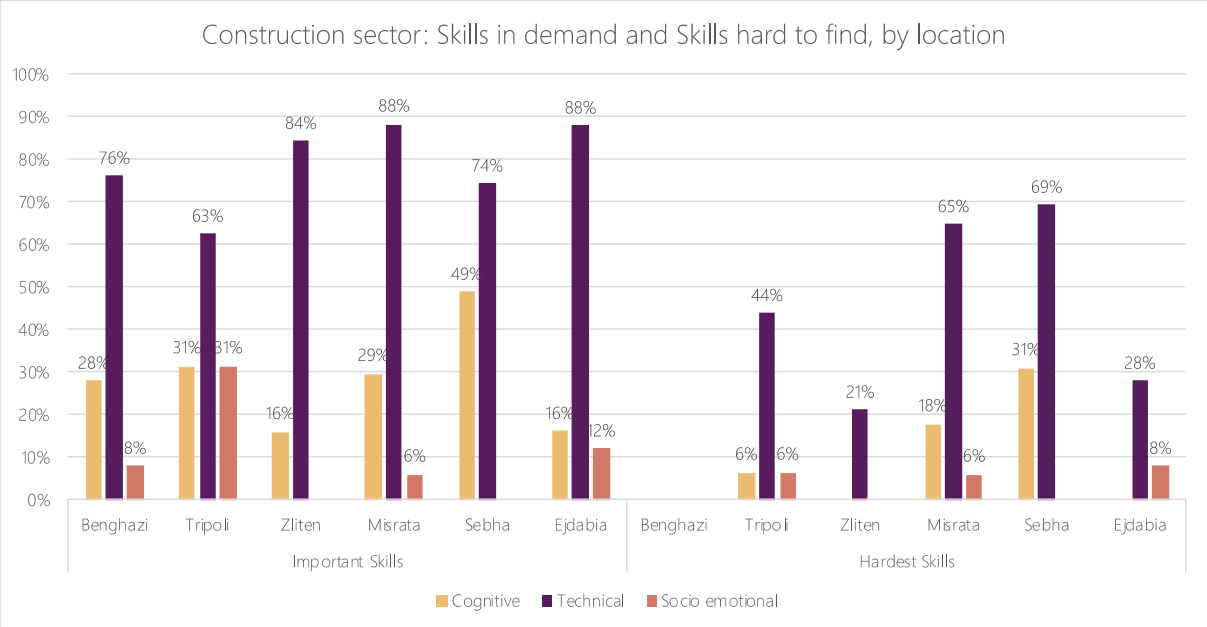


There does not appear to be a significant labour supply issue in the construction sector although technical skills can be difficult to find in some cases. Only 13% of construction businesses report that they cannot find occupations locally. 79% of employers said technical skills were important, followed by cognitive skills at 30% and socio-emotional at 8%.[146]

A number of key technical skills were cited as hard to find: carpenters, welders, machine technicians, people proficient in repairing machines, electricians and plumbers, and engineers. The types of tools used in the construction business has increased over the past two years and given the projection for growth in the sector, it is likely the demand for workers skilled in manoeuvring construction tools will as well.

A significant number of employers in construction mentioned that **physical strength** was a key attribute that can be hard to find. Interestingly, **people who can clean well were also mentioned as hard to find.** As part of the work in a construction site, especially when the work is for individual households as is often the case, workers need to be able to clean up the construction zone when the work is finished.

Figure 43: Percentage of businesses who report that skills are important and percentage who report these skills are hard to find, construction



[146] This was a multiple response question.

Cognitive skills were hard for 11% of employers surveyed. The key cognitive skill cited was calculation/maths skills, followed by hand-eye coordination and creativity. As with technical skills, employers in Misrata and Sebha were the most likely to have a hard time finding people with skills to do calculations. As seen earlier, these two locations are poorly rated by migrants in terms of security; migrants with calculation skills are likely to prefer moving to safer locations, which can make it more difficult for businesses in Misrata and Sebha to find these skills. Socio-emotional skills in the construction sector are reportedly not difficult to find (3%).

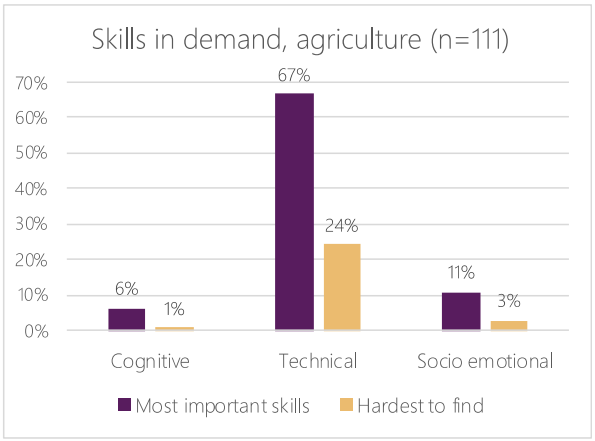
Agriculture

There does not appear to be a significant labour supply issue in the agriculture sector. Only 5% of businesses report that they cannot find occupations locally. The most important skills in agriculture are technical, with 67% of employers citing them, compared with 11% citing socio-emotional skills, and only 6% referring to cognitive skills.

Physical strength was cited as an important attribute across all locations and types of agricultural companies.

While important, only a quarter of employers cited technical skills as being hard to find (24%). Neither cognitive nor socio-emotional skills were considered to be very difficult to find when needed.

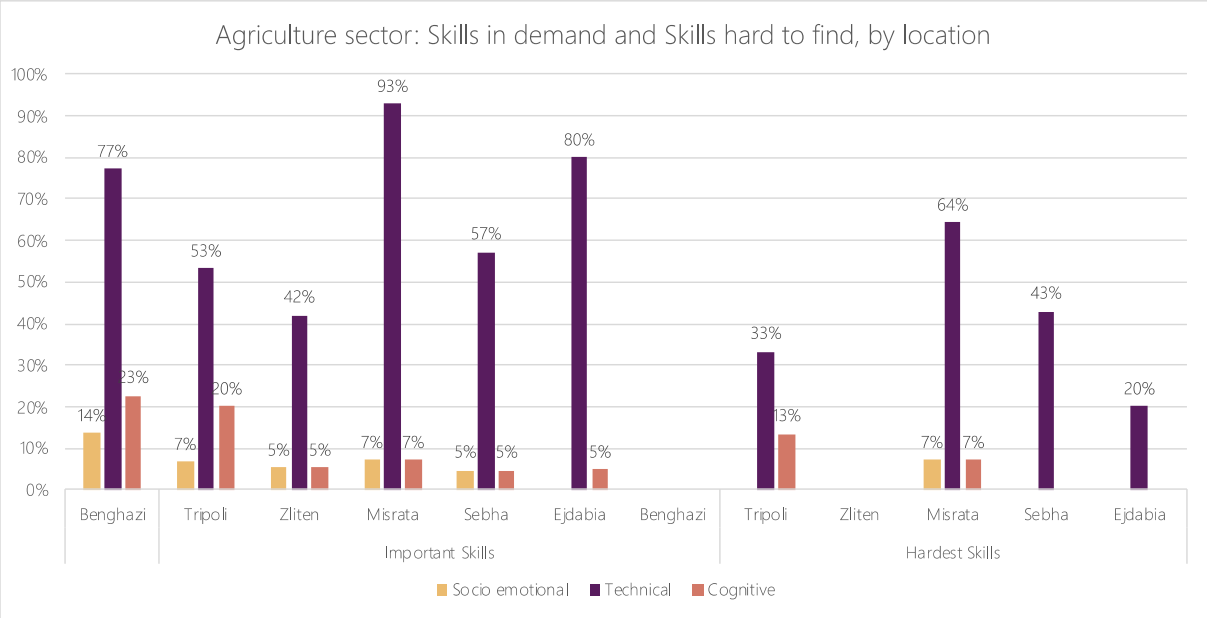
Figure 44: Skills in demand, agriculture



There is a wide range of important technical skills required in the agriculture sector, which can be divided into two categories: crop farming and livestock. For crops, the required skills include driving tractors, correctly using farming equipment, and correct harvest cultivation techniques. For livestock, the most important technical skills are the ability to take care of livestock, animal vaccination, and experience with specific animals: sheep, horses, and camels. There were few differences between regions regarding the most important skills: each region had a combination of technical needs related to crops and livestock farming.

The few cognitive skills sought by companies in the agriculture sector include knowledge of plants and how to treat plant diseases, coordination, maths skills, attention to detail, and accuracy.

Figure 45: Percentage of businesses who report skills are important and percentage who report these skills are hard to find, agriculture

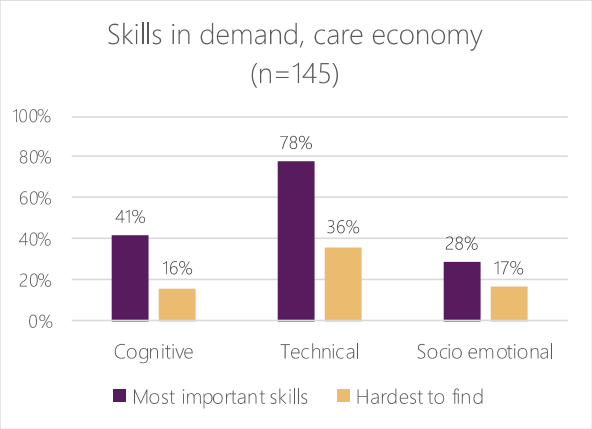


In line with overall findings, businesses in Misrata and Sebha face the most difficulties in finding staff with technical skills. In Misrata, the skills sought are cognitive skills related to plant knowledge and ability to cultivate the land (time planning, dealing with plant diseases), as well as taking care of livestock. In Sebha, taking care of sheep and physical strength were the skills hardest to find.

Care economy

There does not appear to be a significant labour supply issue in the care economy, although a quarter of businesses surveyed reported that occupations are hard to find locally. Technical skills are also the most important in the care economy, with 78% of companies citing these skills.

Figure 46: Skills in demand, care economy

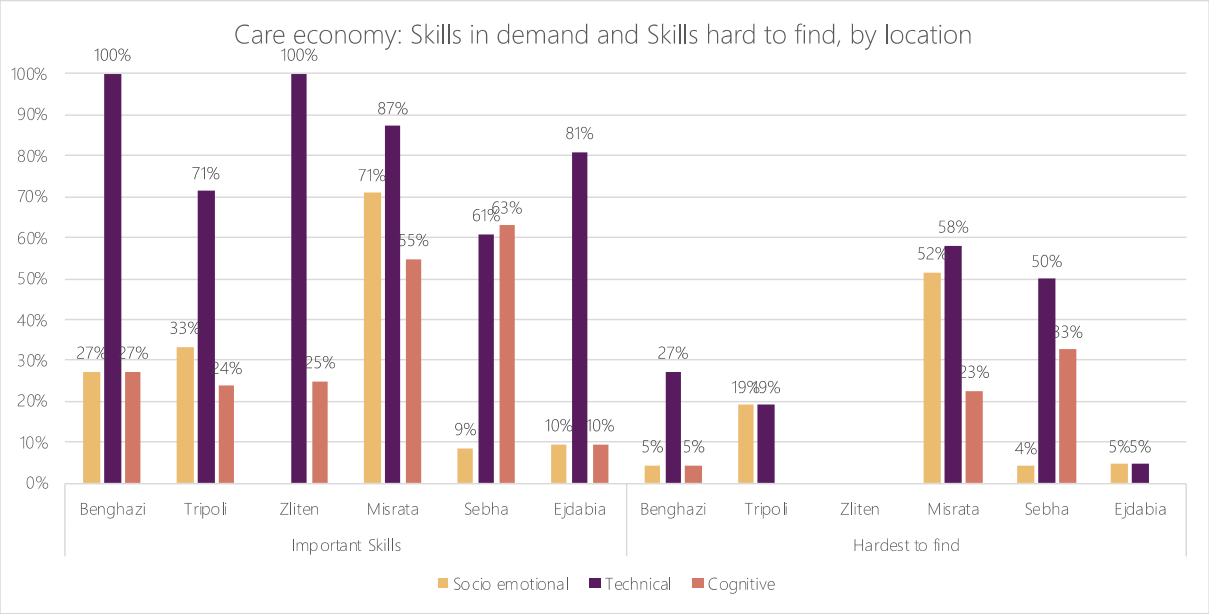


Non-technical skills are also important in the care economy however, with cognitive skills being cited by 41% of companies, and socio-emotional skills by 28%, as important skills.

Technical skills can sometimes be difficult to find.[147] The care economy covers a wide variety of occupations, with differing skills requirements. In terms of technical skills, the ones that were the most frequently mentioned as being hard to find are: physical strength, cooking, sewing, massage and skin therapy. A number of technical medical skills were also cited as being difficult to find, including physiotherapists, knowledge of medicine and medical tools, and lab technicians.

[147] One-third (36%) of businesses reported that technical skills are hard to find, followed by 16% for cognitive skills and 17% for socio-emotional skills.

Figure 47: Percentage of businesses who report skills are important and percentage who report these skills are hard to find, care economy



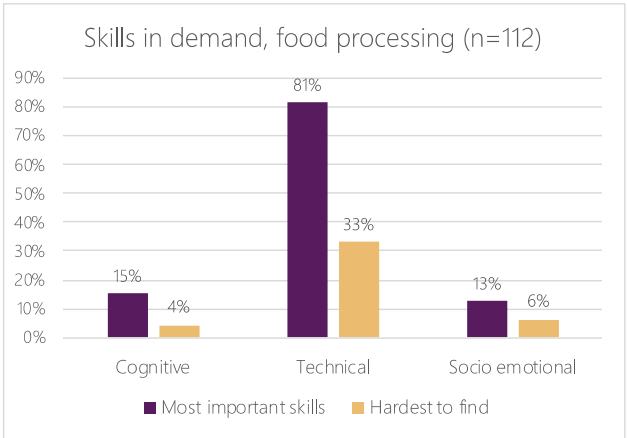
Cognitive skills that are hard to find include reading, writing, maths and the ability to understand health, safety, and hygiene rules. Language skills were also mentioned as being important, specifically English, as there are a number of private schools that use an English-based curriculum, and the Libyan labour market is short on English speakers.

Socio-emotional skills that are hard to find in the care economy include: the ability to interact with patients, dealing with children and children with special needs, general education skills, pragmatism, patience, and commitment.

Businesses in Misrata and Sebha had the most trouble finding the required skills among local populations. Misrata's businesses struggled to find socio-emotional skills, such as the ability to deal with children, patience, and teaching. On the other hand, businesses in Sebha had a hard time finding cognitive skills, particularly the ability to read, write and do maths.

Food processing

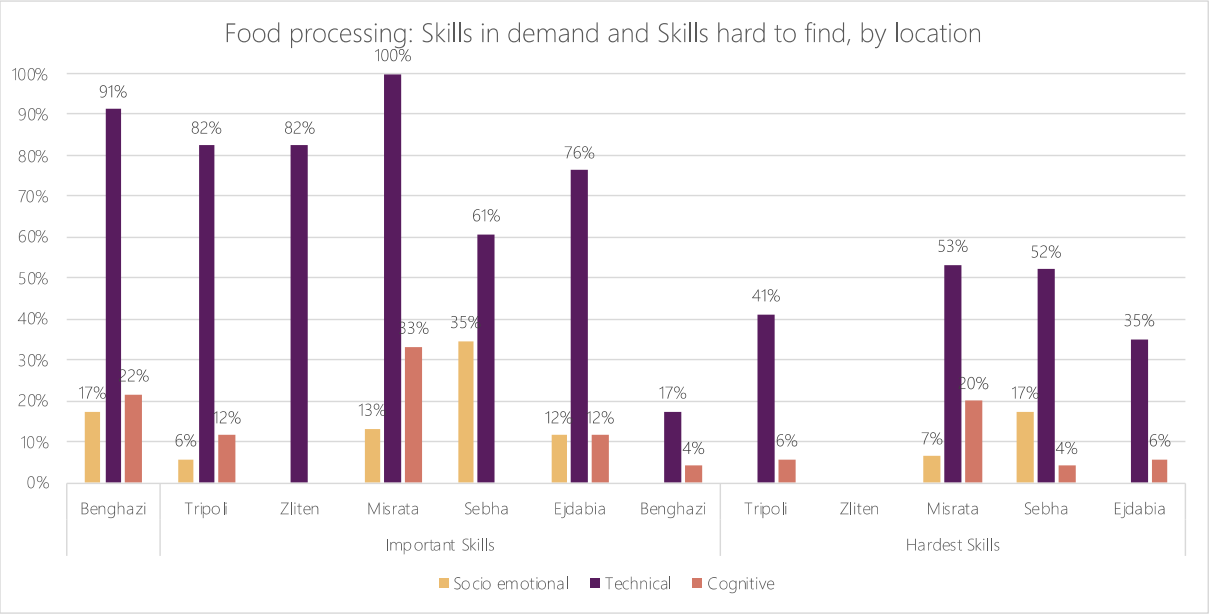
Figure 48: Skills in demand, food processing



There does not appear to be a significant labour supply issue in the food processing sector. The skills in demand are technical (81%), followed by cognitive (15%), and socio-emotional (13%).

While technical skills are the most important, they can sometimes be hard to find. One-third of businesses reported that technical skills were hard to find, and these businesses are largely concentrated in Misrata, Sebha, and Tripoli (Figure 49). Cognitive and socio-emotional skills were only reported to be hard to find by 4% and 6% of businesses respectively.

Figure 49: Skills in demand and hardest to find, food processing



Specific technical skills that are hard to find in the food processing sector include beekeeping, using food-related machinery, baking and making pastries. A number of food processing employers mention the importance of having electrical skills – likely due to the machinery used in this sector, and the importance of maintaining them. In Misrata and Sebha, where technical skills are hardest to find, those most in-demand are such electrical skills, and the ability to use an oven.

Cognitive skills that are reportedly difficult to find include accuracy in food preparation, calculation skills, knowledge of nutritional formulas, attention to hygiene, and the ability to work quickly. These skills were cited most frequently in Misrata, where cognitive skills are the hardest to find among locations surveyed.

The few socio-emotional skills that were cited as being hard to find include honesty, the ability to deal with customers, and endurance to face work difficulties.

V.1.5. Opportunities for migrants

Since 2011, an increasing number of businesses have been created and, according to business owners, are likely to continue growing. These sectors present opportunities for job creation for migrants and Libyans alike. Among these growing sectors and the jobs they will create, migrants are likely to occupy the bottom of the skills distribution (manual skills, physical strength).

The construction and agricultural sectors present such opportunities for migrants. While these are low-skilled, physical jobs with poor contract conditions, they are nonetheless daily wage jobs that are easy to come by and pay fairly well. The construction and agriculture sectors in particular require little to no experience or skills, especially for those willing to do physical labour. For the construction sector, calculation and electrical skills are particularly important.

There are opportunities for migrants in the care economy, especially for those migrants with strong language and socio-emotional skills, who can find positions within households or

offices cleaning, providing care for children or support in medical professions. The food processing sector also offers opportunities for migrants who either have existing skills in baking break or making pastries, or those who are low-skilled but willing to learn. This sector is also a good fit for migrants with strong customer service skills, including language skills.

Opportunities for migrants are available in every sector, in every location. Table 9 outlines the locations and sectors where a majority (over 50%) of employers reported that skills are hard to find. Misrata and Sebha are locations where businesses are the most likely to report that skills, particularly technical skills, are hard to find across all sectors.

Table 9: Sectors, skills and locations where skills are hardest to find

	Agriculture	Construction	Food processing	Care economy
Benghazi	No reported difficulties	No reported difficulties	No reported difficulties	Technical: Physiotherapists, lab technicians
Ejdabia	No reported difficulties			
Misrata	Technical: Machinery technicians and electricians Cognitive skills: Plant knowledge	Technical: Electricians, carpenters	Technical: Dough and bread making, pastry making	Technical: Pharmacists, sewing, lab technicians Socio-emotional: Dealing with children, patience
Sebha	No reported difficulties	Technical: Electricians Cognitive: Calculation skills	Technical: Dough and bread making Cognitive: Calculation skills	Technical: Physiotherapy Cognitive: Calculation skills, reading
Tripoli	No reported difficulties	Technical: Carpenters, plumbers	No reported difficulties	No reported difficulties
Zliten	No reported difficulties			

V.1.6. Training landscape in Libya (TVET)

There is little public data available on Technical and Vocational Education and Training (TVET) centres in Libya and insufficient data to know the number, diversity, and cost of training opportunities in the country. The MoL, through its Centre for Quality Assurance and Professional Calibration, has attempted to establish controls for the accreditation of technical and vocational education and training centres through its "Manual for Quality Assurance and Accreditation of Training Institutions." According to the official website of the Centre for Quality Assurance and Professional Calibration, 14 training centres had been accredited as of December 2020.[148]

[148] https://qacc.ly/المؤسسات-التدريبة-المعتمدة/

TVET centres in Libya lack electronic interfaces (websites, or pages through social networking sites) and still rely on traditional methods, including bidding for private training contracts offered by government agencies or large companies to develop the capacity of their employees. TVETs mainly attract their students through contracts with government agencies or with companies operating in Libya, including companies in the telecommunications and the oil sectors. While few, some TVETs have begun to attract students and trainees through social media advertising.

TVETs in Libya are limited in quantity and course quality, with little to no coherence between the labour market needs and courses offered.[149] Key informants characterised these TVETs as "obsolete" and out of touch with reality, as few Libyans were interested in pursuing vocational training due to their preference for white-collar, public sector employment. The Libyan education system does not keep up with the latest market developments and current needs. Curricula and teaching methods still follow traditional formats and do not encourage creativity or improvement in personal skills.

Most of these centres do not follow global or even in-country standards. TVETs are accredited by the MoL and provide different types of training (English, vocational training, graphic design, project management, IT courses, and heavy operating machine). Education and TVET centres continue to operate in a manner that does not guarantee quality, consistency, or sharing of responsibilities in this sector.[150]

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[149] Key informants.

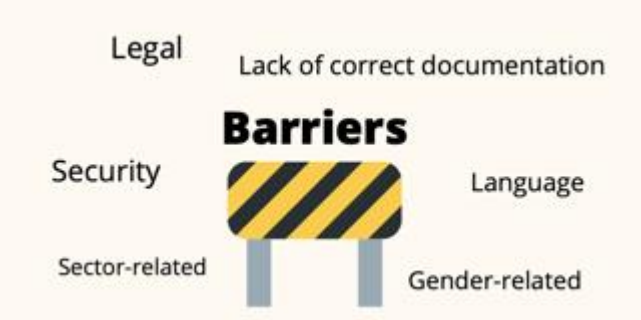
[150] A limitation during this assessment was the on-going COVID-19 pandemic, as a considerable number of TVETs were closed, with no way to contact the relevant informants to interview.

V.2. Skills supply

The Libyan economy has historically relied on migrants to meet labour and skills shortages within the domestic labour market. Migration to Libya from neighbouring countries began in the 1960s as a result of the discovery of oil and hydrocarbon reserves.[151] The open-door policy granted immigrants visa-free entry, in the hope of encouraging migration to meet manpower needs in sectors such as agriculture and construction.[152] As a result of the 2011 revolution, regular and irregular migration have evolved over the past decade.[153]

V.2.1. Barriers migrants face in accessing employment

Migrants face barriers to access formal jobs in Libya because obtaining work permits to work legally is difficult. There is no clear definition of who can be granted these permits. Expatriate visas are only given out to workers from specific countries, as certain countries have existing agreements in place to facilitate legal migration for work.[154]



Migrant workers often lack official documents authorising their employment in Libya, as most of them entered irregularly.[155] Migrants who enter the country clandestinely are considered to have committed a crime, rendering them ineligible for work or regularisation by the MoL.[156,157] Without work permits, migrants cannot work in the formal economy.

Migrant workers without documentation find work in the informal sector. However, due to the informal nature of these jobs, migrants forego the right to be protected under labour laws. In case of dispute with an employer, for example if they are not paid, migrants have no legal recourse. This is an even higher risk for undocumented migrants because they do not have the freedom of movement and are afraid of being caught, expelled or jailed.

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[151] "Assessment of Migrant Labour Skills in the Agricultural Sector."
[152] Mixed Migration Monitoring Mechanism Initiative, "Invisible Labour: Women's Labour Migration to Libya," 2017.
[153] Micallef et al., "After the Storm: Organised Crime across the Sahel-Sahara Following Upheaval in Libya and Mali" (Global Initiative Against Transnational Organised Crime, 2019).
[154] Bilateral agreements with Libya, for example: The agreements on agriculture manpower (1971) and circulation of persons and establishment (1988) with Niger; The convention of establishment with Tunisia (1973); The labour agreement with Morocco (1983); The convention in the field of work and the use of human resources with Algeria (1987); The labour agreement with Jordan (1998).
[155] Article 1 of Law No. 19 of 2010 on Combating Illegal migration states that an illegal migrant is "anyone who enters or stays in the Libyan territories without authorisation or permit from competent authorities with the intention of settling there or crossing to another country."
[156] KIIs.
[157] Conversely, the MoL considers that migrants in "regular situations" (arrived by plane, overstayed their welcome), can be regularised, specifically for sectors where there are needs (construction, for example).

> *"Once they get established, they stay in their zones and have made friends and customers where they know they can work"*
>
> -Key Informant, INGO

As a result of their undocumented status, migrants' biggest barrier in accessing employment is the lack of security. They fear robbery, employer abuse, or non-payment for work completed.[158] Moving between regions for work opportunities is a barrier, due to check points and the possible problems migrants could encounter if they were asked for official documents. Restrictions due to COVID-19 have exacerbated movement restrictions.[159] One group of women cited that females faced fewer security risks as they tend to work within homes and do not need to travel. Security-related barriers are more common in the south, in and around Sebha.[160]

Besides security concerns, informants did not report any major regional differences for migrant workers. In response to security concerns, informants explained that once migrants are established, they tend to stay in a particular geographical location, where they are familiar with both other migrants and potential employers.

The COVID-19 pandemic has compounded these existing difficulties,[161] due to reduced economic activities following lock-down measures. A survey conducted by IOM in September 2020 found that 90% of surveyed migrants, who rely on daily labour were negatively affected by the economic slowdown due to COVID-19.[162]

Language represents another important barrier: Arabic speakers have a higher chance of finding work and of understanding their contract (if they have one), as they are drawn up in Arabic.[163] High levels of competition in the market between migrants also affected their ability to find work.

Businesses who hire migrant workers must fulfil specific obligations. In addition to sectors in which migrants are not meant to work, the percentage of (declared) nationals should always represent at least 75% of the total employment in a business.[164] This percentage can be reduced temporarily in certain sectors if qualifications and technical skills are unavailable among nationals. Hospitals were cited as the most frequent examples of this, and interviewed hospitals noted that they hire migrant workers.[165] To do this officially, non-Libyans must obtain a specific authorisation from the designated local authorities.[166] In practice however, companies can request permission to employ more foreign workers in

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[158] In almost every group discussion with migrant youth and adult men and women, security was the most common, and sometimes only, answer.

[159] In 34% of assessed locations, migrants were reported to be unable to move freely within the municipality (due to the mobility restrictions/curfew) Source: "COVID-19 Mobility Tracking #2: Impact on Vulnerable Populations on the Move in Libya."

[160] IOM Flow Survey, March 2020.

[161] In the current context (2020-2021).

[162] IOM DTM, "Covid-19 Mobility Tracking #4: Impact on Vulnerable Populations on the Move in Libya," n.d., https://displacement.iom.int/system/tdf/reports/DTM_Covid-19_MT_KII_Assessment_Jul_Aug_Sep%20%28Report4%29.pdf?file=1&type=node&id=10036.

[163] International Centre for Migration Policy Development, "The Legal Guide for Foreigners in Libya."

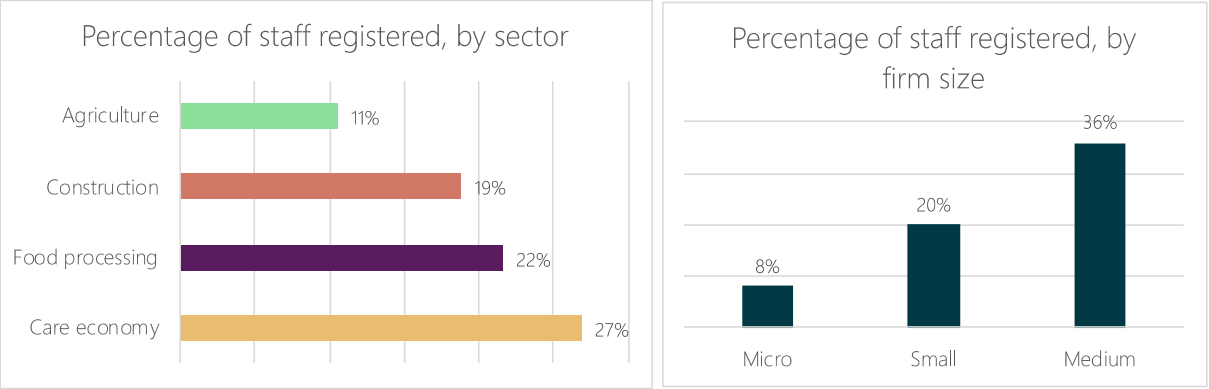
[164] International Centre for Migration Policy Development.

[165] International Centre for Migration Policy Development.

[166] Altai Consulting, "Draft Rapid Assessment of Migrant Entrepreneurship in Benghazi and Kufra."

any sector where they cannot find qualified Libyan workers.[167] In the case where migrant workers are (officially) employed, there is a provision that the employer must train two Libyans for every foreigner employed.

Figure 50: Proportion of registered staff by sector and business size (n=509)



Few businesses register their staff. The average rate of registration is 20%. The care economy has the highest percentage of registered staff at 27%, while the agriculture sector has the lowest at 11%. The larger the business and the larger the city, the more likely they are to register their staff. In Benghazi, 43% of businesses report registering their staff, as do 37% of businesses in Tripoli. This may be because businesses in these locations have access to better public services, or perhaps because there are more work inspections.

As per the study findings, employers use different unofficial routes to regularise migrants in Libya. Employers who wish to regularise their employees' situations have limited options to do so. If the migrant worker does not have a visa but has a passport, employers sometimes mention asking someone at the border to stamp the passport *after* the authorities in Libya have filed the correct paperwork. The passport stamp thus becomes the required proof that the migrant worker came in at the correct time, e.g., after the request was submitted.

> *"There are official rules and regulations, but they are not followed nor applied"*
>
> -Key Informant, Government

Employers outsource the work of regularising their employees to special companies[168] and pay them to have their migrant workers' papers be made official.[169] In this scenario, the specialised company claims that the migrants work for them. The process is opaque, but the result is that papers are processed: the migrant becomes a documented employee of the specialised company. In parallel, the actual employers pay the salary. In future years, the migrant will pay the specialised company to renew the contract to maintain his/her papers.[170]

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[167] Sadek Abuhadra and Ajaali, "Labour Market and Employment Policies in Libya."

[168] Note: The information in this paragraph reflects data findings. IOM does not condone these findings; IOM advocates for the employer pays principle and does not support the practices described as such special companies can create abusive situations for migrant workers who depend on them. Migrant workers should not have to pay for such services, it should be the employer.

[169] KIIs.

[170] KIIs.

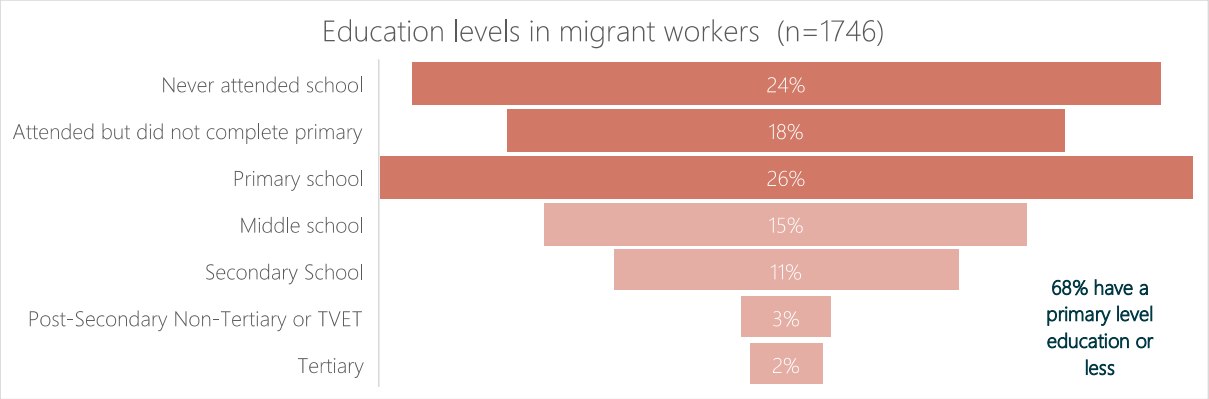
Social considerations and traditions tend to restrict female migrants' ability to work in certain sectors, be they formal or informal sector work.[171] As such, women's opportunities are often limited to the care economy and the education sector. Furthermore, women face difficulties finding day-care for their children while they work and are often at higher risk of gender-based violence.

V.2.2. Skills available in the migrant workforce[172]

Migrant workers surveyed have low levels of education: most have primary-level education or lower (68%). Only 3% had attended vocational education or training, and only 2% had a university degree (this differs by gender however, as 13% of female workers had a university degree versus 2% of males).

Findings from the FGDs conducted with migrant workers confirm those from the survey: the majority of migrant workers did not have vocational or skilled training and as such are low-skilled in technical competencies. When asked about their skills, FGD participants largely cited their socio-emotional and cognitive skills rather than technical skills. These were largely related to customer-relations, understanding what customers want, negotiation, and general communication skills.

Figure 51: Migrant education levels



The majority of migrants surveyed have less than two years of work experience before arriving in Libya and most (91%) have less than five years' experience.[173] The agriculture sector is more likely to have migrants with low education levels: three quarters of migrants surveyed in that sector had never attended school. The agricultural sector is labour intensive; it is an ideal target sector for migrants with no education and a willingness to engage in hard, physical labour as picking fruit or vegetables. It does not require any particular technical skills, nor does it require the ability to speak, read, write or calculate.

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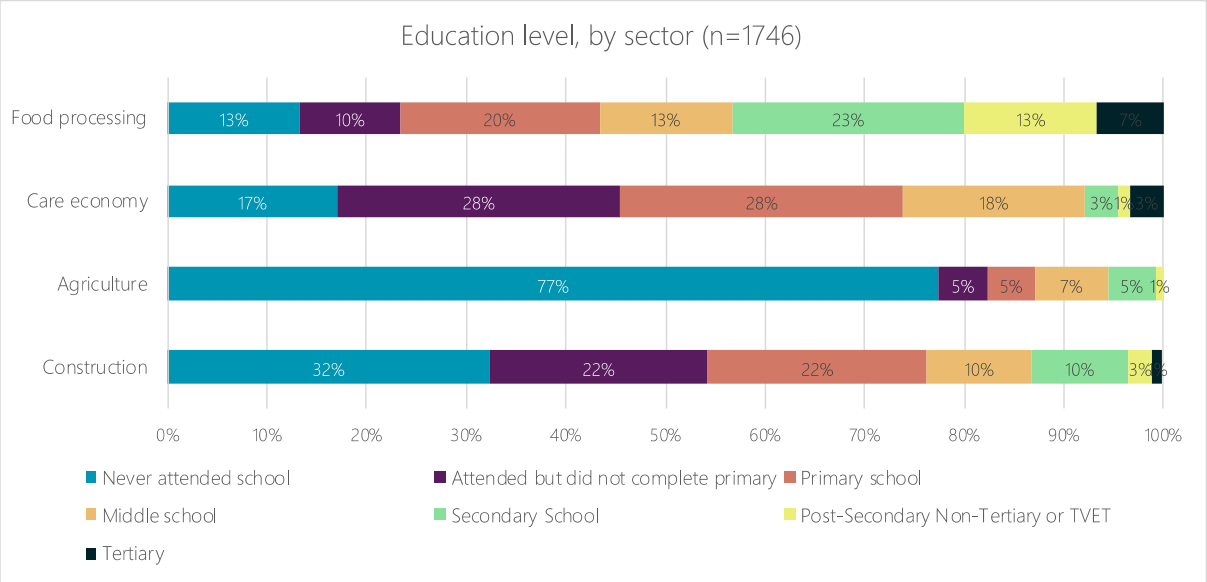
[171] Altai Consulting, "Draft Rapid Assessment of Migrant Entrepreneurship in Benghazi and Kufra."

[172] The survey targeted migrants across Libya on a rolling basis on points along migration routes, or other urban locations, including work recruitment points where migrants who work on daily wages gather searching for work. As such, it may be biased towards lower-skilled migrants and migrants with lower levels of education *and is not representative of all migrants workers in Libya.*

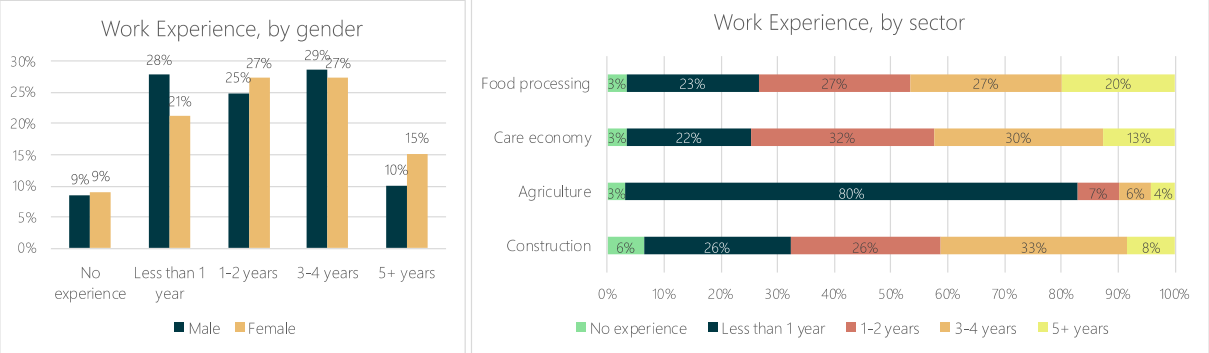
[173] The percentage of female migrants with more than five years of experience before coming to Libya is slightly higher than that of male migrants, at 15% and 10% respectively.

Figure 52: Education level by sector



Work experience differs between sectors and locations. The majority of workers in the agriculture sector have less than one year of working experience (83%). Meanwhile, the food processing sector has the highest share of migrants with five years of experience or more (20%). This could because required skills of bread baking and pastry making require minimal training and are transferable from other countries. Almost all workers in Zliten, where half of respondents work in agriculture, have less than one year of working experience (98%), while all workers in Sebha, a city located in the south and acting as entry point for northward migration, have two years of experience or less.

Figure 53: Migrant work experience (n=1,749)



Migrant workers tend to learn on the job: only 7% of migrants surveyed had received informal training[174] while only 1% received any formal training.

There are limited training opportunities open to migrant workers (both formal and informal),[175] for a variety of reasons: migrants often lack documentation, have incompatible language skills, or the cost of training is too high. The opportunity cost may also be too

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[174] Through interactions with peers, employers, friends.

[175] Migrants can access some training programmes implemented by international organisations: in one FGD (Tripoli), it was reported that they knew about training courses provided by the International Rescue Committee and IOM, although they had not participated in them. In another group, participants had heard of business management and human development trainings, but had also not participated and did not provide further details.

high: when asked if they would be interested in training opportunities, FGD participants highlighted that timing and location would have to be right. This indicates that, while they are interested in learning new skills, it should not be to the detriment of earning a living.

There is no national system that allows Libyan businesses to recognise foreign skills through qualification or partial qualifications.[176] The exception is in cases where companies, or hospitals for example, have (legal) migrant staff and a need for qualified workers. Conversely, undocumented migrants' needs for training are not captured by an official national body or organisation.

Few employers provide training for migrant workers: only 8% of surveyed workers received training from their employers to develop specific skills.[177] Meanwhile, of the employers surveyed, 29% reported that they provide training for employees. Workers in the care economy were the most likely to receive employer training[178] while nearly a third (32%) of construction companies provided training. Women are more likely to receive training than men, presumably because they are more likely to be in the care economy. Employers explained that there was either no need to train or that they preferred to hire migrants that already had the right skills. Investing in migrants was seen as a potential productivity loss when migrants they trained decided to leave.

The skills for which employers provide training directly correlates with the skills that employers cited as being the most difficult to find in their respective sectors.

Figure 54: Skills for which employers are willing to train staff

Half of businesses surveyed hire apprentices and there is a fairly even split across sectors. Medium sized businesses are more prone to hiring apprentices than micro and small companies.[179] In agriculture, employers explained that they are able to find the skills they need, and they do not have space for apprentices, nor do they have time to spend on training them. There may also simply not be a need to hire low-skilled agricultural labour

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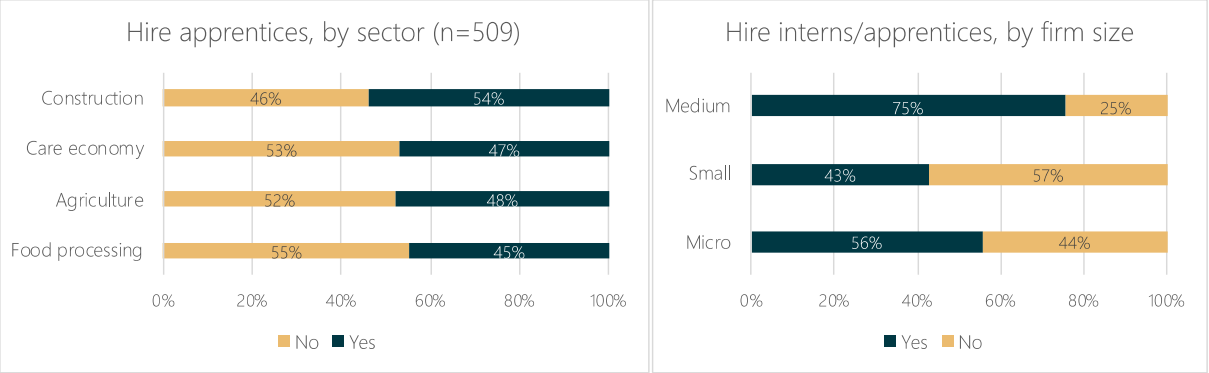
[176] Key informant, international organisation.
[177] Among the four studied sectors, the proportion of workers who received training is the highest in care economy (8%), followed by agriculture (7%), construction (4%), and then food processing (3%).
[178] 34% of care economy businesses surveyed provide training.
[179] There is a slightly higher share of employers hiring apprentices in the construction sector (54%) relative to the other three sectors. In food processing, the share of employers is the lowest (45%).

(picking fruit or vegetables, for example). In Zliten for example, there seems to be a correlation between the sector of work and the likelihood that businesses hire apprentices. Half of workers surveyed in Zliten work in agriculture and 98% of migrants surveyed there have less than a year's experience. None of the businesses in Zliten hire apprentices. As such, it is possible that the agriculture jobs for which they are hired in Zliten are not sufficiently complex to require prior experience or an apprenticeship.

Figure 55: Employers that hire apprentices, by sector and business size (n=509)



In the food processing sector, there were two cases: either there is little need for training, and thus little need for apprentices, or too much training would be needed to acquire the skills through a simple apprenticeship.

The construction sector was the most likely to take apprentices, yet it is also the sector in which there were the most varied reasons for not hiring apprentices. Employers often stated that the work they do is unsuitable for beginners, that there is too high a risk of dangerous mistakes in the workplace, or because they only hire staff who are already skilled.

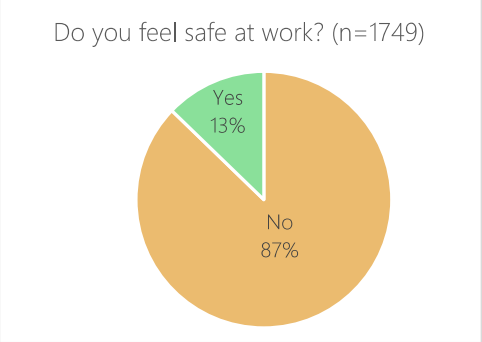
Training in the care economy seems to be unpaid and businesses felt that few migrants would be willing to work for free as apprentices. Given the interpersonal nature of the sector, businesses also feared losing customers by putting someone new in the job. The hard-to-find training opportunities, and those cited by informants as being difficult to find, were not related to the sectors studied. Those skills in demand in Libya are ICT skills. This includes maintaining mobile phones, computers, and TV screens. This type of training is aimed at Libyans. Even international organisations who support this type of training target Libyan youth, rather than migrants.[180]

[180] Key informant, Libyan Government official.

V.2.3. Safety, Accommodation and Transportation

The vast majority (87%) of migrant workers surveyed do not feel safe at their main place of employment, with only 5% of females reporting that they feel safe.[181]

Figure 56: Work safety

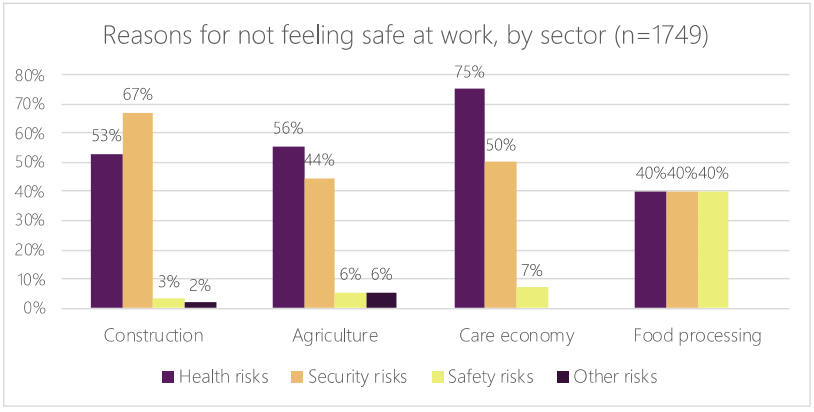


The top reasons that migrants do not feel safe is due to security risk [182] (59%). Their general sense of insecurity is linked to their undocumented status, which leaves them vulnerable. Migrants do not feel adequately protected: they are in an insecure location, close to conflict or other safety reasons. In Libya, xenophobia and racism appear to be increasing, especially in coastal areas where foreigners are blamed for the rise of criminal groups and smuggling networks. A recent IOM survey found that a majority of migrants (74%) felt unsafe in their neighbourhood due to crime, violence or harassment, and one in five had been a victim of crime in their neighbourhood in the past 30 days. Research by Amnesty International found that "increasing numbers of migrants report being forced to work without pay, physically assaulted or robbed."

Employers try to protect their informal labour force by providing security and/or transportation. Migrant workers have low salaries and represent an inexpensive and important part of their workforce. 38% of employers surveyed provide accommodation for foreign workers although migrants are not obligated to reside in the accommodation.

The second reason migrants do not feel safe is health risks: they do not feel adequately protected against disease or an unsanitary environment (51%). As unregistered migrants, they are not covered by national health insurance in case of illness or accidents. This fear is likely heightened by the current pandemic.

Figure 57: Reasons migrants feel unsafe



The quality of migrants' accommodation was found to be generally substandard, with frequent descriptions of overcrowded, uncomfortable, and unsanitary spaces. A recent IOM

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[181] In terms of geographical distribution, 43% of workers in Sebha, 9% in Misrata, 7% in Tripoli and 2% in Ejdabia report feeling safe.

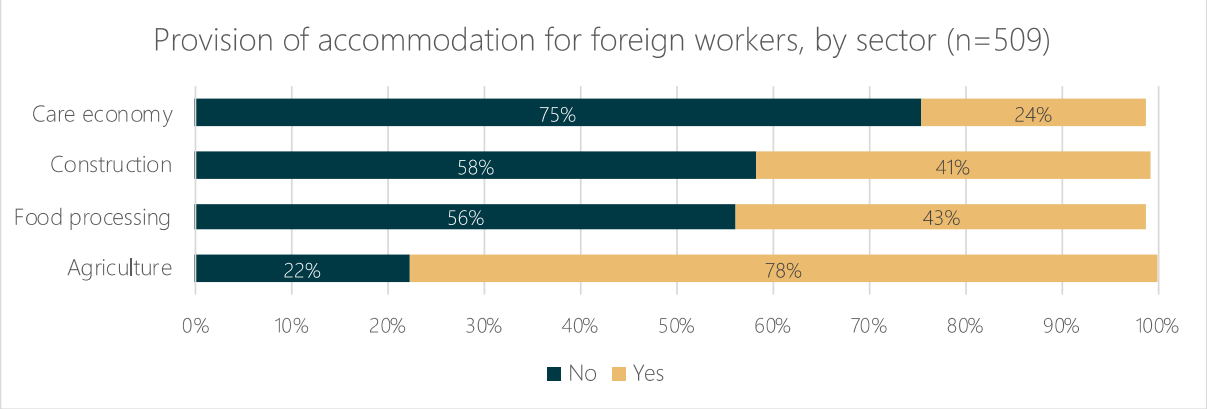
[182] Migrants were asked why they did not feel safe and were provided three choices: (i) "Health risks that I do not feel adequately protected against (disease, unsanitary environment, etc." (ii) "Security risks that I do not feel adequately protection against (insecure location: close to conflict, etc.)" (iii) "Safety risks that I do not feel adequately protected against (unsafe equipment, lack of safety or protection equipment, or employees are obliged to take risks)" (iv) "Other".

report found that 39% of migrants live in severely overcrowded conditions[183] and most (94%) do not have documented lease agreements.[184]

Whether migrants are housed by their employers depends on the sector and employer, and when it is provided, accommodation tends to be close to work. Businesses in the agriculture sector were more likely to provide accommodation given that the work locations are likely outside of city centres where accommodation can be easily found.

The cost of employer-provided accommodation largely depends on the employer and the migrant: accommodation can be free, included in the working arrangements, agreed upon between employer and employee, or be subject to rental costs. Low-skilled migrants and highly skilled migrants tend to access different types of accommodation, due to their respective incomes.

Figure 58: Migrant worker accommodation



Migrants who are not affiliated with a specific employer must find their own accommodation and those earning daily wages are less likely to have fixed accommodation. The city centre tends to be more suitable for housing, in terms of security, than the outskirts of the city, in which migrants may be more exposed to various dangers.[185] While crowded accommodation was not particularly desirable, migrants likely prefer to be with others rather than alone, with the idea that there is safety in numbers.

Transportation arrangements vary widely and are an important part of migrants' safety. When migrants live off-site or in accommodation provided by the employer, they tend to live in the same cities as their work to avoid checkpoints. Employers usually cover transportation expenses. This is in part to ensure workers' safety. For example, a large hospital in Benghazi that employs a number of Bangladeshi workers provides them with accommodation "and a bus to transport them to the workplace and back to their places of residence."[186]

Safe transportation is a critical factor for migrants responsible for their own transportation. Women in FGDs reported working with the same taxi driver to ensure their safety, while men

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[183] This means more than six people per habitable room.
[184] IOM DTM, "Libya — A Long Way from Home – Migrants' Housing Conditions in Libya."
[185] Key informant, Libyan Government official.
[186] KIIs.

reported working as a group to make agreements with "a Libyan citizen who owns a private car"[187] to drive them to work and back to their places of residence on a daily basis for a fixed rate. The cost of transportation depended on the type of transportation (bus, taxi, van, etc.) and the distance travelled between the accommodation and the workplace.

VI. Conclusions

There are a number of constraints faced by businesses in Libya, a majority of which are related to context, rather than skills. The political and economic challenges in Libya have severely obstructed opportunities for private investment, economic diversification and job creation and therefore for improving standards of living and working conditions for both Libyans and migrants workers. Under the status quo, unemployment rates will remain high and low-quality informal jobs are likely to become more prevalent. Incentives for engaging in informal or even illegal activities could grow stronger particularly for youth who, along women and low-skilled migrant, are more exposed to existing labour market risks. Even if the economy gradually recovers and historic patterns of job creation resume the problem would not be solved. The country needs higher rates of job creation than in the past and better quality/higher productivity jobs that can only come from structural transformations. Several reforms are needed to build institutions,[188] improve liquidity and access to financing, promote investments and improve regulatory policies that integrate low-skilled, migrant labour into the labour market.

As the private sector grows, it will create jobs and thus provide opportunities for migrant workers and Libyans alike. Given the Libyans' reticence to participate in the private sector, migrants are and will continue to be able to fill labour gaps across sectors and skills. Among these growing sectors and the jobs they will create, migrants are likely to occupy the bottom of the skills distribution. The potential for migrant employment will therefore **remain low-skilled jobs that are not desired by Libyans and for which there is little to no education or experience required**.

There does not appear to be a significant problem between skills supply and demand in the assessed sectors for lower skill jobs, except in Misrata. This study found that the current needs in the private sector are largely for low-skilled labour in the sectors of agriculture, construction and also, but to a lesser degree, in food processing and the care economy. This consist in physical labour, manual skills or skills than can be easily taught. Businesses are able to find the skills they need to fill open positions, largely by word of mouth. While the demand is for low skilled, unsustainable jobs, these are the types of positions that low-skilled migrants seeking to make money are ready and able to fill.

Migrant workers find work quickly and this is a concern because it is to the detriment of their safety. Migrant workers without documentation are able to find work quickly in the informal sector. As a result of their undocumented status, they lack security in informal jobs. They do not have security in the form of health or legal protection, nor the ability to resort

[187] FGD participant.
[188] See recommendations.

to legal recourse in the event of work-related disputes. Migrant workers face barriers to information about their legal rights and how to change jobs should they so wish. Migrant workers also face a risk of dependency on regulated companies who provide them with work permits. **There are few training opportunities open to migrant workers and while supply is meeting demand, there are opportunities to train migrants in specific skills.** There appears to be a small need for a few, specific technical skills in the Libyan labour market. Technical training in ICT and electricity could be beneficial to migrants, providing them a base of knowledge on which to build within specific jobs and sectors. Training in cognitive skills, specifically in reading, writing and calculation could increase migrants' overall employability, both in Libya and elsewhere.

Better quality and higher productivity jobs for migrant workers can only come from structural transformations. In order to create an environment that facilitates growth, structural policy interventions, laws to protect migrants, and active labour market programmes will need to be implemented for the long-run.

VII. Recommendations

The recommendations are articulated around: macro level recommendations, labour supply side recommendation, labour related demand recommendations and finally recommendations steered towards the services and infrastructures supporting the labour market.

VII.1. Macro economic level recommendations

The macro-economic analysis had a country wide and population wide scope, encompassing migrant workers and those from the host community. The below recommendations are therefore applicable across the board for a more inclusive job rich labour market in Libya.

Several reforms would need to be implemented to build institutions, improve macro and regulatory policies, and promote investments and economic diversification. Many of these reforms are discussed in other reports.[189] They include interventions to improve the policymaking process and build state capabilities; reduce the "rents" associated with illegal activities; better macroeconomic management; better regulations to improve the business environment and encourage FDI and public private partnerships (PPP); and others to increase investments in human capital. The latter can include reforms in the higher education and technical and vocational education and training (TVET) system to better align diplomas and curricula to market demands.

The effect of these reforms, however, will not be immediate and given jobs related externalities waiting is not socially efficient. Indeed, creating more and better jobs now will not only contribute to increase standards of living, but can also promote social stability and accelerate the accumulation of human capital. These externalities therefore create a gap between private and social rates of return that justify more aggressive government initiatives to promote investments and create jobs or improve the quality of existing jobs – including informal sector jobs.

The country could therefore consider a set of targeted initiatives aiming to mobilize private investment to four economic sectors where there seems be potential for job creation and economic diversification:

- Agriculture and agribusinesses;
- Manufacturing;
- Construction;
- High-end services: information and communication technologies, digital platforms, and social services.

These interventions would combine three sets of policies and programs:

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[189] Truman Packard et al., 'Protecting All: Risk-Sharing for a Diverse and Diversifying World of Work'. and Robert Palacios and David Robalino, 'Integrating Social Insurance and Social Assistance Programs for the Future World of Labor'.

- Investment subsidies conditional on job creation that can take place at the business level, at the level of specific value chains, or within special economic zones.
- Active labour markets programs, including training and retraining programs, managed by specialized private institutions under P4R contracts, aiming to facilitate labour market transitions from inactivity/unemployment into a job and/or from low to higher productivity jobs.
- More efficient labour regulations to better protect workers and the rights of migrants, reduce labour costs, and improve incentives to create formal jobs.

VII.1.1. Policies and Programs to Promote Investments and Job Creation

Higher standards of living in Libya for nationals and migrants require more and better jobs, which in turn require mobilizing private investments to specific economic sectors and regions. Indeed, households' income increases when more people work and when jobs move from low to higher productivity sectors, increasing labour productivity. This can only happen when existing businesses grow, new businesses are created, and new production technologies are adopted. To this end, there are three pre-conditions:

1) investment opportunities with competitive rates of return, which require an adequate business environment;
2) the ability of investors to appropriate the returns on their investments, which requires good governance, security, and the rule of law;
3) access to finance, which requires macroeconomic stability and the development of the financial sector.

A fundamental challenge in Libya and other fragile and conflict-affected countries is to achieve social stability and build the institutions and regulations that allow markets to function efficiently. Today, the majority of businesses report facing unsurmountable constrains to invest and create jobs. The most important are: macroeconomic and regulatory policy uncertainty, an over-valued exchange rate, political instability, limitations on letters of credit, low domestic demand, corruption, intermediate input prices, access to finance, electricity availability, and crime, theft, and disorder.[190]

There is an extensive literature about the types of initiatives and reforms that the country should consider.[191] Chief among them are measures to reduce the "rents" associated with illicit activities and the war economy. These would include interventions to address fraud with lines of credit (LCs), corruption in the allocation of public contracts, and smuggling of subsidized goods including fuel. Making this happen would require starting a Public-Private Dialog (PPD) that aims to develop information systems and promote transparency for the management of LCs and public expenditures. It would also be necessary to reduce incentives to smuggle by replacing implicit subsidies on products by, targeted, explicit

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[190] See David Robalino, Jose Romero, and Ian Walker, 'Allocating Subsidies for Private Investments to Maximize Jobs Impacts'..

[191] See David Robalino, Jose Romero, and Ian Walker..

subsidies to households. [192] Libya would also need to complete a set of unfinished regulatory reforms conducive to foreign direct investments (FDIs) and public-private partnerships (PPPs).

All these reforms, however, will take time and therefore it is necessary to consider targeted initiatives to improve the quality of existing jobs and promote job creation in selected economic sectors. These programmes would have to combine: investment subsidies conditional on job creation; integrated active labour market programmes to facilitate labour mobility and access to jobs (including for migrants); and adequate labour policies to protect workers.

The Libyan government could also consider strategic investments in sectors/products that, although somewhat distant, could be produced through public private partnerships. As discussed in the macro economic analysis, two sectors with potential for employment creation are manufacture and agriculture/agribusinesses. At the same time, the analysis of the Libyan product space suggests that there are products within these two sectors that could attract private investments *if* the government creates the right conditions. In the case of the manufacturing sector, for instance, high productivity activities include the production of different types of machinery, instruments for physical and chemical analysis, and aluminium wire (see Table 10). These products are distant from the current product space but with the right policy instruments to diversify risks, the necessary investments could be mobilized. There are also several investment opportunities in agribusiness that could be less risky. Examples include edible animal products; fish products; food preparations; preparations of vegetables, foods and nuts; and beverages.

The government would not need to make choices about these sectors or products; it would not be picking winners. Instead, the government, based on the current analysis and through consultations with representatives from the private sector (business owners, entrepreneurs, investors), could develop a menu of sectors/products that it would be willing to support to address jobs externalities. Prospective private investors who expect that there will be profitable investment opportunities can then prepare investment projects and bid to receive government support. These investment projects could, where relevant, encompass, investments of the private sector in the kind of skills which would be needed to produce these new products or services. It is therefore the private sector, not the government, that would be choosing the specific subsectors/products. This is the "market test" to ensure that the economic activities that the government would like to develop to promote economic diversification and job creation are viable.

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[192] Smuggling takes place, in part, because local prices are too low as a result of the subsidies. Smugglers generate higher earnings by selling abroad.

Table 10: Examples of New Products for Exporting where Libya could invest

Sector	Product	Global Trade and Growth (5years)	Competitors & share of global trade
Manufacturing	Machines n.e.c. (8479) (e.g., machines for public works, extraction of animals, fabrication of cables and ropes). Distance: +++	USD 126M 69.1%	USA (20.27%) South Korea (10.9%) Malaysia (1.8%) Mexico (0.7%) India (0.5%)
	Instruments for physical and chemical analysis (9027) Distance: +++	USD 44.7B 26.4%	USA (19,6%) China (5.1%) Mexico (1.2%) Poland (0.98%)
	Aluminium wire (7605) Distance: ++	USD 22B 25.1%	Bahrain (11.4%) Mozambique (3.7%) China (3.2%) UAE (3.16%) Egypt (1.8%)
Agriculture and Agribusinesses	Edible Animal Products (0410) Distance: +	USD 707M 77.2%	Indonesia (42.7%) China (11.5%) Vietnam (0.8%) Brazil (0.7%)
	Fish products (other than fillet) (0302) Distance: +	USD 22B 25.1%	Norway (35.6%) Chile (3.9%) Turkey (2.1%) Mexico (0.9%) Oman (0.4%)
	Life animals (0106) Distance: +	USD 1.18B 3.5%	USA (7.3%) China (5.2%) Saudi Arabia (4.7%) Djibouti (2.1%) UAE (1.7%)
	Food preparations (2106) Distance: ++	USD 42.4B 26.2%	USA (13.5%) China (3.8%) Egypt (0.2%) Tunisia (0.03%)
	Semi Chemical Wood Pulp (4705) Distance: ++	USD 2.1B 16.9%	Canada (55.7%) Brazil (2.4%) Indonesia (1.7%)
	Preparations of Vegetables, Fruits, and Nuts (20 HS45) Distance: ++	USD 63.1B 10%	China (12.1%) Brazil (4.1%) Egypt (0.6%)
	Beverages (22 HS2) Distance: ++	USD 119B 10%	France (15.8%) China (1.95) Egypt (0.04%)

Source: Atlas of Economic Complexity.

VII.1.2. Investments Subsidies Conditional on Job Creation

All countries have implemented a variety of policies and programmes to influence the level and allocation of private investments through implicit or explicit subsidies. These programmes range from tax exemptions and support to small and medium enterprises (SMEs) and entrepreneurs; to export promotion and value chains development initiatives or the creation of special economic zones (SEZ). All interventions combine services such as access to finance; training, mentoring, and technical assistance; networking services; infrastructure development; and support with logistics and access to markets. In all cases, these services are fully or partially subsidized. Thus, in practice, countries allocate substantial shares of public resources to programmes that aim to support the creation and expansion of businesses to promote economic growth and, as a by-product, create jobs.

The evaluations of these programmes have had mixed results, particularly when it comes to the creation of jobs.[193] In practice, projects are seldom selected for public support based on the jobs impacts the investments are likely to generate. The metrics that dominate the project selection process include financial returns, output and productivity. However, as discussed above, in the presence of jobs linked externalities (JLE), maximizing businesses' financial rates of return, output growth or productivity gains does not necessarily lead to socially efficient jobs outcomes.

More recently, however, there have been **innovations to improve the allocation of investment subsidies conditional on job creation**. The programmes can operate at different scales, but they all involve setting up a competitive process to allocate subsidies in cash (could include tax-breaks) or in-kind to different investment projects. Prospective investors submit investment projects that include information about the business plan, total investment and operation costs, expected revenues and number of jobs to be created, and the level of in-kind or in-cash subsidies that will be required. Essentially, the investment project outlines the total cost of the project and the share of these costs that would be financed by the government. Investment projects are then ranked by the level of subsidy per JLE. The programmes can attribute different values to different jobs. For instance, the JLEs of jobs for low-skilled women and youth can be higher than the JLEs of skilled adult males.

Libya could consider setting up a Jobs Fund to promote investments and job creation in selected economic sectors and regions. There are three types of, non-mutually exclusive, programmes that could be considered: i) programmes that support investment at the business level; ii) programmes that support investments at the level of value chains; and iii) programmes that support investments within special economic zones (SEZ):

- **Investments at the business level:** The programme in this case supports the expansion of existing businesses or the creation of new business within selected economic sectors and regions. Business owners and entrepreneurs compete for budget support and their investment projects are not necessarily interrelated. The focus is on start-ups, SMEs, and established businesses, which are the ones more

[193] Johanne Buba and Reyes Aterido, 'Firm-Level Interventions for Jobs (Forthcoming)' (World Bank, n.d.)..

likely to create good jobs, particularly in the formal sector. Indeed, there is evidence that micro-enterprises rarely grow and create jobs; few large businesses start as minnows.[194] Other interventions are needed in their case (see next section).

- Investments in value chains: these are more complex investments that require coordination between different businesses within a given sector or value chain: production of raw materials, transformation activities, commercialisation activities. There are still competitive processes to subsidize investments at these various levels, but they need to be coordinated and therefore the management of the program is more complex.
- Investments within SEZ: the beneficiaries of the programme are businesses entering the economic zone. Although the activities of these businesses are not necessarily interrelated, setting up and managing the SEZ is also a complex undertaking.

Setting up any of these types of programmes in Libya would require building institutional capacity and outsourcing management and implementation responsibilities to specialized agencies under the right types of contract. Three types of contracts can be considered:

- Payments for results (P4Rs): these are contracts that can work well for programmes that operate at the business level. Under the contract, at least part of the payment received by providers depends on having achieved specific results. For instance, specific targets in terms of the number of businesses served and the number of jobs created. Different contracts transfer a different level of risk to the provider. At one end it is possible to have contracts where all payments are based on results. At the other end, only profits or supplemental income would be based on results.
- Social impact bonds (SIBs): originally created in the United Kingdom as a mechanism to improve the performance of active labour market programmes (ALMPs), social bonds have gained momentum and are being used to support the development of value chains. In 2018 there were around USD 370 million invested in these bonds across 28 countries and 135 programmes. Private investors fund the full cost of a given social programme and get reimbursed by the government (including interests) only if a set of pre-defined results is achieved; investors face all the financial risk. Usually, an intermediary is setup to design the contract and implement the project, which implies hiring and supervising different providers. An independent evaluator then conducts the impact assessment and clears, or not, the payment of the principal and interests.[195]
- Public private partnerships (PPPs): these contracts can be used to manage programmes that support the development of value chains or the creation and management of a special economic zone. They are long-term contracts between the public and private sector to design, implement and manage a given project and achieve specific results. Revenues for private providers, in fact, can come directly

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[194] R. Aterido and M. Hallward-Driemeier, 'The Elusive Search for Gazelles: The Definition for Success Affects the Firms Chosen but Not the Reality That Very Few Firms Maintain High Performance for Long', 2018.

[195] See Emily Gustafsson-Wright, Sophie Gardiner, and Vidya Putcha (2017). The Potential and Limitations of Impact Bonds: Lessons from the First Five Year of Experience Worldwide. Brookings. Global Economy and Development. Brookings.

from users of the services. PPPs are very common in the infrastructure sector, but they are also gaining traction in other sectors.[196]

This type of initiative would require coordination across multilateral organizations operating in Libya and bilateral donors. This coordination is necessary to mobilize funding and different types of expertise, but also to mobilize private sector investors. Institutions such as the World Bank, for instance, could in principle provide financial resources. The Bank also has the technical expertise to support projects that aim to develop value chains or special economic zones, as well as considerable expertise in the creation of public private partnerships (PPPs). Bilateral donors in addition to being able to contribute funding also have considerable sectoral knowledge. They can also act as a bridge between private investors in their home country and investments opportunities in Libya.

VII.1.3. Labour Policies

Labour regulations, if well designed, can correct imperfections in labour markets resulting from inadequate information, uneven bargaining power, limited ability to enforce long-term commitments, or insufficient insurance mechanisms against employment related risks.[197] Thus, labour regulations can, if well designed and aligned to international standards, avoid inefficient and inequitable labour market outcomes and have an important role to play in any country. The challenge is to establish the right balance between workers protection and flexibility in the management of human resources at the business level, that is, avoiding both over- or under-regulation. Between these two extremes, there is a 'plateau' where appropriately designed regulations can alleviate (labour) market failures, offer adequate protection to workers, without imposing unreasonable costs on businesses.

Libya's labour laws follow international standards but there is room to expand their coverage and assess the extent to which current labour costs are becoming a barrier for the creation of formal wage employment. The main issues to consider reside with the regulation of contracts, minimum wage policy, dismissal procedures and severance pay, labour taxation, and social insurance.

Contracts

Like many other countries, Libya regulates different types of contracts that do not offer the same benefits and right to workers and therefore give opportunities for arbitrage. The result is that employers have incentives to choose contracts that reduce their liabilities. They have incentives to abuse fix-term contracts or disguise wage employment as self-employment.

The main recommendation is to ensure regulatory neutrality between types of contracts jobs, and workers. This implies that all workers including migrants should receive the same types of benefits and protections, regardless of the length of time they spend with a given

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[196] Marlo Rankin, Eva Gálvez Nogales, Pilar Santacoloma, Nomathemba Mhlanga, and Costanza Rizzo (2016). "Public–Private Partnerships for Agribusiness Development: A review of international experiences." Food and Agriculture Organization (2019).

[197] Kuddo, A., Robalino, D., Weber, M. (2015). Balancing Regulations to Promote Jobs : From Employment Contracts to Unemployment Benefits. *World Bank, Washington, DC. © World Bank.* https://openknowledge.worldbank.org/handle/10986/23324. License: CC BY 3.0 IGO.

employer and whether they are foreign workers or Libyans. Employers and workers should be allowed to define the modalities of their engagement as long as the resulting contract has a common template with the different rights and benefits, and that migrants are working under contracts with decent working conditions.

Minimum wage

The role of minimum wage policy is not well defined and implementation arrangements create considerable uncertainty for both employers and employees. The objective of a minimum wage should be to protect workers when employers can impose wages below the marginal product of their labour. In this case, having a minimum wage can increase labour supply and employment. But when the minimum wage is trying to guarantee a given standard of living its level can be too high for some businesses that will then reduce the level of formal employment. In Libya the minimum wage today is equivalent to USD 284 per month and represents 40% of value added per worker (a measure of labour productivity), which is high by international standards. In addition, the level of minimum wage is subject to political discretion and is set without a proper technical analysis of the economic and social impacts.

Libya could rethink minimum wage policy to avoid ad-hoc adjustments and explore other instruments to guarantee a minimum level of income to all workers, be they Libyan nationals or not. Discretion can be eliminated by setting up an independent body that periodically assesses the level of the minimum wage and its economic and social impacts. Formulas that track inflation and labour productivity can be used to anchor the adjustments. These formulas can also help employers and workers foresee future adjustments. At the same time, to guarantee a minimum level of income to all workers, which could be above the minimum wage that businesses can pay, Libya could consider a targeted basic income guarantee financed from general revenues or a negative income tax.[198]

Dismissal procedures and severance pay

Dismissal procedures in Libya seem generally flexible but the design of severance pay is inadequate to protect workers while imposing high costs on employers in the case of long-term contracts. In principle, employers can dismiss workers for technical or economic reasons without requiring the authorization of a third party. The precondition is to give a one-month advance notice which is also common by international standards. Severance pay, on the other hand, can be very low for short tenure workers (0.5 month of salaries for one year of service) and quite high for those with long tenures (8 months of salaries for 10 years of service). This provides an additional incentive for employers to avoid long-term contracts. In addition, businesses that are facing financial difficulties and need to dismiss workers might not have the resources to cover their liabilities, since nothing in the law requires them to create reserves or buy insurance. Thus, only a small share of workers tends to receive severance payment in practice.

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[198] See Truman Packard et al., 'Protecting All: Risk-Sharing for a Diverse and Diversifying World of Work' (World Bank, 2019).

Libya could consider replacing severance pay by a small dismissal tax and introduce a properly designed unemployment insurance system.[199] This unemployment insurance system would be financed by contributions from employers and workers. It would be a hybrid between a traditional system based on risk-pooling and a system based on individual accounts. To reduce moral hazard, the payment of unemployment benefits would be conditional on the participation in active labour market programmes. The dismissal tax would be a percentage of the annual salary of the employee (less than 8%). The proceeds would accumulate in a fund and could be used to fund active labour market programmes and subsidies in the unemployment insurance system for workers who are unable to contribute enough to finance their benefits.

Labour taxation and social security

The tax wedge in Libya is estimated at 24,25% which is average by international standards but still a barrier to formal employment and yet insufficient to finance existing benefits. The main sources of this tax-wedge are a personal income tax of 10% for the average worker and a 14,25% contribution to the social security which covers old-age, disability, and survivorship pensions; sickness and maternity; work injuries; unemployment benefits; and family allowances. Given the 2,5% accrual rate paid by the pension system the equilibrium contribution rate just for pensions should be closer to 35%. Since there are no additional resources to fund the other benefits, the current social security system is accumulating large unfunded liabilities, yet it offers no coverage to workers outside the public sector likely to be informal.

Libya would need to consider structural reforms to expand the coverage of social insurance programmes to all workers while controlling labour costs and ensuring the financial sustainability of the system. Although there are different options to design these programmes certain principles should guide their design:[200]

- **Promote integrated social insurance programmes that treat all workers and their families equally, regardless of whether they are migrant or Libyan workers.** This implies that all workers have the same rights and obligations regardless of where they work. Informal wage employees and the self-employed can enrol in the same system as formal wage employees. It could also be envisioned to have a flexible system, made up of different schemes that could be tailored according to workers' characteristics.
- **Explicitly define the benefits offered to plan members and their costs.** This is critical to be able to identify the most efficient and equitable financing mechanisms and ensure the financial sustainability of the systems as coverage expands (see below).
- **Link contributions (from employers, workers, and the government) to benefits and have explicit distributive arrangements.** This is important to improve

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[199] See González-Velosa and Robalino, 'Hacia Mejores Mecanismos de Protección de Riesgos Para La Clase Media y Vulnerable'.

[200] See Truman Packard et al., 'Protecting All: Risk-Sharing for a Diverse and Diversifying World of Work'. and Robert Palacios and David Robalino, 'Integrating Social Insurance and Social Assistance Programs for the Future World of Labor', *IZA Institute of Labor Economics*, May 2020, http://ftp.iza.org/dp13258.pdf.

incentives to enrol and contribute, reduce labour taxes, and improve equity. Hence, workers (and employers when available) can contribute to finance part or all the cost of expected benefits depending on their level of income. The difference[201] would be financed by the government through explicit subsidies. Subsidies could be reduced over time as the contributory capacity increases of the contributors and as their number increases because of more workers in the formal economy.

- Relying on new ICTs to facilitate the identification, enrolment, and profiling/means-testing of workers as well as the collection of contributions. Having the right policies is a necessary but not a sufficient condition to improve the performance of social insurance programmes. The right administrative systems and implementation arrangements also need to be in place: a strong legal framework and good governance.

In parallel, advocate for the regularisation of foreign workers who, as a result, would have access to social security and pay taxes.[202] The main sources of this tax-wedge are a personal income tax of 10% for the average worker and a 14,25% contribution[203] to the social security, which covers old-age, disability, and survivorship pensions; sickness and maternity, work injuries, unemployment benefits, and family allowances. Negotiation with government to regularise migrant workers could lead to multiple long-term positive outcomes: an increase in government tax revenue due to an increase in legal workers and therefore taxpayers, and an increase in legal migrant workers who would then also have legal protection and a social safety net.

Enforcement

Libya needs to continue building institutional capacity to enforce labour regulations, particularly given the presence of a large informal sector and the prevalence of small, low productivity businesses. Investments in human resources, including labour inspectors, is a precondition for better enforcement. At the same time, it is important to take into account that there are low productivity, often small, businesses that are not in compliance with labour regulations because they cannot afford them. The implicit cost of the regulations is above value added per worker. Therefore Libya should be aiming at a smart regulation with the appropriate balance of carrot and stick for employers as well as follow up by governments, working with employers organisations to support capacity building, professionalisation, etc., in an effort not only to ensure legal compliance but efficiency, quality, profit and sustainability. Laws, regulation and law enforcement are an absolutely central aspect of migrant worker protection, and the goal should be to expand the formal economy such that fewer and fewer workers lack coverage and protection.

While it is the state that has the duty of care to protect its citizens in the labour market and it must establish and maintain the institutional capacity to monitor labour standards, Libya

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[201] Estimations on this difference were not conducted for this Labour Market Assessment and would need to be included in the inception phase for this type of project.

[202] The tax wedge in Libya is estimated at 24,25%, which is average by international standards, but still a barrier to formal employment and yet insufficient to finance existing benefits.

[203] Robalino, Ossandon, and Juillard, "Labour Market Assessment Libya: Macroeconomic Analysis."

could also consider relying on non-governmental organizations and workers associations to help with part of the monitoring and enforcement processes, while creating programs to provide temporary support for low productivity businesses. These programs can offer temporary exemptions in terms of some regulations (e.g., social security contributions) while providing technical assistance to increase productivity and expand markets, or help the owner and workers transit to other occupations. It is also important to strengthen existing systems to redress grievances and sanction employers in cases of abuse or discrimination.

Migration

Support the government in developing a policy and an accompanying national protection scheme that ensure the minimum standards of living and working conditions for migrant workers. While migrant workers already play an important role in the operation of private sector businesses, there is a disconnect that needs to be addressed between policies towards migrant workers and the potential value for the labour market demand for low-skilled labour. These challenges need to be addressed proactively through the integration of migrant workers into employment and labour governance in Libya. The challenge is to establish the right balance between workers' protection and flexibility in the management of human resources at the business level, that is, avoiding both over- and under-regulation. Between these two extremes, there is a 'plateau' where appropriately designed regulations can alleviate (labour) market failures and offer adequate protection to migrant workers without imposing unreasonable costs on businesses.

Advocate for minimum labour standards for migrant workers alongside contracts and options for workers in the "grey zone." It is desirable to give employers and workers flexibility when designing contracts, as long as there is regulatory neutrality across these contracts. This means that all contracts guarantee the same rights and benefits to all workers, including regarding the coverage of social insurance programmes. For instance, if a worker has a fixed-term contract of three months with a given employer, the latter still has to pay social security contributions and credit annual leave on a pro-rata basis. It is also important to recognise the category of "autonomous independent" workers – workers who are self-employed but whose income depends on one or two companies – and give them the same labour rights as wage employees.

Regulate the activities of the companies' employers use to regularise their employees to avoid abusive situation and make sure the employers are the ones paying for such services, not the employees. These companies should be registered, with a licensing and monitoring system that would help ensure ethical recruitment.

VII.2. Supply side recommendations

VII.2.1. Capacity development

Given IOM growing role in TVET and skills training, it can establish target capacity development programmes to boost migrants' cognitive skills to increase their employability across the board in Libya. Key cognitive skills required by sectors surveyed include numeracy and literacy skills. Migrants usually have low education levels: sharpening their skills in

reading, writing and maths will not only support their employability within the Libyan labour market, but also throughout their lives. This type of training could be open to both migrants who plan on staying in Libya long-term and those who plan to move away from Libya after a period of time.

Provide basic training in electrical skills and machine reparation. The food processing, construction and agriculture sectors all work with various types of machinery. Basic electrical and machine reparation skills can be used as a base for further on-the-job training across the board. Whilst each sector and employer will have different machines, training in basic techniques and principles will provide migrants a base of knowledge on which to build and can be used both in Libya and abroad. This type of training would need to be paid to attract migrants because they are unlikely to forego wages for several days or weeks. Given that it will be tailored to the Libyan labour market, this type of training should first and foremost target migrants who plan on staying in Libya.

Provide basic training on the most common skills in the food processing sector. Bread baking and pastry making are among the top skills needed in the food processing sector and those for which employers are willing to train. As the population grows, as will its consumption of food. Bread and pastry making are skills that are quick to learn and fairly easy to put into use. Therefore, they are a quick-win training as they are in demand by the labour market.

Programmes in Misrata and Sebha should be prioritised. Businesses in Misrata and Sebha had the most trouble finding the required skills among local populations. Misrata's businesses struggled to find socio-emotional skills, such as the ability to deal with children, patience, and teaching. On the other hand, businesses in Sebha had a hard time finding cognitive skills, particularly the ability to read, write and do maths.

Provide cash grants to migrants undertaking training. While migrants are interested in increasing their skill sets, their ability to do so is limited by their need to earn a living. IOM could provide cash grants to support migrants' access to training classes. These could be payable upon successful completion of the course, or in tranches throughout the course on a weekly or bi-weekly basis.

VII.2.2. Active Labour Market Programmes

Labour programmes, often managed by public employment offices (PEOs), can have an important role to play in helping individuals, both local workers and migrants, find jobs or move between jobs – wage and self-employment. Like Libya, most countries have them. Many of them focus on wage employment and offer services such as counselling, technical and life skills training, intermediation, job-search assistance, wage subsidies, and mobility grants. Others focus on self-employment and entrepreneurship and can include components to facilitate access to finance.

Unfortunately, existing evaluations suggest that, **in general, labour programmes are not achieving the objectives for which they were designed**. The most recent meta-analysis of around 80 programmes implemented worldwide finds that only 30% of programmes had a

positive impact on beneficiaries' employment rates and/or earnings.[204] More troublesome, among those programmes which had an impact the impact was relatively small. The report suggests that the main reason behind these findings are problems in terms of design and implementation. Beyond limited institutional capacity and scarce resources, programme managers do not always have the incentives to respond to the needs of employers and job seekers. In addition, when the programmes focus on wage employment and the economy is not creating enough jobs there is little room to improve labour outcomes. This is why it is important to accompany these programmes with interventions to create and improve jobs opportunities (see previous section).

The evaluations of **traditional entrepreneurship programmes** also show that **impacts on employment rates and earnings have been limited**. For instance, a recent meta-analysis looked at some 40 programmes supporting small scale entrepreneurship. [205] These programmes offered a combination of services such as technical training (including basic knowledge in business management), life skills training, access to credit, and mentoring/networking. The analysis showed that only one fifth of the programmes were able to have an impact on beneficiaries' employment rates and/or earnings. On average, programmes that combined training with access to finance – integrated programmes – were more likely to have an impact on labour market outcomes. But, in general, the interventions were more likely to influence behaviours and to some extent business performance (level of debt and sales).

There is some evidence that **comprehensive packages that focus on the very poor and operate at the household level can increase consumption but there are concerns about their capacity to operate at scale.** These so called "graduation" programmes, initially developed by BRAC, offer cash-transfers, training, mentoring, and some form of productive asset (often animals). Engagements with beneficiaries are more continuous and last longer than in the traditional entrepreneurship programmes. Most evaluations show that the programmes are able to increase per capita consumption per month by an average of USD 5 dollars.[206] There are no impacts on job creation, but many households have been able to escape poverty as a result of the interventions. The main challenge facing these programmes relates to their potential to expand. Indeed, unit costs are relatively high, and production goes to consumption or is sold in small local-markets where there is little potential to grow.

An alternative is to have **entrepreneurship programmes that treat beneficiaries not as real entrepreneurs but more as wage employees, or contract workers, who are paid for the provision of certain goods and services. Part of the design of the programmes would involve profiling applicants**. Those who have the potential to engage in real entrepreneurial activities would be connected to traditional entrepreneurship programmes (see previous section). Beneficiaries who stay in the SE program would still need to receive training and support to

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[204] See Jochen Kluve et al., 'Do Youth Employment Programs Improve Labor Market Outcomes? A Quantitative Review', *World Development* 114 (February 2019): 237–53, https://doi.org/10.1016/j.worlddev.2018.10.004.

[205] Yoonyoung Cho and Maddalena Honorati, 'Entrepreneurship Programs in Developing Countries: A Meta Regression Analysis', *Labour Economics* 28, no. C (2014): 110–30.

[206] Abhijit Banerjee et al., 'Banerjee, Abhijit, et al. "A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries', *Science*, 2015.

purchase inputs, but they would not be trying to conceive and setup a business on their own. Their business, in a way, would be part of larger private/public investments projects to develop parts of or entire supply chains (see above).

Libya may consider setting up new active labour market programmes to facilitate transitions into wage or self- employment for both local and migrant workers.

In the case of migrant workers, these programs may facilitate their integration in the Libyan labour market and their mobility between jobs across regions and sectors. Thus, migrant workers arriving to the country, and those who are already in the country, may be able to register in a given employment office, a "one-stop-window," and be assigned to a specialized agency that manages their needs and offers the necessary support. Ideally, over time, these agencies can also improve the management of migration flows by connecting Libyan employers to potential workers who are still in their home countries. In this case, the registration and profiling of migrants would take place before they arrive to Libya.[207]

To this end, the country may take into account the lessons learned in terms of best practices for design and implementation at the international level. Four elements are emphasized: 1) profiling systems; 2) integrating services; 3) contracting and payments systems based on results; and 4) modern monitoring and evaluation systems. These recommendations would require increasing the public budget allocated to active labour market programs managed by the ministry of labour.

- Introducing modern profiling systems (PSs): the main function of employment offices should be to register and profile jobs seekers. This is similar, in terms of administrative processes, to the registration and means-testing of beneficiaries in the Productive Safety Net Programme. The difference is that, in addition to means-testing, employment offices (or the managers of the labour programmes) should also *profile* job seekers to assess the main constraints they face to find or switch jobs. Like the PMT, the Profiling System (PS)[208] is a statistical model that, based on a short survey at the time of registration, groups job seekers into categories. From the "hard-to-serve," individuals with the most binding constraints (e.g., psychological disorders), to those requiring minimal assistance. This is an important exercise because it will affect not only the types of services that individuals in each category receive, but also the cost to the package of services (see below).
- Integrating and pricing services: the population of jobs-seekers is highly heterogenous; not all individuals face the same problems when searching for a job. This implies that labour programmes should be able to offer a menu of services; an integrated package of service, that is adapted to individual needs (e.g., counselling, different types of training, coaching for interviews, wage subsidies). This is similar to the case of health insurance where there is a basic package of health services that

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[207] For a discussion of the role of active labor market programs in managing migration flows see also: Christiaensen,Luc & Gonzalez,Alvaro S. & Robalino,David A., 2019. "Migration and Jobs : Issues for the 21st Century," Policy Research Working Paper Series 8867, The World Bank.

[208] See Namita Datta et al., 'Integrated Youth Employment Programs: A Stocktake of Evidence on What Works in Youth Employment Programs' (World Bank, 2018)., for a discussion about the design and implementation of profiling systems.

all individuals can use. What they utilize at the end, however, depends on the health problems they have. Also, like in the case of health insurance, the package of labour services should be priced. The expected cost of the package for hard to serve individuals, for instance, will be higher than that of individuals who require minimal assistance from the labour program.[209]

- Outsourcing the provision of services and paying based on results: employment offices seldom have the resources and expertise to follow-up job seekers, coordinate with employers, and provide them with the set of services they need. An alternative model is to outsource the provision of services to specialized institutions, in the same way a health insurance fund outsources service provision to doctors, clinics, and hospitals. To this end, it is important to have the right contracting and payments systems in place. One option is to pay providers by services delivered (e.g., hours of counselling or training); the equivalent of fee-for-services for doctors. The problem with this method is that it does not give providers incentives to improve the quality of services, control costs, and ultimately improve labour market outcomes for beneficiaries. An alternative is to pay providers based on performance. There are different contracts that can be considered.[210] Providers can receive a lump-sum payment for each program beneficiary they manage (the expected cost of the package for that particular beneficiary), but the renewal of contracts depends on having achieved certain targets with performance indicators (e.g., placement rates, employment rates, or changes in earnings). Or, they can bill by services provided at prices negotiated ex-ante. These prices would have two components: a fixed rate and a rate based on having achieved specific outcomes with the beneficiary in question (e.g., the beneficiary obtained an internship, a part time job, a full-time job). In both cases, average performance indicators by provider should be made public.
- Introducing modern M&E systems: programme managers need to be able to generate administrative data to regularly monitor costs and performance, and to introduce corrective measures as needed. This information is also critical to identify individuals who risk dropping out of the system or cases where existing services (treatments) are not yielding the desired results. In addition, the information is needed to be able to enforce contracts and pay providers. Today there are standardized instruments that can be used to collect the necessary data. These are essentially short surveys that are used to follow-up program beneficiaries, obtaining information about services used and different types of labour market indicators.[211]

IOM could support Libya to establish or outsource market-driven active labour market programmes (ALMPs) to facilitate transitions into wage or self- employment for both newly

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[209] See Kluve et al., 'Do Youth Employment Programs Improve Labor Market Outcomes?' for a discussion about the similarities between well designed labour programmes and health insurance programmes.

[210] See Namita Datta et al., 'Integrated Youth Employment Programs: A Stocktake of Evidence on What Works in Youth Employment Programs'. for a review of alternative types of contracts.

[211] Datta, Namita; Assy, Angela Elzir; Buba, Johanne; Johansson De Silva, Sara; Watson, Samantha. (2018). "Integrated Youth Employment Programs : A Stocktake of Evidence on What Works in Youth Employment Programs." Jobs Working Paper;No. 24. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/31424 License: CC BY 3.0 IGO

arrived migrant workers and migrant workers already working in Libya. These programmes could facilitate foreign workers' integration in the Libyan labour market and their mobility between jobs across regions and sectors. Thus, foreign workers arriving in the country, and those who are already in the country, could be able to register in a given employment office, a "one-stop-window," and be assigned to a specialised agency that manages their needs, offers the necessary support, matches them with appropriate work and supports skills development (reading and maths skills, for example). This service would be provided at no cost to foreign workers.

IOM could work with economic hubs to provide information centres, in collaboration with migrants working in Libya, to provide access to information for migrants. This could include access to information on job opportunities, legal support, and information on how to register to become formal workers. These one-stop shops would have four key functions: 1) migrant registration; 2) profiling system to determine job potential; 3) select and deliver appropriate training; and 4) modern monitoring and evaluation systems. Ideally, over time, these agencies could also improve the management of migration flows by connecting Libyan employers to potential workers who are still in their home countries. In this case, the registration and profiling of migrants would take place before they arrived in Libya.[212]

Registration and statistical profiling. The main function of these employment offices would be to register and profile job seekers. The goal is to have a rapid, automated assessment of the main constraints they face to find or switch jobs. The Profiling System (PS)[213] is a statistical model that, based on a short survey at the time of registration, groups employment seekers into categories. From the "hard-to-serve" individuals with the most binding constraints (e.g., psychological disorders), to those requiring minimal assistance. This is an important exercise because it will affect not only the types of services that individuals in each category receive, but also the cost of the package of services (see below).

The registration and profiling should be accompanied by the issuance of a work permit by the authority in charge of the registration and profiling. Legally documenting migrants is important to be able to improve work opportunities and to encourage migrants to register without fear of deportation.

VII.1. Demand side recommendations

Link migrants who have undergone basic skills training with employers engaged in providing decent work conditions through specialised agencies. Different groups of migrant workers would be allocated to these employment agencies. These agencies would have the responsibility to identify job opportunities for migrants and then help migrants connect to these jobs by offering the support services they require. These services mainly include training some of the missing cognitive and socio-emotional skills. The technical skills should

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[212] For a discussion on the role of active labour market programmes in managing migration flows, see also: Christiaensen, Luc; Gonzalez, Alvaro; Robalino, David, 2019. "Migration and Jobs: Issues for the 21st Century," Policy Research Working Paper Series 8867, The World Bank.

[213] See Namita Datta et al., "Integrated Youth Employment Programs: A Stocktake of Evidence on What Works in Youth Employment Programs" (World Bank, 2018)., for a discussion on the design and implementation of profiling systems.

be provided by the employers themselves, since they seem to be job specific (i.e., the employers keep the returns on investment when training staff).

IOM could consider to set up a skills mobility partnership, whereby the private sector would invest in the skills training needed for the workforce in Libya. IOM could link these graduates with employers who agree to provide contracts with pre-set working hours and decent work conditions.

Through training programmes, IOM will be creating cohorts of migrants who are competent in specific skills: cognitive skills like reading, writing and maths, or technical skills like electricity, among others. IOM could link these graduates with employers who agree to provide contracts with pre-set working hours and decent work conditions. In the case where migrants are housed, IOM could also require that employers provide decent accommodation for migrants in order to be part of the programme.

IOM can work directly with employers to promote safer working conditions for migrant workers. Migrants' biggest barriers were related to safety. IOM could consider working with larger and medium employers to provide better working conditions for both migrant and Libyan workers. This could be in the form of safe and secure places to sleep, through health and safety training, or through secure transportation.

Promote entrepreneurship and SMEs growth in leading sectors. In this case, the programme supports the expansion of existing businesses or the creation of new businesses within selected economic sectors and regions. Business owners and entrepreneurs compete for grants allocated by the programme on the basis of their capacity to demonstrate potential for growth and for creating decent employment. The focus should be put on start-ups, SMEs, and established businesses, which are more likely to create good employment opportunities, particularly in the formal sector.[214] Indeed, there is evidence that micro-enterprises rarely grow and create employment. Few large businesses start as minnows.[215]

Promote the development of value chains in agribusinesses. These are more complex investments that require coordination between different businesses within a given value chain: production of raw materials, transformation activities, commercialisation activities. There are still competitive processes to subsidise investments at these various levels, but they need to be coordinated, and therefore the management of the programme is more complex.

VII.2. Services and Infrastructure

Improve and strengthen basic infrastructure (electricity, fuel, roads) to help support the growth of private businesses. In collaboration with the Libyan government and UN agencies, IOM can support the labour market by creating an environment in which the market system itself can function. A major barrier for businesses' growth is the lack of electricity, notably in Sebha and in sectors that require electricity to function: food processing and construction.

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[214] Robalino, Ossandon, and Juillard, "Labour Market Assessment Libya: Macroeconomic Analysis."

[215] R. Aterido and M. Hallward-Driemeier, "The Elusive Search for Gazelles: The Definition for Success Affects the Firms Chosen but Not the Reality That Very Few Firms Maintain High Performance for Long," 2018.

Work with TVETs in Misrata and Sebha to create programmes that respond to labour market needs and support the development of a curriculum. TVETs in Libya are currently under-utilised and could benefit from support to improve the supply of skilled migrant and Libyan workers. This support could come from a skills mobility partnership with private sector partners as well as government partners.

Rethinking entrepreneurship/livelihood programmes. The goal is to use the profiling system to separate *vocational entrepreneurs* who can join traditional entrepreneurship programmes from *subsistence entrepreneurs*. The latter would not be treated as real entrepreneurs but more as service-contract workers who are paid for the provision of certain goods and services. They would still need to receive training and support to purchase inputs, but they would not try to conceive and setup a business on their own. Their business, in a way, would be part of larger private/public investment projects to develop parts of or entire value chains (see section on investment subsidies).

Introducing robust M&E systems. Programme managers need to be able to generate administrative data to regularly monitor costs and performance, and to introduce corrective measures as needed. This information is also critical to identify individuals who risk dropping out of the system or cases where existing services (treatments) are not yielding the desired results. In addition, the information is needed to be able to enforce contracts and pay providers.[216]

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[216] Today, there are standardised instruments that can be used to collect the necessary data. These are essentially short surveys that are used to follow-up programme beneficiaries, obtaining information about services used and different types of labour market indicators. See Datta, Namita; Assy, Angela Elzir; Buba, Johanne; Johansson De Silva, Sara; Watson, Samantha. (2018). "Integrated Youth Employment Programs: A Stocktake of Evidence on What Works in Youth Employment Programs." Jobs Working Paper; No. 24. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/31424 License: CC BY 3.0 IGO.

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IX. Annexes

IX.1. Detailed methodology

The macro economic analysis' scope is the whole of Libya. The skills gap assessment focuses on six economic centres: Misrata, Zliten, Sebha, Benghazi, Tripoli, Ejdabia (Figure 59). All of the areas are urban, densely populated and have functioning labour markets.[217]

The macro economic analysis is desk based and rely on the below input/output model of the Libyan economy as well as on the country's existing product space.[218] It also uses the 2013 labor force survey.

Figure 59: Skills gap assessment, geographical scope

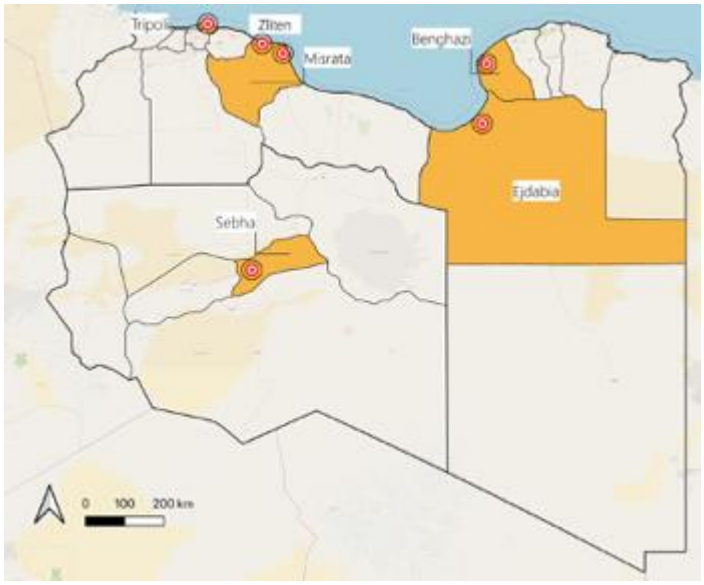

Table 11 Summary Labour Force Survey 2013

	Male	Female
Working-age population ('000s)	2 009	1 905
Labour force ('000s)	1 297	747
Labour force participation rate (%)	64,5	39,2
Employment ('000s)	1 109	579
Employment-to-population ratio (%)	55,2	30,4
Unemployment ('000s)	187,9	167,4
Unemployment rate (%)	14,5	22,4

The skills gap assessment utilised a combination of primary statistics and labour market information, both qualitative and quantitative. It focuses on adult migrant workers (male and female) living in Libya and considers migrant workers in different types of jobs: formal wage employees, informal wage employees, and self-employed workers.

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[217] All of these cases, except Tripoli, are delimited by their administrative boundaries (municipalities). Although Tripoli corresponds to a larger area that spans across different municipalities, it will be covered as one urban area (cluster) and the ensuing comparative analysis is carried out at this cluster level.

[218] The Product Space is a network representation of the relatedness or proximity between products traded in the global market

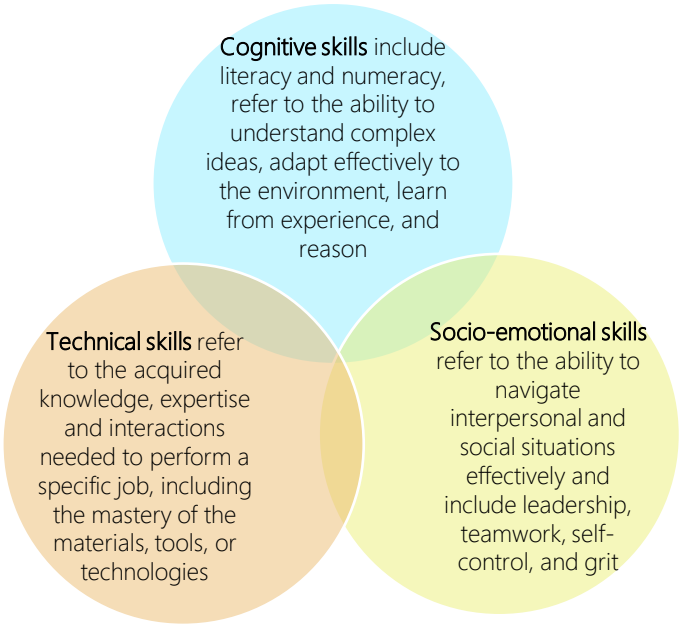
The study considers three categories of skills: cognitive, technical, and socio-emotional skills, as described in Figure 60.

This study looks at the skill gaps: a type of mismatch referring to friction in the level of skills required to perform a job satisfactorily. This gap can affect productivity by reducing the output per worker, which in turn increases labour costs.

Based on the macroeconomic analysis of sectors with the most growth potential, the focus of this skills gap assessment is on four sectors that appear to provide the most opportunities for migrant workers:

- Agriculture, with a focus on agribusinesses;
- Manufacturing;
- Construction;
- Social services.

Figure 60: Categories of skills considered for the study



Lastly, the 2015 *Simplified Enterprise Survey and Private Sector Mapping in Libya* was used to categorise businesses according to their number of employees: micro (<5), small (5-19), medium (20-99), and large (>100).

The skills gap assessment is composed of two parts: a supply and a demand side analysis. Figure 61 captures the methodology summary.

Figure 61: Summary of methodology

Inception phase & desk review	Inception report	Desk review
	Briefing with IOM consultancy managers (28 February 2020) Inception workshop on 15 April 2020	Comprehensive and structured review of 80 documents such as contextual reports, legal guidelines and economic data
Macroeconomic Analysis	Research & Analysis	Report Writing & Presentation
	July and August 2020: Methodology, data gathering and analysis	September to October 2020: Report writing, first draft and final version
Skills Gap Assessment Quantitative Data collection	Supply Side	Demand Side
	The Libya Flow Monitoring Survey was conducted by IOM in March 2020 on a sample of 4652 migrant workers in Libya. Non-representative sample analysed consisted of 1749 random migrant workers from the cities of Benghazi, Ejdabia, Misrata, Sebha, Tripoli and Zilten.	A survey with 509 local businesses was conducted between October and December 2020. The sampling was based on sector, firm size and location. It is non-representative.
Skills Gap Assessment Qualitative Data collection	Key Informant Interviews	Focus Group Discussions
	46 interviews with relevant actors from the private and public sector, national and international organisations, and researchers.	25 FGDs in six locations, 18 FGDs with men with a total of 168 participants; 5 FGDs with women for a total of 51 participants.
Data analysis and reporting	December 2020: Data coding and analysis.	29 January 2021: first draft of final report March 2021: Finalisation the final report
Limitations	A considerable number of KIs declined to participate (lack of interest, time or knowledge). Given the low proportion of female migrants, conducting FGDs with them proved challenging as it could be difficult to find women. TVET centres closed due to COVID.	During the trader survey, a number of businesses refused to answer questions that were sensitive (salaries, number of staff officially registered) despite the assurance that their answers were anonymous. As a result, the survey was adapted to collect primarily non-sensitive data

IX.1.1. Input/Output model of the Libyan Economy

There is no official IO matrix for Libya or a Social Accounting Matrix that can be used to asses the impact of investments across sectors on the creation of direct and indirect jobs. Instead, the analysis is based on a simple IO model calibrated using existing times series for national account data.

The assumption is that output in a given economic sector is produced on the basis of intermediate consumption from other sectors and labor. We have:

$$y_j(t) = \sum_{i \neq j} \alpha_{ij} y_i(t), (1)$$

$$l_j(t) = s_j y_j(t)$$

where $y_j(t)$ is value added in sector j at time t, $l_j(t)$ is employment in sector j at time t, and α_{ij} and s_j are coefficients to be estimated.

In equilibrium, the level of output generated by any sector is equal to the sum of intermediate consumption from other sectors, plus final consumption for the goods and services of the sector. Based on equation (1) we can write:

$$y_i(t) = \sum_{j \neq i} \alpha_{ij} y_j(t) + \beta_i C(t) + \gamma_i X(t), (2)$$

where $C(t)$ is aggregate consumption at time t, $X(t)$ are exports, and β_i and γ_i are parameters to be estimated.

Given the model parameters, at any given year, equation (2) can be written in matrix form as:

$$\boldsymbol{y} = \boldsymbol{A}\boldsymbol{y} + \boldsymbol{d}, (3)$$

Where $\boldsymbol{y}$ is a column vector with output per economic sector, $\boldsymbol{A}$ is the matrix of coefficients α_{ij} and $\boldsymbol{d}$ is a column vector with final consumption by sector. Each element of $\boldsymbol{d}$ is equal to $\beta_i C(t) + \gamma_i X(t)$.

Given equation (3), the change in output resulting from investments in sector i that increase the supply of goods and sevices for final consumption is given by:

$$\Delta \boldsymbol{y} = (\boldsymbol{I} - \boldsymbol{A})^{-1} \Delta \boldsymbol{d}, (4)$$

The change in the number of jobs is then given by:

$$\Delta \boldsymbol{l} = \boldsymbol{s} \Delta \boldsymbol{y}, (5)$$

where $\boldsymbol{l}$ is a column vector with jobs by sector and $\boldsymbol{s}$ is a raw vector with the parameters s_j.

The model is used to estimate the total number of jobs that can be created as a result of a given increase in the goods and services produced for final consumption. These jobs can be divided into *direct* jobs (jobs created within the economic sector that expands output) and *indirect* jobs (jobs created in other sectors because of an increase in demand for their intermediate consumption).

Essentially, *existing*, opportunities for job creation depend on the current structure of the economy as captured by $\boldsymbol{A}$ and $\boldsymbol{s}$. Economic sectors will be ranked on the basis of the total number of jobs created per unit increase in output, and the average productivity of the jobs created, measured by value added per job.

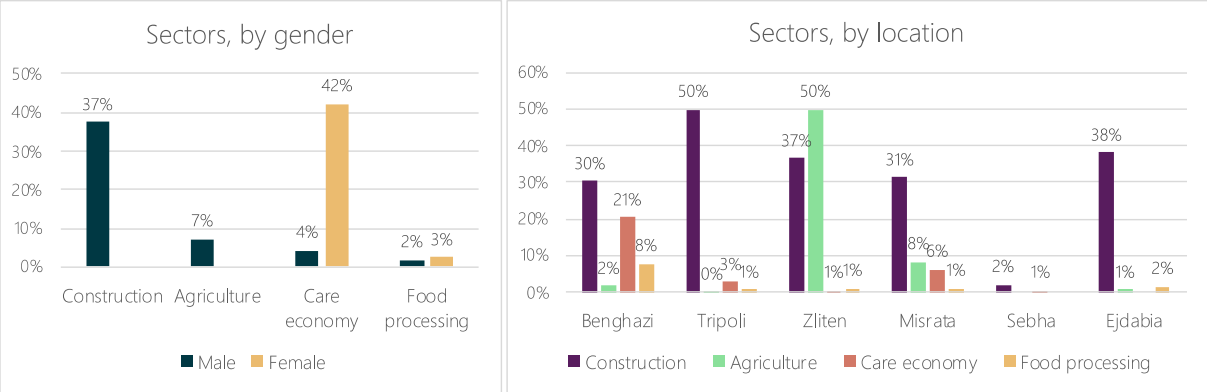
IX.1.2. Primary data collection: supply

Primary data collection efforts for the supply side of the Libyan labour market consisted of both quantitative and qualitative methods.

IX.1.2.1. Libya Flow Monitoring Survey

While IOM conducted the bulk of the quantitative primary data collection for the supply side, Key Aid Consulting complemented this with qualitative data collection through Focus Group Discussions (FGDs). Regarding the quantitative data, IOM conducted the Libya Flow Monitoring Survey in March 2020, on a random sample of 4,652 migrant workers in Libya. The sample is non-representative and non-statistical based on IOM's Flow Monitoring Survey methodology, which is to interview migrants across Libya on a rolling basis on points along migration routes, or other urban locations, including work recruitment points where migrants who work on daily wages gather searching for work.

Figure 62: Migrant workers by sector per gender and location (n=1749)



For the supply side analysis, a total of 1,749 survey responses were used, corresponding to the survey conducted in the cities of Benghazi, Ejdabia, Misrata, Tripoli, Sebha and Zliten. Out of these surveys, 1,711 corresponded to male workers (98%) and only 38 to females (2%). Table 12 below summarises the surveys conducted and used for this study by location and sector.

Table 12: Supply side surveys by location and sector

Sectors	Benghazi	Tripoli	Zliten	Misrata	Sebha	Ejdabia	Total
Agriculture	4	1	94	24	0	1	**124**
Care economy	48	20	1	18	1	0	**88**
Construction	71	357	69	92	4	47	**640**
Food processing	18	5	2	3	0	2	**30**
Others	93	335	23	156	187	73	**867**
Total	**234**	**718**	**189**	**293**	**192**	**123**	**1,749**

IX.1.2.2. Focus Group Discussions (FGDs)

The research team conducted FGDs with a representative selection from among IOM's migrants target groups. FGDs included migrant workers, with an emphasis on youth and women, based on their willingness and availability to participate. The discussions aimed to capture the experience of each target group in respect to their access to the labour market, training, and self-employment opportunities.

The consultants undertook four FGDs in each of the six geographical locations, for a total of 24 FGDs. In each geographic location, FGDs included female youth, male youth, female adults, and male adults. FGDs included seven to 12 participants. The study sought to focus on adult youth (i.e., individuals between 18 and 24), and data was presented, when relevant, in an age disaggregated manner.

Table 13: FGD locations and participants

Location	Gender	Number of FGDs	Total number of participants
Benghazi	Female	2	16
Benghazi	Male	3	25
Ejdabia	Male	4	37
Misrata	Female	1	8
Misrata	Male	2	15
Misrata	Both	1	7 female, 5 male
Sebha	Male	4	38
Tripoli	Female	2	15
Tripoli	Male	1	7
Tripoli	Both	1	5 female, 4 male
Zilten	Male	4	37
Total Female		5	51
Total Male		18	168
Total		25	219

The sampling approach for FGDs was based on availability, as participants were not paid for their time. The aim was to have a fair representation of the population and concerted efforts were made to have a range of ages, socio-economic backgrounds, and education levels in accordance with the objective of the focus group.

The FGDs were informed by a questionnaire, incorporating structured and unstructured questions. It is available in Annex **Error! Reference source not found.**

IX.1.3. Primary data collection: demand

Primary data collection efforts for the demand side of the Libyan labour market also consisted of both quantitative and qualitative methods.

IX.1.3.1. Quantitative: Employer survey

The consultants conducted a employer survey in the six aforementioned economic centres with the help of IOM.

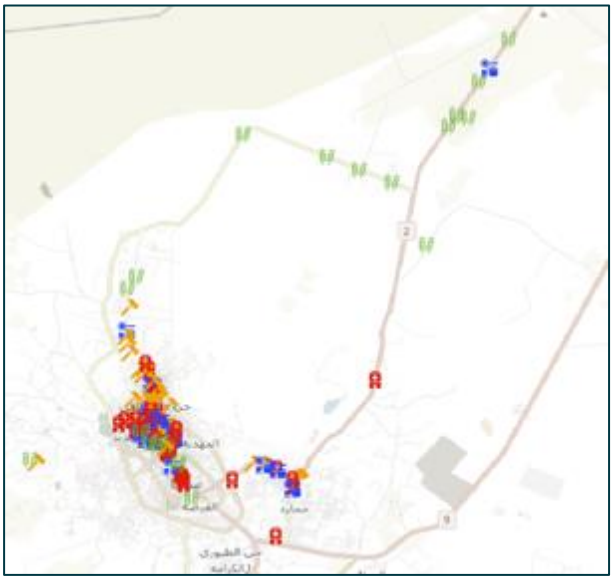
In each of the economic centres, the enumerators surveyed the owner, or the person responsible for recruitment. A total of 509 surveys were conducted as per the below distribution. Businesses were selected using non-probability sampling.[219]

Figure 63: Survey distribution per location, per sector

Benghazi

Ejdabia

Sebha



Tripoli

Misrata and Zliten

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[219] Aiming for a statically representative sample of shops in the identified promising sectors would have required a comprehensive national up-to-date business registry from which a sample frame could be formed. Neither the Bureau of Statistics nor the Chamber of Commerce had such an updated registry and therefore it was not possible to do probability sampling.

Based on the desk review, a differentiating criterion between firms was the number of employees and whereby each business fell into one of the following four categories: micro (< 5), small (5-19), medium (20-99), and large (>100).[220] The distribution of the number of businesses in each of the size categories was weighted in line with findings from the desk review. Few large businesses were scheduled to be interviewed but there was a lack of access to them during the data collection phase. Therefore, larger businesses were included in Key Informant Interviews later on, as access was obtained after the quantitative survey had ended.

Figure 64: Businesses surveyed, by sector and by size (n=509)

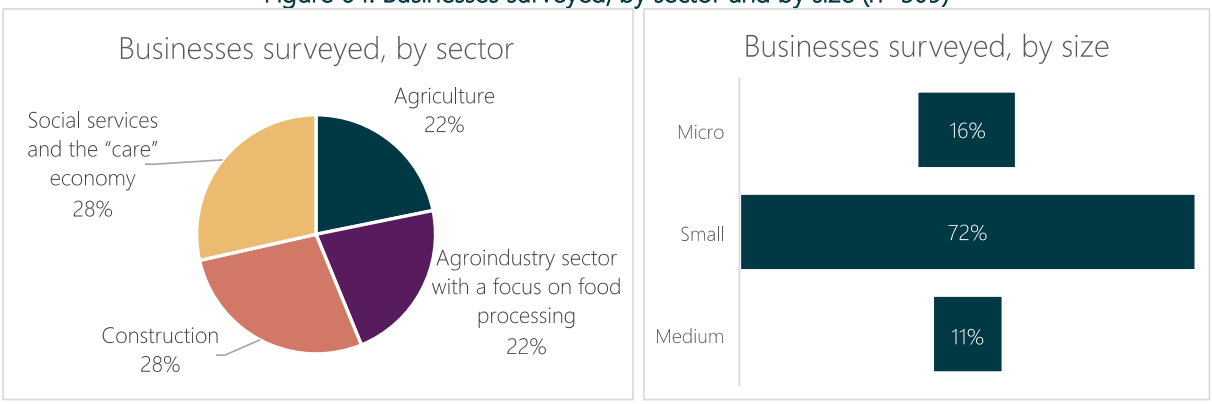

Table 14: Number of businesses surveyed, by location and by sector

	Agriculture	Food Processing	Construction	Care Economy	*Total*
Benghazi	22	23	25	22	92
Tripoli	15	17	16	21	69
Zliten	19	17	19	4	59
Misrata	14	15	17	31	77
Sebha	21	23	39	46	129
Ejdabia	20	17	25	21	83
Total	111	112	141	145	509

[220] "Simplified Enterprise Survey and Private Sector Mapping Libya 2015," 2015, http://documents.worldbank.org/curated/en/910341468191332846/pdf/99458-PUB-Box393200B-PUBLIC-PUBDATE-9-9-15-DOI-10-1596-K8421-EPI-8421.pdf.

Data quality control was provided by Key Aid Consulting's Libyan consultant, who surveyed the data collection on a daily basis in collaboration with the IOM team. The extract from the database allowed the consultant to monitor the progress of each enumerator through quality checks, (logical test, length, and location of survey). This allowed the consultant to follow up with enumerators who were running into difficulties.

IX.1.3.2. Qualitative: Key Informant Interviews (KIIs)

The consultants conducted 46 remote interviews with key stakeholders using purposive and then snowball sampling. The interviewees were representative of the categories presented in the table below:

Type of key informant	Number of KII
Public Sector (Governmental and local authorities)	6
Private sector (Chamber of Commerce, consultancy firms, etc.)	10
National/International Organisations	12
Research	5
Training and vocational institutes	4
Medium and large businesses	9

The KIIs were conducted through questionnaires, incorporating structured and unstructured questions, and adjusted to the different types of informants.

IX.1.3.3. Limitations

A number of limitations were encountered during the primary data collection for this assignment:

- Sebha and Ejdabia: Migrants had limited accessibility and mobility difficulties due to COVID-19, and there was a lack of locations in which to hold the FGDs. This was resolved by targeting their places of assembly/assembly points and conducting visits to both their houses and the roadside points where migrants congregate in the morning while waiting for prospective employers.
- Zliten, Sebha, Misrata: The majority of migrants that were easily accessible to the researchers were male, as women tended to be working as housemaids and were thus not available at the time FGDs were held. To ensure females were included in FGDs, researchers focused on women elsewhere, like in Tripoli, where they were easier to reach.
- There was a low response rate to email requests for key informant interviews and multiple key informants refused to participate due to a lack of time, interest or knowledge, while others simply did not turn up to the scheduled meetings. It was especially difficult to find stakeholders in Ejdabia. As a result, the team used snowball sampling to add more KIs in order to speak with as many people as possible.
- One of the major limitations for this assessment was the sanitary context due to COVID-19. Most training institutions that the team reached out to were closed. Given

that the centres that were open had limited staff, the team was only able to meet with registrars, rather than principles.

- The employer survey took longer than expected and there were challenges to convey the added value to employers to participate in the interviews, given that the topic of migrant work in Libya is sensitive. The team focused on training the enumerators on how to conduct this study with Libyans, in addition to accompanying the enumerators in their visits to better identify the issues they faced in the field. There were multiple instances of employers refusing to continue a survey that was already started due to not being comfortable with answering some of the questions (about salaries, registration of staff, accommodation, etc.). A number of questions in the employer questionnaire were removed or made optional as a result, leading to less detailed data but more employers willing to participate.

IX.1.4. Data analysis

Qualitative disaggregated data were recorded and coded to analyse relevant emerging trends. Data were disaggregated by economic sector and geographical region; data regarding migrants and host communities (Libyans) will be disaggregated by gender, age, status (host or migrant), and skills, when possible.

The analysis was done iteratively to adjust the data collection tools and explore some of the trends in more depth. Data were triangulated across sources to ensure accuracy.

Primary and secondary quantitative data were cleaned and analysed in STATA and Excel. They were then analysed using descriptive statistics. The below are the regression results of the macro economic analysis.

IX.1.4.1.Regression results – macro economic analysis

Figure 65. Multinomial regression on Unemployment

status2	Coef,	St,Err,	t-value	p-value	[95% Conf	Interval]	Sig
Unemployed							
dgender	0,861	0,063	13,76	0	0,738	0,983	***
age	-0,291	0,015	-19,04	0	-0,321	-0,261	***
age2	0,003	0	13,31	0	0,002	0,003	***
deducation2	-1,235	0,133	-9,29	0	-1,496	-0,975	***
deducation3	-1,778	0,13	-13,65	0	-2,033	-1,523	***
deducation4	-1,803	0,131	-13,76	0	-2,059	-1,546	***
durban	-0,235	0,062	-3,78	0	-0,357	-0,113	***
ddistrict_en1	-0,444	0,213	-2,09	0,037	-0,861	-0,027	**
ddistrict_en2	-0,326	0,096	-3,4	0,001	-0,514	-0,138	***
ddistrict_en3	-0,408	0,127	-3,22	0,001	-0,656	-0,159	***
ddistrict_en4	-1,285	0,164	-7,83	0	-1,606	-0,963	***
ddistrict_en5	-0,696	0,142	-4,91	0	-0,974	-0,418	***
ddistrict_en6	-1,575	0,148	-10,67	0	-1,864	-1,285	***
ddistrict_en7	-0,364	0,106	-3,45	0,001	-0,572	-0,157	***
ddistrict_en8	0,003	0,092	0,03	0,972	-0,176	0,183	
ddistrict_en9	-0,823	0,161	-5,1	0	-1,139	-0,507	***
ddistrict_en10	-1,63	0,193	-8,45	0	-2,009	-1,252	***
ddistrict_en11	-0,204	0,118	-1,72	0,085	-0,435	0,028	*
ddistrict_en12	-0,467	0,109	-4,28	0	-0,681	-0,253	***
ddistrict_en13	0,004	0,103	0,04	0,97	-0,198	0,205	
ddistrict_en14	-0,218	0,127	-1,71	0,087	-0,468	0,031	*
ddistrict_en15	-1,39	0,203	-6,85	0	-1,788	-0,992	***
ddistrict_en16	-0,818	0,128	-6,41	0	-1,068	-0,568	***
ddistrict_en17	-0,567	0,129	-4,4	0	-0,82	-0,315	***
ddistrict_en18	-0,378	0,138	-2,75	0,006	-0,648	-0,109	***
ddistrict_en20	-0,418	0,135	-3,09	0,002	-0,683	-0,153	***
ddistrict_en21	-0,793	0,146	-5,44	0	-1,079	-0,507	***
ddistrict_en22	-0,756	0,12	-6,31	0	-0,991	-0,521	***
hhhead	-0,353	0,089	-3,98	0	-0,528	-0,179	***
married	-0,358	0,059	-6,11	0	-0,473	-0,243	***
Constant	7,174	0,292	24,57	0	6,602	7,746	***
Mean dependent var	0,192	SD dependent var	0,394				
Number of obs	17427	F-test	75,654				

*** p<,01, ** p<,05, * p<,1

Figure 66. Multinomial Regression on Active Population

status2	Coef,	St,Err,	t-value	p-value	[95% Conf	Interval]	Sig
Active							
age	0,007	0,002	4,12	0	0,004	0,01	***
dgender	-1,005	0,037	-27,24	0	-1,078	-0,933	***
0b,educationdummy2	0	,	,	,	,	,	
1,educationdummy2	1,858	0,076	24,42	0	1,709	2,007	***
2,educationdummy2	2,703	0,077	35,22	0	2,552	2,853	***
3,educationdummy2	4,294	0,082	52,2	0	4,133	4,456	***
durban	-0,151	0,04	-3,8	0	-0,228	-0,073	***
ddistrict_en1	0,661	0,138	4,8	0	0,391	0,93	***
ddistrict_en2	0,081	0,056	1,45	0,148	-0,029	0,192	
ddistrict_en3	0,623	0,08	7,83	0	0,467	0,779	***
ddistrict_en4	0,174	0,072	2,42	0,015	0,033	0,314	**
ddistrict_en5	1,453	0,11	13,25	0	1,238	1,668	***
ddistrict_en6	1,028	0,086	11,89	0	0,859	1,198	***
ddistrict_en7	0,329	0,067	4,88	0	0,197	0,461	***
ddistrict_en8	0,355	0,059	6,03	0	0,239	0,47	***
ddistrict_en9	0,783	0,097	8,09	0	0,594	0,973	***
ddistrict_en10	0,747	0,109	6,84	0	0,533	0,961	***
ddistrict_en11	0,818	0,095	8,57	0	0,631	1,005	***
ddistrict_en12	0,025	0,062	0,4	0,69	-0,097	0,146	
ddistrict_en13	0,222	0,067	3,3	0,001	0,09	0,353	***
ddistrict_en14	1,185	0,102	11,61	0	0,985	1,386	***
ddistrict_en15	0,339	0,104	3,27	0,001	0,136	0,543	***
ddistrict_en16	0,477	0,069	6,95	0	0,342	0,611	***
ddistrict_en17	0,521	0,083	6,25	0	0,358	0,684	***
ddistrict_en18	0,371	0,088	4,19	0	0,197	0,544	***
ddistrict_en20	1,059	0,105	10,06	0	0,853	1,265	***
ddistrict_en21	0,775	0,098	7,94	0	0,583	0,966	***
ddistrict_en22	0,371	0,068	5,49	0	0,239	0,503	***
hhhead	0,597	0,049	12,13	0	0,5	0,693	***
married	0,929	0,039	23,81	0	0,852	1,005	***
Constant	-0,966	0,072	-13,48	0	-1,107	-0,826	***

Mean dependent var	0,546	SD dependent var	0,498
Number of obs	31946	F-test	204,333

*** p<,01, ** p<,05, * p<,1

Figure 67. Lineal Regression on Hourly Earnings

lhourearning	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
dgender	-.07	.011	-6.48	0	-.091	-.049	***
age	.005	.003	1.56	.118	-.001	.011	
age2	0	0	1.18	.237	0	0	
deducation2	.183	.024	7.66	0	.136	.23	***
deducation3	.317	.023	13.70	0	.271	.362	***
deducation4	.437	.023	18.62	0	.391	.483	***
durban	.027	.01	2.76	.006	.008	.047	***
ddistrict_en1	-.145	.038	-3.84	0	-.219	-.071	***
ddistrict_en2	.015	.015	0.96	.339	-.015	.045	
ddistrict_en3	.132	.019	6.82	0	.094	.17	***
ddistrict_en4	-.054	.013	-4.10	0	-.08	-.028	***
ddistrict_en5	-.034	.017	-2.01	.044	-.066	-.001	**
ddistrict_en6	.053	.017	3.03	.002	.019	.087	***
ddistrict_en7	-.03	.014	-2.16	.03	-.057	-.003	**
ddistrict_en8	-.012	.013	-0.91	.365	-.038	.014	
ddistrict_en9	.003	.018	0.18	.86	-.031	.038	
ddistrict_en10	.122	.022	5.64	0	.079	.164	***
ddistrict_en11	-.047	.017	-2.83	.005	-.079	-.014	***
ddistrict_en12	.096	.017	5.59	0	.062	.129	***
ddistrict_en13	.043	.017	2.47	.014	.009	.077	**
ddistrict_en14	.021	.019	1.13	.26	-.016	.058	
ddistrict_en15	-.071	.019	-3.79	0	-.108	-.034	***
ddistrict_en16	.009	.015	0.58	.563	-.021	.038	
ddistrict_en17	-.081	.021	-3.78	0	-.123	-.039	***
ddistrict_en18	.068	.023	2.97	.003	.023	.113	***
ddistrict_en20	-.069	.02	-3.43	.001	-.109	-.03	***
ddistrict_en21	-.013	.018	-0.70	.482	-.048	.023	
ddistrict_en22	.031	.017	1.86	.063	-.002	.064	*
hhhead	.037	.013	2.95	.003	.012	.062	***
married	.038	.009	4.20	0	.02	.056	***
dactivity2	.165	.056	2.92	.003	.054	.275	***
dactivity3	.134	.073	1.83	.067	-.009	.278	*
dactivity4	.394	.066	5.98	0	.265	.524	***
dactivity5	.071	.054	1.31	.189	-.035	.176	
dactivity6	.217	.056	3.86	0	.107	.327	***
dactivity7	.019	.053	0.35	.723	-.085	.122	
dactivity8	.096	.063	1.52	.128	-.028	.221	
dactivity9	-.048	.058	-0.82	.414	-.162	.067	
dstatus32	-.302	.039	-7.71	0	-.378	-.225	***
o.dstatus33	0	.	.	.	.	.	
dstatus34	.017	.024	0.70	.483	-.031	.065	
Constant	.82	.08	10.23	0	.663	.977	***

Mean dependent var	1.481	SD dependent var	0.394				
R-squared	0.190	Number of obs	14053.000				
F-test	60.069	Prob > F	0.000				

*** p<.01, ** p<.05, * p<.1

IX.1.4.2. Decomposition of GDP per Capita Growth

The decomposition of GDP per capita grow exploits the following identity:

$$GDPpc_t = \frac{L_t v_t}{pop_t}, (1)$$

where L_t is employment at time t and v_t is average labor productivity (output per worker). At the same time, employment is given by:

$$L_t = e_t p_t W_t, (2)$$

where W_t is the working age population, p_t is the participation rate, and e_t is the employment rate.

The growth rate of GDP per capita is therefore given by:

$$g_t = \dot{v}_t + \dot{e}_t + \dot{p}_t + \dot{w}_t + u, (3)$$

where a dot over the variable is a growth rate, w_t is the share of the working age population, and u is a residual.

Similarly, for the composition of labor productivity growth. We have:

$$v_t = \sum_i v_{it} s_{it}, (5)$$

where i indexes the economic sector and s_{it} is the share of employment in economic sector i at time t. Not sure what is the level of disaggregation that you will find. The minimum is agriculture, services, and industry (WDI database).

The growth rate of labor productivity is then given by:

$$\dot{v}_t = \sum_i (\dot{v_{it}} + \dot{s_{it}} + \dot{v_{it}}\dot{s_{it}}) \frac{v_{it} s_{it}}{v_t}, (6)$$

With (6) is is possible to calculate the contribution of labor reallocations to labor productivity growth:

$$\varphi_t = \sum_i \dot{s_{it}} \frac{v_{it} s_{it}}{v_t}, (7)$$

The analysis is based on national accounts data. The main results are presented below.

Indicator Name	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GDP per capita (constant 2010 US$)	8779.891383	8963.665837	8667.563662	8448.1223	9395.765985	9660.948174	10642.89657	11164.80874	11699.31432	11844.92524	11607.19828	12064.78069	4539.002521	10066.57903	8649.89841	6530.856715	5899.899647	5669.733946	7085.530659	7536.754323
Population, total	5275926	5357891	5443248	5531089	5620547	5710154	5798614	5886872	5974787	6058748	6133984	6197663	6247439	6285750	6320359	6362037	6418315	6492164	6580724	6678567
Population ages 15-64, total	3253502	3342347	3434984	3532100	3630972	3727292	3818331	3898740	3973835	4042305	4103421	4156931	4188341	4212393	4233928	4259298	4293429	4349607	4417734	4493922
Unemployment, total (% of total labor force) (modeled ILO estimate)	21.13800049	20.6609993	18.77199936	18.30500031	18.53800011	18.71500015	18.45899963	18.11700058	17.38699913	16.54599953	17.19300079	17.61700058	19.56800079	19.03000069	18.30800056	17.13100052	16.09499931	16.23900032	17.12199974	17.28700066
Employment rate	0.788619995	0.793390007	0.812280006	0.816949997	0.814619996	0.812849998	0.815410004	0.818829994	0.826130009	0.834540005	0.828069992	0.823829994	0.804319992	0.809699993	0.816919994	0.828589995	0.839050007	0.837609997	0.828780003	0.827129993
Share of working age population	0.616669377	0.623817655	0.631054106	0.638590339	0.646017755	0.653748069	0.658490632	0.662277012	0.665100697	0.667184045	0.668965064	0.670725562	0.670409267	0.670149465	0.669887264	0.669486518	0.668893398	0.669987234	0.671314281	0.672887163
Labor force, total	1649387	1701437	1761974	1824016	1880722	1942391	1997897	2048615	2096619	2143479	2188433	2223544	2316366	2276858	2324698	2380470	2403360	2442848	2461683	2507512
Labor force participation rate	0.506957426	0.509646964	0.512949696	0.516416862	0.519796539	0.523126598	0.52323802	0.525455566	0.527605952	0.530262227	0.533331915	0.534900387	0.553050957	0.540514273	0.549064131	0.558887873	0.559776347	0.561617246	0.557227529	0.557978532
Labor at time t	1300739.568	1351474.026	1431216.252	1490146.205	1532073.754	1578872.521	1629105.2	1677467.409	1732079.873	1788818.975	1812175.697	1831822.241	1863099.483	1843571.907	1899092.277	1972671.672	2016539.225	2046153.905	2040193.643	2074038.384
Number of Employed	1300739.568	1351474.026	1431216.252	1490146.205	1532073.754	1578872.521	1629105.2	1677467.409	1732079.873	1788818.975	1812175.697	1831822.241	1863099.483	1843571.907	1899092.277	1972671.672	2016539.225	2046153.905	2040193.643	2074038.384
Average Labor Productivity (Output per Worker)	35612.09205	35336.26899	32964.75882	33357.53808	34469.19196	34939.80743	37882.17547	39181.56598	40356.63263	40118.88185	39288.88829	40819.15987	15220.41181	34322.50127	28767.68132	21062.57856	18778.41697	17989.28346	22854.65491	24268.9427
GDP per capita - Identity Holding	8779.891383	8963.665837	8667.563662	8448.1223	9395.765985	9660.948174	10642.89657	11164.80874	11699.31432	11844.92524	11607.19828	12064.78069	4539.002521	10066.57903	8649.89841	6530.856715	5899.899647	5669.733946	7085.530659	7536.754323
NEW JOBS	50,734	79,742	58,910	41,928	46,799	50,233	48,362	54,612	56,739	23,357	19,647	31,277	(19,528)	55,520	73,579	43,868	29,615	(5,960)	33,845
gt - productivity	1.06	-3.35	-4.29	0.22	0.68	0.27	0.46	0.51	1.23	2.65	0.22	-0.03	-0.01	-0.22	-0.16	-0.25	0.53	-0.01	0.21	
vt - productivity	-0.002129138	-0.072362976	0.048755737	0.099231448	0.01365322	0.084212486	0.034300842	0.029990293	-0.005891244	-0.020068815	0.038949221	-0.627125794	1.255031053	-0.161259223	-0.268347513	0.108446416	-0.042023431	0.270459435	0.061881827	
et - employment rate	0.006048556	0.023809223	0.005749237	-0.002852307	-0.002172793	0.003149419	0.004194197	0.008915177	0.010179991	-0.00775279	-0.00512034	-0.023682073	0.006688881	0.008916884	0.014407776	0.012501674	-0.001716239	-0.01054189	0.001990889	
pt - participation rate	0.005305253	0.006480433	0.006759271	0.003000825	0.006100894	0.004051649	0.0042383	0.004092243	0.00503458	0.005764927	0.002964898	0.033932618	-0.02266823	0.015813007	0.017891793	0.001589717	0.003288633	-0.00781621	0.001347749	
wt - working age pop	0.011591751	0.011600268	0.011942293	0.011630634	0.010418479	0.008797518	0.005750089	0.004263601	0.00313238	0.002669457	0.002631674	-0.000471572	-0.00038753	-0.000391257	-0.000598229	0.000823516	0.001574525	0.001980705	0.002342989	
ti - residual	0.000114868	-0.002560548	0.00101261	0.00116127	0.000223784	0.001429924	0.000555117	0.000612822	6.59968E-06	-6.31864E-05	-3.15856E-06	-0.006433947	-0.02086876	-0.003815497	-0.00833262	0.001431323	-0.000135288	-0.00437073	0.000100734	
GDP per capita	0.02093129	-0.033033602	-0.02531754	0.112172108	0.028223584	0.101640996	0.049038546	0.047874137	0.012446107	-0.02006994	0.039422297	-0.623780768	1.217795426	-0.140731088	-0.244978796	-0.096611684	-0.039011799	0.249713134	0.063682409	
contribution of labor productivity to GDP per capita growth	-0.10172034	2.190586866	1.925768953	0.884635673	0.483752179	0.828528734	0.699466949	0.626440394	0.473340304	1.030812763	0.987999786	1.005362503	1.030576258	1.145867821	1.095390786	1.122498143	1.077197971	1.083088431	0.971725589	
Total GDP	46320557226	48026344513	47179698570	46727316323	52809344318	55165501857	61714049045	65725799949	69900911109	71765417108	71198368527	74773444901	28357141373	61275999127	54670463262	41549552060	37867414402	36808842613	46627921660	50334718706
GDP	1	1.036792133	1.018514751	1.008748728	1.140404774	1.190912174	1.33228213	1.418887759	1.509020007	1.549270939	1.537029502	1.614208206	0.612173618	1.366001489	1.180225287	0.896971217	0.817481275	0.79462884	1.006602998	1.086625287
Labor Productivity	1	0.997870862	0.925661957	0.880530636	0.967906966	0.981122013	1.063744736	1.100232076	1.133228359	1.126552234	1.103245724	1.146216286	0.427394487	0.963787844	0.80836816	0.591444572	0.527304516	0.505145371	0.641766703	0.681480399
Employment	1	1.039004316	1.100309614	1.145614573	1.177848196	1.21382678	1.252445332	1.289625879	1.331611581	1.375232229	1.393188723	1.408929856	1.432338593	1.417325922	1.460009616	1.516576969	1.550302055	1.573069626	1.568487416	1.594507029
GDp pc (1999-2010)	0.029314778																			
GDP	0.044492711												-0.620759196							
Population	0.022526809																			
	0.021481982																			
L product	0.012483304																			
Employment	0.031614751																			

IX.1.4.3. Labour force Projections and Determinants of Occupational States and Earnings

Projections of the Libyan labour force are based on the basis of UN demographic projections and assumptions about migration flows. The baseline scenario assumes constant participation rates. An additional scenario assumes that participation rates for men and women increase to 70% by years 2040 and 2050 respectively. The results are presented below:

Constant Participation Rates

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
TOTAL	6,777,453	6,873,000	6,958,000	7,040,000	7,119,000	7,195,000	7,268,000	7,341,000	7,408,000	7,477,000	7,541,000	7,606,000	7,668,000	7,725,000	7,784,000	7,842,000	7,897,000	7,952,000	8,003,000	8,055,000	8,102,000	8,152,000	8,198,000	8,242,000	8,283,000	8,326,000	8,365,000	8,400,000	8,436,000	8,469,000	8,501,000	8,527,000
<15	1,902,310	1,910,000	1,907,000	1,902,000	1,896,000	1,886,000	1,867,000	1,851,000	1,829,000	1,803,000	1,778,000	1,755,000	1,733,000	1,712,000	1,696,000	1,678,000	1,663,000	1,649,000	1,638,000	1,628,000	1,620,000	1,611,000	1,607,000	1,604,000	1,602,000	1,600,000	1,599,000	1,600,000	1,601,000	1,603,000	1,602,000	1,599,000
15-29	1,657,170	1,657,000	1,663,000	1,672,000	1,682,000	1,698,000	1,715,000	1,736,000	1,759,000	1,783,000	1,805,000	1,827,000	1,845,000	1,861,000	1,870,000	1,880,000	1,883,000	1,884,000	1,880,000	1,870,000	1,858,000	1,844,000	1,826,000	1,804,000	1,779,000	1,756,000	1,733,000	1,711,000	1,694,000	1,675,000	1,658,000	1,644,000
30-64	2,915,811	2,994,000	3,067,000	3,133,000	3,197,000	3,255,000	3,315,000	3,367,000	3,413,000	3,462,000	3,506,000	3,541,000	3,577,000	3,604,000	3,630,000	3,655,000	3,680,000	3,702,000	3,721,000	3,744,000	3,761,000	3,781,000	3,797,000	3,813,000	3,828,000	3,843,000	3,855,000	3,866,000	3,874,000	3,880,000	3,887,000	3,890,000
65+	302,162	312,000	321,000	333,000	344,000	356,000	371,000	387,000	407,000	429,000	452,000	483,000	513,000	548,000	588,000	629,000	671,000	717,000	764,000	813,000	863,000	916,000	968,000	1,021,000	1,074,000	1,127,000	1,178,000	1,223,000	1,267,000	1,311,000	1,354,000	1,394,000
Male																																
Total	3,422,619	3,471,000	3,511,000	3,551,000	3,589,000	3,624,000	3,659,000	3,694,000	3,725,000	3,759,000	3,789,000	3,821,000	3,848,000	3,875,000	3,903,000	3,929,000	3,954,000	3,978,000	4,002,000	4,025,000	4,045,000	4,068,000	4,090,000	4,108,000	4,126,000	4,147,000	4,163,000	4,178,000	4,194,000	4,205,000	4,221,000	4,233,000
<15	976,261	981,000	979,000	977,000	973,000	968,000	959,000	950,000	939,000	926,000	913,000	902,000	890,000	879,000	871,000	862,000	854,000	847,000	842,000	836,000	832,000	827,000	826,000	824,000	823,000	822,000	821,000	823,000	823,000	823,000	823,000	822,000
15-29	841,400	843,000	846,000	851,000	856,000	865,000	874,000	885,000	897,000	909,000	921,000	933,000	942,000	950,000	955,000	960,000	962,000	962,000	960,000	955,000	949,000	942,000	933,000	921,000	909,000	897,000	886,000	874,000	866,000	856,000	848,000	841,000
30-64	1,467,756	1,506,000	1,541,000	1,574,000	1,606,000	1,632,000	1,662,000	1,687,000	1,709,000	1,734,000	1,755,000	1,772,000	1,788,000	1,801,000	1,813,000	1,823,000	1,835,000	1,844,000	1,853,000	1,864,000	1,871,000	1,881,000	1,889,000	1,896,000	1,904,000	1,912,000	1,919,000	1,924,000	1,929,000	1,931,000	1,937,000	1,940,000
65+	137,202	141,000	145,000	149,000	154,000	159,000	164,000	172,000	180,000	190,000	200,000	214,000	228,000	245,000	264,000	284,000	303,000	325,000	347,000	370,000	393,000	418,000	442,000	467,000	490,000	516,000	537,000	557,000	576,000	595,000	613,000	630,000
Female																																
Total	3,354,834	3,402,000	3,447,000	3,489,000	3,530,000	3,571,000	3,609,000	3,647,000	3,683,000	3,718,000	3,752,000	3,785,000	3,820,000	3,850,000	3,881,000	3,913,000	3,943,000	3,974,000	4,001,000	4,030,000	4,057,000	4,084,000	4,108,000	4,134,000	4,157,000	4,179,000	4,202,000	4,222,000	4,242,000	4,264,000	4,280,000	4,294,000
<15	926,049	929,000	928,000	925,000	923,000	918,000	908,000	901,000	890,000	877,000	865,000	853,000	843,000	833,000	825,000	816,000	809,000	802,000	796,000	792,000	788,000	784,000	781,000	780,000	779,000	778,000	778,000	777,000	778,000	780,000	779,000	777,000
15-29	815,770	814,000	817,000	821,000	826,000	833,000	841,000	851,000	862,000	874,000	884,000	894,000	903,000	911,000	915,000	920,000	921,000	922,000	920,000	915,000	909,000	902,000	893,000	883,000	870,000	859,000	847,000	837,000	828,000	819,000	810,000	803,000
30-64	1,448,055	1,488,000	1,526,000	1,559,000	1,591,000	1,623,000	1,653,000	1,680,000	1,704,000	1,728,000	1,751,000	1,769,000	1,789,000	1,803,000	1,817,000	1,832,000	1,845,000	1,858,000	1,868,000	1,880,000	1,890,000	1,900,000	1,908,000	1,917,000	1,924,000	1,931,000	1,936,000	1,942,000	1,945,000	1,949,000	1,950,000	1,950,000
65+	164,960	171,000	176,000	184,000	190,000	197,000	207,000	215,000	227,000	239,000	252,000	269,000	285,000	303,000	324,000	345,000	368,000	392,000	417,000	443,000	470,000	498,000	526,000	554,000	584,000	611,000	641,000	666,000	691,000	716,000	741,000	764,000
JOBS SOCIAL																																
Education	118	907	-354	-590	-708	-1,180	-2,242	-1,888	-2,596	-3,068	-2,950	-2,714	-2,596	-2,478	-1,888	-2,124	-1,770	-1,652	-1,298	-1,180	-944	-1,062	-472	-354	-236	-236	-118	118	118	236	-118	-354
Health	28	2,628	2,338	2,255	2,173	2,090	2,008	2,008	1,843	1,898	1,760	1,788	1,705	1,568	1,623	1,595	1,513	1,513	1,403	1,430	1,293	1,375	1,265	1,210	1,128	1,183	1,073	963	990	908	880	715
Residential ca	35	347	318	424	388	424	530	565	706	777	812	1,094	1,059	1,236	1,412	1,447	1,483	1,624	1,659	1,730	1,765	1,871	1,836	1,871	1,871	1,871	1,800	1,589	1,553	1,553	1,518	1,412
Social	9	860	765	738	711	684	657	657	603	621	576	585	558	513	531	522	495	495	459	468	423	450	414	396	369	387	351	315	324	297	288	234
TOTAL	**66,610**	4,742	3,066	2,827	2,564	2,018	952	1,341	556	227	198	753	726	838	1,678	1,440	1,720	1,979	2,223	2,448	2,537	2,634	3,043	3,123	3,131	3,204	3,106	2,984	2,985	2,994	2,568	2,007
	13.0%	**11.3%**	**7.3%**	**7.0%**	**6.5%**	**5.2%**	**2.3%**	**3.5%**	**1.5%**	**0.6%**	**0.6%**	**2.5%**	**2.6%**	**3.7%**	**9.0%**	**8.0%**	**11.5%**	**17.0%**	**28.2%**	**35.9%**	**110.1%**	**82.2%**	**-285.0%**	**-84.7%**	**-61.5%**	**-75.0%**	**-56.4%**	**-47.9%**	**-67.3%**	**-41.0%**	**-55.7%**	**-36.5%**
Working Age		4,651,000	4,730,000	4,805,000	4,879,000	4,953,000	5,030,000	5,103,000	5,172,000	5,245,000	5,311,000	5,368,000	5,422,000	5,465,000	5,500,000	5,535,000	5,563,000	5,586,000	5,601,000	5,614,000	5,619,000	5,625,000	5,623,000	5,617,000	5,607,000	5,599,000	5,588,000	5,577,000	5,568,000	5,555,000	5,545,000	5,534,000
F	1,904,640	2,302,000	2,343,000	2,380,000	2,417,000	2,456,000	2,494,000	2,531,000	2,566,000	2,602,000	2,635,000	2,663,000	2,692,000	2,714,000	2,732,000	2,752,000	2,766,000	2,780,000	2,788,000	2,795,000	2,799,000	2,802,000	2,801,000	2,800,000	2,794,000	2,790,000	2,783,000	2,779,000	2,773,000	2,768,000	2,760,000	2,753,000
M	2,009,222	2,349,000	2,387,000	2,425,000	2,462,000	2,497,000	2,536,000	2,572,000	2,606,000	2,643,000	2,676,000	2,705,000	2,730,000	2,751,000	2,768,000	2,783,000	2,797,000	2,806,000	2,813,000	2,819,000	2,820,000	2,823,000	2,822,000	2,817,000	2,813,000	2,809,000	2,805,000	2,798,000	2,795,000	2,787,000	2,785,000	2,781,000
Youth	1,992,736	1,657,000	1,663,000	1,672,000	1,682,000	1,698,000	1,715,000	1,736,000	1,759,000	1,783,000	1,805,000	1,827,000	1,845,000	1,861,000	1,870,000	1,880,000	1,883,000	1,884,000	1,880,000	1,870,000	1,858,000	1,844,000	1,826,000	1,804,000	1,779,000	1,756,000	1,733,000	1,711,000	1,694,000	1,675,000	1,658,000	1,644,000
65+	247,991	312,000	321,000	333,000	344,000	356,000	371,000	387,000	407,000	429,000	452,000	483,000	513,000	548,000	588,000	629,000	671,000	717,000	764,000	813,000	863,000	916,000	968,000	1,021,000	1,074,000	1,127,000	1,178,000	1,223,000	1,267,000	1,311,000	1,354,000	1,394,000
Participation rates																																
F	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%	41.2%
M	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%
Youth	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
65+	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%
Share Migrats																																
F	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
M	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%
Youth	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
65+	11.22%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%
LaboR Rorce		2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048	2,488,048
F	784,778	948,504	965,398	980,643	995,888	1,011,958	1,027,615	1,042,860	1,057,281	1,072,115	1,085,712	1,097,249	1,109,198	1,118,263	1,125,679	1,133,920	1,139,688	1,145,457	1,148,753	1,151,637	1,153,285	1,154,522	1,154,110	1,153,697	1,151,225	1,149,577	1,146,693	1,145,045	1,142,573	1,140,512	1,137,216	1,134,332
M	1,316,852	1,539,544	1,564,449	1,589,355	1,613,604	1,636,544	1,662,104	1,685,699	1,707,983	1,732,233	1,753,861	1,772,868	1,789,253	1,803,016	1,814,158	1,823,989	1,833,165	1,839,063	1,843,651	1,847,584	1,848,239	1,850,205	1,849,550	1,846,273	1,843,651	1,841,030	1,838,408	1,833,820	1,831,854	1,826,611	1,825,300	1,822,678
Youth	219,398	182,434	183,094	184,085	185,186	186,948	188,820	191,132	193,664	196,306	198,728	201,151	203,132	204,894	205,885	206,986	207,316	207,426	206,986	205,885	204,564	203,022	201,041	198,618	195,866	193,334	190,801	188,379	186,508	184,416	182,544	181,003
65+	13,006	16,363	16,835	17,464	18,041	18,671	19,457	20,296	21,345	22,499	23,705	25,331	26,905	28,740	30,838	32,988	35,191	37,603	40,068	42,638	45,260	48,040	50,767	53,547	56,326	59,106	61,781	64,141	66,448	68,756	71,011	73,109
Migrants																																
F	235,543	238,855	242,014	244,963	247,841	250,720	253,388	256,056	258,584	261,041	263,428	265,745	268,202	270,309	272,485	274,732	276,838	279,015	280,910	282,946	284,842	286,738	288,423	290,248	291,863	293,408	295,023	296,427	297,831	299,376	300,499	301,482
M	582,673	590,909	597,719	604,529	610,998	616,956	622,915	628,873	634,151	639,939	645,046	650,494	655,091	659,687	664,454	668,880	673,136	677,222	681,308	685,223	688,628	692,544	696,289	699,354	702,418	705,993	708,717	711,270	713,994	715,867	718,591	720,634
Youth	214,743	214,721	215,498	216,665	217,961	220,034	222,237	224,958	227,939	231,049	233,899	236,750	239,083	241,156	242,322	243,618	244,007	244,137	243,618	242,322	240,767	238,953	236,621	233,770	230,530	227,550	224,569	221,719	219,516	217,053	214,851	213,036
65+	33,893	34,997	36,006	37,352	38,586	39,932	41,614	43,409	45,653	48,120	50,700	54,177	57,542	61,468	65,955	70,554	75,265	80,425	85,697	91,193	96,801	102,746	108,579	114,524	120,469	126,414	132,134	137,182	142,117	147,053	151,876	156,363
Migrants in LF																																
F	55,099	66,595	67,781	68,851	69,921	71,050	72,149	73,219	74,232	75,273	76,228	77,038	77,877	78,513	79,034	79,613	80,018	80,423	80,654	80,856	80,972	81,059	81,030	81,001	80,828	80,712	80,509	80,394	80,220	80,075	79,844	79,641
M	342,054	399,898	406,367	412,836	419,135	425,094	431,733	437,862	443,650	449,949	455,567	460,504	464,760	468,335	471,229	473,783	476,166	477,699	478,890	479,912	480,082	480,593	480,423	479,571	478,890	478,209	477,528	476,337	475,826	474,464	474,124	473,443
TOTAL	397,153	466,493	474,148	481,687	489,057	496,143	503,882	511,081	517,882	525,222	531,795	537,542	542,637	546,849	550,263	553,396	556,184	558,121	559,544	560,768	561,054	561,652	561,453	560,572	559,718	558,921	558,038	556,730	556,046	554,539	553,968	553,084
			7,655	7,540	7,369	7,087	7,739	7,199	6,801	7,340	6,573	5,747	5,095	4,212	3,415	3,132	2,788	1,937	1,423	1,224	286	598	-199	-880	-855	-797	-883	-1,307	-684	-1,507	-572	-883
			18.3%	18.8%	18.7%	18.2%	18.8%	18.5%	18.5%	18.8%	18.7%	18.8%	18.0%	18.4%	18.4%	17.3%	18.7%	16.6%	18.1%	18.0%	12.4%	18.7%	18.7%	23.9%	16.8%	18.7%	16.0%	21.0%	15.4%	20.6%	12.4%	16.0%
POPULATION (000)																																
Dependents	2,204	2,222	2,228	2,235	2,240	2,242	2,238	2,238	2,236	2,232	2,230	2,238	2,246	2,260	2,284	2,307	2,334	2,366	2,402	2,441	2,483	2,527	2,575	2,625	2,676	2,727	2,777	2,823	2,868	2,914	2,956	2,993
Inactive	2,471	2,163	2,200	2,235	2,270	2,304	2,340	2,374	2,407	2,441	2,471	2,498	2,524	2,544	2,560	2,577	2,590	2,601	2,609	2,615	2,617	2,620	2,619	2,617	2,612	2,608	2,603	2,598	2,594	2,588	2,582	2,577
Labor force	2,102	2,488	2,530	2,570	2,609	2,649	2,690	2,729	2,765	2,804	2,840	2,870	2,898	2,921	2,940	2,958	2,973	2,985	2,992	2,999	3,002	3,005	3,004	3,000	2,995	2,991	2,985	2,979	2,974	2,967	2,963	2,957
gLF			1.7%	1.6%	1.5%	1.5%	1.6%	1.4%	1.3%	1.4%	1.3%	1.1%	1.0%	0.8%	0.6%	0.6%	0.5%	0.4%	0.3%	0.2%	0.1%	0.1%	0.0%	-0.1%	-0.2%	-0.1%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%
gW			0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.7%	0.8%	0.7%	0.6%	0.5%	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%	0.1%	0.0%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
gPop			1.2%	1.2%	1.1%	1.1%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.8%	0.7%	0.8%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	0.3%
Number of Jobs		41,799	41,799	40,151	39,495	39,008	41,218	38,840	36,705	39,083	35,225	30,544	28,334	22,828	18,558	18,072	14,944	11,667	7,884	6,817	2,304	3,202	-1,067	-3,689	-5,094	-4,270	-5,506	-6,236	-4,438	-7,303	-4,607	-5,506
Tota JOBS	510,761																															
%65+	4.46%	4.54%	4.61%	4.73%	4.83%	4.95%	5.10%	5.27%	5.49%	5.74%	5.99%	6.35%	6.69%	7.09%	7.55%	8.02%	8.50%	9.02%	9.55%	10.09%	10.65%	11.24%	11.81%	12.39%	12.97%	13.54%	14.08%	14.56%	15.02%	15.48%	15.93%	16.35%
%<15	28.1%	27.8%	27.4%	27.0%	26.6%	26.2%	25.7%	25.2%	24.7%	24.1%	23.6%	23.1%	22.6%	22.2%	21.8%	21.4%	21.1%	20.7%	20.5%	20.2%	20.0%	19.8%	19.6%	19.5%	19.3%	19.2%	19.1%	19.0%	19.0%	18.9%	18.8%	18.8%

Increasing Participation Rates

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
TOTAL	6,777,453	6,873,000	6,958,000	7,040,000	7,119,000	7,195,000	7,268,000	7,341,000	7,408,000	7,477,000	7,541,000	7,606,000	7,668,000	7,725,000	7,784,000	7,842,000	7,897,000	7,952,000	8,003,000	8,055,000	8,102,000	8,152,000	8,198,000	8,242,000	8,283,000	8,326,000	8,365,000	8,400,000	8,436,000	8,469,000	8,501,000	8,527,000
<15	1,902,310	1,910,000	1,907,000	1,902,000	1,896,000	1,886,000	1,867,000	1,851,000	1,829,000	1,803,000	1,778,000	1,755,000	1,733,000	1,712,000	1,696,000	1,678,000	1,663,000	1,649,000	1,638,000	1,628,000	1,620,000	1,611,000	1,607,000	1,604,000	1,602,000	1,600,000	1,599,000	1,600,000	1,601,000	1,603,000	1,602,000	1,599,000
15-29	1,657,170	1,657,000	1,663,000	1,672,000	1,682,000	1,698,000	1,715,000	1,736,000	1,759,000	1,783,000	1,805,000	1,827,000	1,845,000	1,861,000	1,870,000	1,880,000	1,883,000	1,884,000	1,880,000	1,870,000	1,858,000	1,844,000	1,826,000	1,804,000	1,779,000	1,756,000	1,733,000	1,711,000	1,694,000	1,675,000	1,658,000	1,644,000
30-64	2,915,811	2,994,000	3,067,000	3,133,000	3,197,000	3,255,000	3,315,000	3,367,000	3,413,000	3,462,000	3,506,000	3,541,000	3,577,000	3,604,000	3,630,000	3,655,000	3,680,000	3,702,000	3,721,000	3,744,000	3,761,000	3,781,000	3,797,000	3,813,000	3,828,000	3,843,000	3,855,000	3,866,000	3,874,000	3,880,000	3,887,000	3,890,000
65+	302,162	312,000	321,000	333,000	344,000	356,000	371,000	387,000	407,000	429,000	452,000	483,000	513,000	548,000	588,000	629,000	671,000	717,000	764,000	813,000	863,000	916,000	968,000	1,021,000	1,074,000	1,127,000	1,178,000	1,223,000	1,267,000	1,311,000	1,354,000	1,394,000
Male																																
Total	3,422,619	3,471,000	3,511,000	3,551,000	3,589,000	3,624,000	3,659,000	3,694,000	3,725,000	3,759,000	3,789,000	3,821,000	3,848,000	3,875,000	3,903,000	3,929,000	3,954,000	3,978,000	4,002,000	4,025,000	4,045,000	4,068,000	4,090,000	4,108,000	4,126,000	4,147,000	4,163,000	4,178,000	4,194,000	4,205,000	4,221,000	4,233,000
<15	976,261	981,000	979,000	977,000	973,000	968,000	959,000	950,000	939,000	926,000	913,000	902,000	890,000	879,000	871,000	862,000	854,000	847,000	842,000	836,000	832,000	827,000	826,000	824,000	823,000	822,000	821,000	823,000	823,000	823,000	823,000	822,000
15-29	841,400	843,000	846,000	851,000	856,000	865,000	874,000	885,000	897,000	909,000	921,000	933,000	942,000	950,000	955,000	960,000	962,000	962,000	960,000	955,000	949,000	942,000	933,000	921,000	909,000	897,000	886,000	874,000	866,000	856,000	848,000	841,000
30-64	1,467,756	1,506,000	1,541,000	1,574,000	1,606,000	1,632,000	1,662,000	1,687,000	1,709,000	1,734,000	1,755,000	1,772,000	1,788,000	1,801,000	1,813,000	1,823,000	1,835,000	1,844,000	1,853,000	1,864,000	1,871,000	1,881,000	1,889,000	1,896,000	1,904,000	1,912,000	1,919,000	1,924,000	1,929,000	1,931,000	1,937,000	1,940,000
65+	137,202	141,000	145,000	149,000	154,000	159,000	164,000	172,000	180,000	190,000	200,000	214,000	228,000	245,000	264,000	284,000	303,000	325,000	347,000	370,000	393,000	418,000	442,000	467,000	490,000	516,000	537,000	557,000	576,000	595,000	613,000	630,000
Female																																
Total	3,354,834	3,402,000	3,447,000	3,489,000	3,530,000	3,571,000	3,609,000	3,647,000	3,683,000	3,718,000	3,752,000	3,785,000	3,820,000	3,850,000	3,881,000	3,913,000	3,943,000	3,974,000	4,001,000	4,030,000	4,057,000	4,084,000	4,108,000	4,134,000	4,157,000	4,179,000	4,202,000	4,222,000	4,242,000	4,264,000	4,280,000	4,294,000
<15	926,049	929,000	928,000	925,000	923,000	918,000	908,000	901,000	890,000	877,000	865,000	853,000	843,000	833,000	825,000	816,000	809,000	802,000	796,000	792,000	788,000	784,000	781,000	780,000	779,000	778,000	778,000	777,000	778,000	780,000	779,000	777,000
15-29	815,770	814,000	817,000	821,000	826,000	833,000	841,000	851,000	862,000	874,000	884,000	894,000	903,000	911,000	915,000	920,000	921,000	922,000	920,000	915,000	909,000	902,000	893,000	883,000	870,000	859,000	847,000	837,000	828,000	819,000	810,000	803,000
30-64	1,448,055	1,488,000	1,526,000	1,559,000	1,591,000	1,623,000	1,653,000	1,680,000	1,704,000	1,728,000	1,751,000	1,769,000	1,789,000	1,803,000	1,817,000	1,832,000	1,845,000	1,858,000	1,868,000	1,880,000	1,890,000	1,900,000	1,908,000	1,917,000	1,924,000	1,931,000	1,936,000	1,942,000	1,945,000	1,949,000	1,950,000	1,950,000
65+	164,960	171,000	176,000	184,000	190,000	197,000	207,000	215,000	227,000	239,000	252,000	269,000	285,000	303,000	324,000	345,000	368,000	392,000	417,000	443,000	470,000	498,000	526,000	554,000	584,000	611,000	641,000	666,000	691,000	716,000	741,000	764,000
JOBS SOCIAL																																
Education	118	907	-354	-590	-708	-1,180	-2,242	-1,888	-2,596	-3,068	-2,950	-2,714	-2,596	-2,478	-1,888	-2,124	-1,770	-1,652	-1,298	-1,180	-944	-1,062	-472	-354	-236	-236	-118	118	118	236	-118	-354
Health	28	2,628	2,338	2,255	2,173	2,090	2,008	2,008	1,843	1,898	1,760	1,788	1,705	1,568	1,623	1,595	1,513	1,513	1,403	1,430	1,293	1,375	1,265	1,210	1,128	1,183	1,073	963	990	908	880	715
Residential ca	35	347	318	424	388	424	530	565	706	777	812	1,094	1,059	1,236	1,412	1,447	1,483	1,624	1,659	1,730	1,765	1,871	1,836	1,871	1,871	1,871	1,800	1,589	1,553	1,553	1,518	1,412
Social	9	860	765	738	711	684	657	657	603	621	576	585	558	513	531	522	495	495	459	468	423	450	414	396	369	387	351	315	324	297	288	234
TOTAL	**66,610**	4,742	3,066	2,827	2,564	2,018	952	1,341	556	227	198	753	726	838	1,678	1,440	1,720	1,979	2,223	2,448	2,537	2,634	3,043	3,123	3,131	3,204	3,106	2,984	2,985	2,994	2,568	2,007
	4.6%	**6.8%**	**4.4%**	**4.1%**	**3.7%**	**2.9%**	**1.3%**	**1.9%**	**0.8%**	**0.3%**	**0.3%**	**1.2%**	**1.1%**	**1.4%**	**3.1%**	**2.7%**	**3.4%**	**4.2%**	**5.2%**	**5.9%**	**7.0%**	**7.1%**	**11.9%**	**13.7%**	**15.4%**	**14.9%**	**16.0%**	**15.6%**	**14.5%**	**17.0%**	**13.1%**	**10.7%**
Working Age																																
F	1,904,640	2,302,000	2,343,000	2,380,000	2,417,000	2,456,000	2,494,000	2,531,000	2,566,000	2,602,000	2,635,000	2,663,000	2,692,000	2,714,000	2,732,000	2,752,000	2,766,000	2,780,000	2,788,000	2,795,000	2,799,000	2,802,000	2,801,000	2,800,000	2,794,000	2,790,000	2,783,000	2,779,000	2,773,000	2,768,000	2,760,000	2,753,000
M	2,009,222	2,349,000	2,387,000	2,425,000	2,462,000	2,497,000	2,536,000	2,572,000	2,606,000	2,643,000	2,676,000	2,705,000	2,730,000	2,751,000	2,768,000	2,783,000	2,797,000	2,806,000	2,813,000	2,819,000	2,820,000	2,823,000	2,822,000	2,817,000	2,813,000	2,809,000	2,805,000	2,798,000	2,795,000	2,787,000	2,785,000	2,781,000
Youth	1,992,736	1,657,000	1,663,000	1,672,000	1,682,000	1,698,000	1,715,000	1,736,000	1,759,000	1,783,000	1,805,000	1,827,000	1,845,000	1,861,000	1,870,000	1,880,000	1,883,000	1,884,000	1,880,000	1,870,000	1,858,000	1,844,000	1,826,000	1,804,000	1,779,000	1,756,000	1,733,000	1,711,000	1,694,000	1,675,000	1,658,000	1,644,000
65+	247,991	312,000	321,000	333,000	344,000	356,000	371,000	387,000	407,000	429,000	452,000	483,000	513,000	548,000	588,000	629,000	671,000	717,000	764,000	813,000	863,000	916,000	968,000	1,021,000	1,074,000	1,127,000	1,178,000	1,223,000	1,267,000	1,311,000	1,354,000	1,394,000
Participation rates																																
F	41.2%	41.2%	42.2%	43.1%	44.1%	45.0%	46.0%	47.0%	47.9%	48.9%	49.8%	50.8%	51.8%	52.7%	53.7%	54.6%	55.6%	56.6%	57.5%	58.5%	59.4%	60.4%	61.4%	62.3%	63.3%	64.2%	65.2%	66.2%	67.1%	68.1%	69.0%	70.0%
M	65.5%	65.5%	65.8%	66.0%	66.2%	66.4%	66.7%	66.9%	67.1%	67.3%	67.5%	67.8%	68.0%	68.2%	68.4%	68.7%	68.9%	69.1%	69.3%	69.6%	69.8%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Youth	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
65+	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%
Share Migrats																																
F	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
M	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%
Youth	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
65+	11.22%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%
LaboR Rorce																																
F	784,778	948,504	987,888	1,026,333	1,065,489	1,106,257	1,147,312	1,188,628	1,229,696	1,271,924	1,313,348	1,352,866	1,393,439	1,430,878	1,466,592	1,503,744	1,537,944	1,572,413	1,603,700	1,634,555	1,663,761	1,692,441	1,718,723	1,744,986	1,768,066	1,792,315	1,814,532	1,838,599	1,861,247	1,884,461	1,905,507	1,927,100
M	1,316,852	1,539,544	1,569,772	1,600,169	1,630,074	1,658,815	1,690,378	1,720,109	1,748,659	1,779,380	1,807,564	1,833,184	1,856,214	1,876,626	1,894,395	1,910,867	1,926,716	1,939,173	1,950,283	1,960,728	1,967,712	1,976,100	1,975,400	1,971,900	1,969,100	1,966,300	1,963,500	1,958,600	1,956,500	1,950,900	1,949,500	1,946,700
Youth	219,398	182,434	183,094	184,085	185,186	186,948	188,820	191,132	193,664	196,306	198,728	201,151	203,132	204,894	205,885	206,986	207,316	207,426	206,986	205,885	204,564	203,022	201,041	198,618	195,866	193,334	190,801	188,379	186,508	184,416	182,544	181,003
65+	13,006	16,363	16,835	17,464	18,041	18,671	19,457	20,296	21,345	22,499	23,705	25,331	26,905	28,740	30,838	32,988	35,191	37,603	40,068	42,638	45,260	48,040	50,767	53,547	56,326	59,106	61,781	64,141	66,448	68,756	71,011	73,109
Migrants																																
F	235,543	238,855	242,014	244,963	247,841	250,720	253,388	256,056	258,584	261,041	263,428	265,745	268,202	270,309	272,485	274,732	276,838	279,015	280,910	282,946	284,842	286,738	288,423	290,248	291,863	293,408	295,023	296,427	297,831	299,376	300,499	301,482
M	582,673	590,909	597,719	604,529	610,998	616,956	622,915	628,873	634,151	639,939	645,046	650,494	655,091	659,687	664,454	668,880	673,136	677,222	681,308	685,223	688,628	692,544	696,289	699,354	702,418	705,993	708,717	711,270	713,994	715,867	718,591	720,634
Youth	214,743	214,721	215,498	216,665	217,961	220,034	222,237	224,958	227,939	231,049	233,899	236,750	239,083	241,156	242,322	243,618	244,007	244,137	243,618	242,322	240,767	238,953	236,621	233,770	230,530	227,550	224,569	221,719	219,516	217,053	214,851	213,036
65+	33,893	34,997	36,006	37,352	38,586	39,932	41,614	43,409	45,653	48,120	50,700	54,177	57,542	61,468	65,955	70,554	75,265	80,425	85,697	91,193	96,801	102,746	108,579	114,524	120,469	126,414	132,134	137,182	142,117	147,053	151,876	156,363
Migrants in LF																																
F	55,099	66,595	69,360	72,059	74,808	77,670	80,553	83,454	86,337	89,302	92,210	94,985	97,833	100,462	102,969	105,578	107,979	110,399	112,596	114,762	116,813	118,826	120,672	122,516	124,136	125,839	127,398	129,088	130,678	132,308	133,786	135,302
M	342,054	399,898	406,367	412,836	419,135	425,094	431,733	437,862	443,650	449,949	455,567	460,504	464,760	468,335	471,229	473,783	476,166	477,699	478,890	479,912	480,082	480,593	480,423	479,571	478,890	478,209	477,528	476,337	475,826	474,464	474,124	473,443
TOTAL	397,153	466,493	475,727	484,895	493,943	502,764	512,286	521,316	529,987	539,251	547,777	555,489	562,594	568,797	574,199	579,361	584,146	588,098	591,486	594,674	596,895	599,419	601,094	602,087	603,026	604,048	604,927	605,425	606,504	606,772	607,909	608,744
			9,234	9,168	9,048	8,821	9,522	9,029	8,672	9,264	8,526	7,712	7,105	6,204	5,402	5,162	4,785	3,952	3,388	3,188	2,221	2,524	1,675	993	939	1,022	879	498	1,079	268	1,137	835
			13.3%	13.3%	13.1%	12.7%	13.1%	12.7%	12.5%	12.7%	12.2%	11.8%	11.2%	10.7%	10.1%	9.6%	9.6%	8.4%	8.0%	7.7%	6.1%	6.8%	6.5%	4.4%	4.6%	4.8%	4.5%	2.6%	5.3%	1.5%	5.8%	4.4%
Population																																
Dependents	2,204	2,222	2,228	2,235	2,240	2,242	2,238	2,238	2,236	2,232	2,230	2,238	2,246	2,260	2,284	2,307	2,334	2,366	2,402	2,441	2,483	2,527	2,575	2,625	2,676	2,727	2,777	2,823	2,868	2,914	2,956	2,993
Inactive	2,471	2,163	2,172	2,178	2,183	2,188	2,192	2,194	2,194	2,194	2,190	2,182	2,172	2,157	2,139	2,120	2,098	2,074	2,047	2,019	1,988	1,956	1,929	1,900	1,870	1,840	1,810	1,780	1,750	1,720	1,690	1,660
Labor force	2,102	2,488	2,558	2,627	2,696	2,765	2,838	2,909	2,978	3,051	3,121	3,186	3,250	3,308	3,361	3,415	3,465	3,512	3,554	3,595	3,631	3,669	3,694	3,717	3,737	3,759	3,778	3,797	3,818	3,835	3,855	3,874
gLF			2.8%	2.7%	2.6%	2.6%	2.6%	2.5%	2.4%	2.4%	2.3%	2.1%	2.0%	1.8%	1.6%	1.6%	1.5%	1.4%	1.2%	1.2%	1.0%	1.0%	0.7%	0.6%	0.5%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
gW			1.5%	1.5%	1.4%	1.4%	1.5%	1.4%	1.4%	1.4%	1.3%	1.2%	1.2%	1.1%	1.0%	1.0%	0.9%	0.8%	0.8%	0.7%	0.6%	0.7%	0.5%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%	0.3%	0.4%	0.3%
gPop			1.2%	1.2%	1.1%	1.1%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.8%	0.7%	0.8%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	0.3%
Number of Jobs		69,611	69,611	68,843	69,061	69,508	72,619	71,047	69,617	72,949	69,608	65,138	63,603	57,852	53,483	53,624	50,050	46,926	42,396	41,301	36,190	37,067	25,582	22,763	20,280	21,450	19,417	19,167	20,548	17,614	19,646	18,793
Tota JOBS	1,455,363																															
%65+	4.46%	4.54%	4.61%	4.73%	4.83%	4.95%	5.10%	5.27%	5.49%	5.74%	5.99%	6.35%	6.69%	7.09%	7.55%	8.02%	8.50%	9.02%	9.55%	10.09%	10.65%	11.24%	11.81%	12.39%	12.97%	13.54%	14.08%	14.56%	15.02%	15.48%	15.93%	16.35%
%<15	28.1%	27.8%	27.4%	27.0%	26.6%	26.2%	25.7%	25.2%	24.7%	24.1%	23.6%	23.1%	22.6%	22.2%	21.8%	21.4%	21.1%	20.7%	20.5%	20.2%	20.0%	19.8%	19.6%	19.5%	19.3%	19.2%	19.1%	19.0%	19.0%	18.9%	18.8%	18.8%

To correlate individual characteristics and labour market outcomes the following models were estimated using the labor force survey:

$$p_\tau(\boldsymbol{Z}) = \frac{\exp\left(\boldsymbol{Z}\gamma_\tau\right)}{\sum_{j \in J} exp\left(\boldsymbol{Z}\gamma_j\right)}, (1)$$

$$y_\tau = \boldsymbol{X}\beta_\tau + \sum_j \sum_{z=1}^{4} \lambda_{jz} p_j(\boldsymbol{Z})^z + \sum_k \sum_m \lambda_{km}\, p_m(\boldsymbol{Z}) p_k(\boldsymbol{Z}) + \varepsilon_\tau, (2)$$

where $\boldsymbol{p_\tau}$ giveas the probability that and individual will be in occupation state $\boldsymbol{\tau \in J}$ which is a vector of occupational states {inactive, unemployed, wage employee, own-account worker, farmer}; $\boldsymbol{X \in Z}$ are vectors of individual characteristics; $\boldsymbol{y_\tau}$ are earnings in occupational state $\boldsymbol{\tau}$; $\boldsymbol{(k, m)}$ index the possible interactions of the probabilities in the set $\boldsymbol{\{p_j(Z)\}_{j \in J}}$; and $\boldsymbol{\lambda}$ are coefficeints estimated for each type of job. Model (2) will be estimated only if the labor force survey contains reliable data on earning.

IX.1.5. Reporting and dissemination

Following on the results of the macroeconomic analysis, the research team facilitated a remote workshop on Libya's job opportunities on 7th October 2020 to discuss strategies for economic diversification and job creation. The workshop had 23 participants, representing Libyan Ministries (Economy, Finance, Labour and Trade), the European Union (EU), IOM, the European Training Foundation (ETF), and Key Aid Consulting.

Following the skills gap assessment, a feedback workshop with key stakeholders was held on 10th February 2021 with participants from the initial methodology workshop. The purpose was to present the key findings of data collection and analysis, prompt feedback and discuss recommendations.

Following the workshop and a detailed debriefing with IOM staff, feedback was incorporated into the second version of the skills gap assessment findings report. This was submitted to IOM on 23rd February 2021.

This report, presented in June 2021 presents the collated results of both the macro economic analysis and skill gap assessment.

IX.2. Research matrix

Key study questions	Secondary study questions	Type of market information to collect[221]	Sources of information
1. What is the current labour market and macro-economic context in Libya?	1.1 What are the main characteristics of labour market dynamics in Libya?	• Country's demographic structure and its dynamics (population age and sex composition, migration, etc.). • Labour market outcomes in terms of occupational states (activity, employment, type of job) and earnings. • Job creation by sector and decomposition of labour productivity and GDP per capita growth. • Distribution of analytical, manual, and interpersonal skills of the labour force (if data on occupations are available). • Main factors explaining past years wage trends. • Key challenges the labour market is facing in producing decent and productive employment.	**Desk Review:** population censuses, labour force surveys, national accounts, migration statistics. **Key informant interviews:** UN and WB staff representatives, Ministry of Labour.
	1.2 What are the main constraints faced by employers and entrepreneurs to expand businesses and create jobs?	• Country wide labour policies and strategy by the Ministry of Labour as well UN and WB. • Core labour regulations for local and migrant workers. • Key challenges the labour market is facing in producing decent and productive employment. • Business environment and constraints to investments and job creation.	**Desk Review:** Doing Business Database, Global Competitiveness Report, Labour Laws and policies documents, World Bank reports. **Key informant interviews:** UN and WB staff representatives, Ministry of Labour and Ministry of Industry, Chamber of Commerce, trade union representatives.

[221] The data should, as much as possible, be collected in a gender disaggregated manner to be able to identify the barriers and opportunities for both men and women workers.

2. What are the opportunities for structural transformation and job creation in Libya?	2.1 Which economic sectors have the highest potential to create decent and productive employment in Libya for the available labour force?	• Multiplier effects on jobs (direct and indirect) of the expansion of aggregate demand for different economic sectors. • Potential for job creation under different scenarios about economic growth and changes in the structure of aggregate demand. • Product space in Libya and potential for economic diversification. • Economic trends and contractors' perception of sectors for which the demand by the public will remain stable and strong. • Typology of businesses in the most promising economic sectors.	**Desk review:** labour force survey, national accounts, economic reports by international organisations and the government. **Key informant interviews:** employers, Ministry of Labour, Chamber of Commerce, Trade Unions, CSOs working on labour issues.
	2.2. What type of policies can be considered to mobilise investment for jobs creation?	• Types of policies to promote private investments conditional on job creation. • Performance based contracts for active labour market programmes. • The role of social bonds and public private partnerships.	**Desk review:** Relevant literature on new industrial policies, active labour market programmes, contracting, and payment systems based on results. **Key informant interviews:** employers, Ministry of Labour, Chamber of Commerce, Trade Unions, CSOs working on labour issues.
3. What is the skills gap between the skills embodied in the migrant labour force and the skills needed by the private sector in the economic sectors that have the	3.1 In the identified promising economic sectors, what skills are necessary for workers to do their job well and be valued by companies?	• Perception of employers about the cognitive skills their staff need. • Perception of employers about the technical skills their staff need. • Perception of employers about the socio-emotional skills their staff need. • Migrant workers' retention rates vis à vis overall retention rates.	**Key informant interviews:** employers, Ministry of Labour, Chamber of Commerce, Trade Unions, migrant workers' representatives, livelihood experts. **Desk review:** previous skills gap assessment and labour market analysis, livelihood programme documents.
	3.2 Which of these skills are not	• Level of cognitive, technical and socio-emotional skills available within the migrant workforce, segregated by gender. • Formalism of the skills certification, segregated by gender.	**Focus Group Discussion** with male and female migrant workers.

highest potential for hiring migrant labour force?	available with migrant workers?	• Willingness of workers to be employed, segregated by gender. • Adequacy between salary expectations and market reality, disaggregated by gender.	Key informant interviews with employers, ILO, IOM, UNDP, GIZ, ICMPD and WB. Desk review: Review of job adverts, salary grids, previous skills gap assessment and labour market analysis.
	3.3 How could these skills be developed by migrant workers?	• Means for migrant workers to acquire practical experience (e.g., internships). • Number, diversity, quality, and costs of training opportunities available. • Existence of sufficient equipment with existing training institutes. • Mapping of 'hard to find' training options. • Financial, physical, and social barriers for men and women migrant workers to access these training opportunities. • Opportunities for collaboration between IOM Libya and training institutes.	Key informant interviews: training institute representatives, UN agencies implementing Livelihood programmes, Ministry of Education Focus Group Discussion with male and female migrant workers Desk review: training institutes website, evaluations of TVET programmes and education strategies in country, skills gap assessment and labour market analysis.
4. What barriers are migrant workers facing to access employment in these sectors?		• Safety and security issues hampering access by women and men migrant workers to working locations. • Average costs of transport for women and men migrant workers to travel to and from working locations. • Availability of safe and accessible accommodation for women and men migrant workers near working locations. • Formal and informal regulations that prevent women and men migrant workers to enter certain economic sectors or certain types of employment.	Desk review: Supply side survey done by IOM, contextual studies, Labour laws. Focus Group Discussion with male and female migrant workers. Key informant interviews: employers, Ministry of Labour, Chamber of Commerce, Trade Unions, migrant workers' representatives.

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