



# Labour Demands **Forecast** Research

## ICT, Health and Green Energy

Designed & Developed by BDC, Research Done by  
Identity Center, Funded by UKAid







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## ICT, Health and Green Energy

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The Business Development Center (BDC) is a non-profit organization committed to fostering economic development and public reform in Jordan and the Middle East. BDC develops and implements several developmental programs that aim at creating job opportunities for Jordanians, promoting entrepreneurship amongst youth and increasing small and medium enterprises competitiveness. In addition to this, BDC manages several economic development projects for a number of government agencies and donors.

BDC has designed & developed this research based on the fact that the main causes of youth unemployment in the Kingdom of Jordan lays under the lack of career guidance for students and unemployed youth; lack of opportunities to find satisfying work following graduation; the difficulty facing jobseekers to find jobs that are compatible with their qualifications; the gap between the skills of young graduates and the needs of employers and the wider international and economic situations.

The Research tackles “The Gap between Educational Outputs and Labour Market Demand in Jordan”, which represents a Labour Market Forecast in three sectors, ICT, Health and Green Energy Sectors”. It was done by the Identity Center and Funded by UKAid.

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**“Some people say we must create a better tomorrow for our youth. I say we must create a better today”.**

King Abdullah II

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# Executive Summary

Since the 1970s, the Jordanian labour market has experienced a unique development, whereby skilled human capital is exported, mainly to GCC countries, while un-skilled labour is imported to meet labour market needs in some sectors. Such labour migration patterns still exist today, along with the added pressure that refugees are putting on labour supply and the pressures stemming from the demographic structure of the Jordanian society.

Most studies conducted on the Jordanian labour market over the past decade have concluded that the persistently high unemployment rate stems from a misalliance between labour demand and labour supply. This misalliance is the result of the incompatibility between the outputs of the Jordanian educational system and the requirements of the labour market.

Other than the fact that specialisations need to be tailored to meet labour demand requirements, there has been an increasing number of Jordanians enrolled in education, especially at the university-level, thereby shifting the structure of the labour supply to reflect a higher share of university-graduates. This has translated into shortages in the supply of labour with other education levels, such as vocational graduates, thereby exacerbating the existing discrepancy between supply and demand. Moreover, employers are complaining about the deterioration in the quality of fresh graduates, on both: the technical level and the soft skills level, over the past decade or so, which intensified the labour market discrepancy.

The most serious and comprehensive effort in analysing the Jordanian labour market to inform policymaking was the National Employment Strategy (NES) (2011-2020) which provided a systematic diagnosis of the labour market. The strategy suggested a number of policy measures and interventions under an action plan that was further elaborated into an implementation plan that lays out the details of how to carry out the interventions. Furthermore, a draft “project brief” was prepared for each action and associated risks. The strategy even formulated a timeline to implement the suggestions based on a chain of results. Regrettably, little has been done since the endorsement of this strategy and its implementation was severely delayed due to a range of external and internal factors, especially on the regional level, which undoubtedly changed some of the labour market dynamics and realities. Nevertheless, many of the policy measures proposed are still needed till this day, but implementation was obstructed due to shortage of funds, shifting of priorities, and government bureaucracy.

Jordan’s business environment plays a major role in the creation of new jobs and increasing the labour demand in the market, but it is mainly affected by the higher costs of production caused by the government’s policies, which have inevitably impacted

the profitability of private sector companies working in Jordan, meaning that there are currently less resources available at companies to invest and expand production and hire more workers. Furthermore, all these high costs do not only impact the propensity of existing businesses to hire additional labour, but also acts as a deterrent for potential investors with job-intensive investments.

As for the labour market data in terms of the employment level and the rate of job generation point towards a declining labour demand in the formal labour market, especially in the past 5 years, corresponding with the low rate of economic growth registered over the same period. This is also clear in the decrease of jobs offered by the private sector and the increase in jobs offered by the public sector, which poses another problem related to the inflation of the public sector. Regarding the informal sector, measuring the extent to which the informal sector contributed to overall labour demand is impossible, as periodic information and data on informal employment does not exist. However, non-Jordanians obtained over half of the jobs generated by the 'non-organised' private sector in 2012, and non-Jordanians took almost all of the generated jobs by this sector in 2014 up. These jobs are heavily concentrated in the manufacturing, agriculture and service industries (including construction).

Regarding labour supply, the quality of education has been under questioning in recent years, and has also not been able to keep up with labour market developments, mainly due to the lack of communication or/and collaboration between the educational institutions and the labour market. The labour supply is increasing becoming overly skewed towards university level professionals, thereby intensifying the qualitative labour market disequilibrium. Moreover, the developments illustrate how the outputs of university-level education do not seem to adequately match the requirements of the labour market, across most fields, and more and more job seekers are entering the labour market with no prior practical experience.

Regarding the labour demand forecast for the three focus sectors of the study it was as following: the ICT sector witnessed a big decrease in revenues over the past five years, but that didn't affect the number of jobs in the sector due to the importance of practical experience for companies working in this sector; it will be very challenging for ICT companies to replace their experienced employees. In addition to that, a lot of small ICT companies are closing because of the high competitiveness in the sector, but those who lose their jobs are hired by the ICT start-up companies that open each year. As for new jobs offered in the sector, it comes from small start-ups, which are around 100 companies each year, these companies hire between 400 – 500 graduates of mainly computer science; this represents only 100% of the total graduates from ICT related specialisations, leaving 90% jobless.

As for the health sector; with the growth in the healthcare, there is a growing demand in graduates of healthcare related specialties, especially doctors and nurses. From the available information, it is clear that the number universities graduates in these fields and specialties is not enough to cover the market demand due to the high request for those professionals in other countries, which leads them to seek better opportunities outside Jordan.

Regarding the green energy sector; with the hindrance of the National Energy Strategy most of the planned and forecasted investments didn't happen, which, nearly, froze the development of green energy projects in the country. This has dramatically affected the number of offered jobs in the green energy sector in Jordan over the past five years, leading to an increasing number of unemployed graduates from related specialties, especially university graduates; while most of the jobs offered are in technical fields and targeting graduates of Vocational Training Centers. Currently, there are no plans, strategies or forecasts regarding the situation of the green energy sector; there are no jobs offered in this sector and no expectations for new jobs opening except in the case of new and big investments in the sector.

# Introduction

Jordanian economy with persistently high unemployment rates, especially among youth. In addition to unemployment, the country is witnessing a declining rate of economic participation among the Jordanian population, especially women. The source of such disequilibrium is both qualitative and quantitative disparities between labour demand and supply, which is the result of a range of factors including, but not limited to: unsuitable output of the educational system, unstable investment trends in the country and migratory labour patterns.

Due to the increase in labour market pressures in recent years, solving the problem of unemployment has become a priority for Jordanian authorities, particularly considering the escalating regional instability, which raises fears that idle youth resources might create fertile ground for extremist groups' recruitment.

The aim of this research is to analyse the dynamics of the domestic labour market with particular focus on three growing sectors, ICT, health and Green Energy, through analysing demand, supply, and the existing incongruity between the two. This study was based on a combination of qualitative and quantitative research, from both primary and secondary sources. The main source of primary data and information is a survey that was administered to a total of 57 companies working in the focus sectors of information & communications technology (ICT), health, and green energy. The distribution of the sample across the three sectors is as follows:

| Distribution of Surveyed Companies According to Sector |                                 |                               |
|--|---------------------------------|-------------------------------|
| ICT  | Health                          | Green Energy                  |
| 23 Companies<br>40.4% of sample                        | 22 companies<br>38.6% of sample | 12 companies<br>21% of sample |

Field data was collected from these companies during the months of July and August 2015, using a questionnaire specifically developed for this study containing both quantitative and qualitative questions. The results of this survey have been integrated throughout the body of the report. By focusing on these three sectors, which are some of the largest in terms of recruitment, we can gain a better insight into the skills and qualifications that are most in-demand within the job market and the gaps that currently exist in the labour supply.

The main source of secondary data used in this study is from official data generated by official public sector entities including the Department of Statistics (DOS) and the Ministry of Labour. The results of different labour market surveys was used to present



an overall comparative analysis of the labour market in terms of supply and demand, which was complimented and validated by results of the primary research.

This study does not intend to provide a comprehensive detailed analysis of the entire labour market, as did the NES. Nonetheless it aims to shed light on the evolving discrepancy between supply and demand, with a focus on recent development and the overall quality of education outputs in meeting market needs in the ICT, health and green energy sectors. It also seeks to provide forward looking directions for policy-making, which should however be further assessed and analysed.

The first section of this report provides a brief outline of the business environment in Jordan, in order to explain the context in which companies are working. What follows is an examination of the demands of the labour market through an analysis of employment and job creation trends in the Jordanian labour market, according to sector, employment status and other factors. This section will also present the field findings that detail the specific skills that companies require.

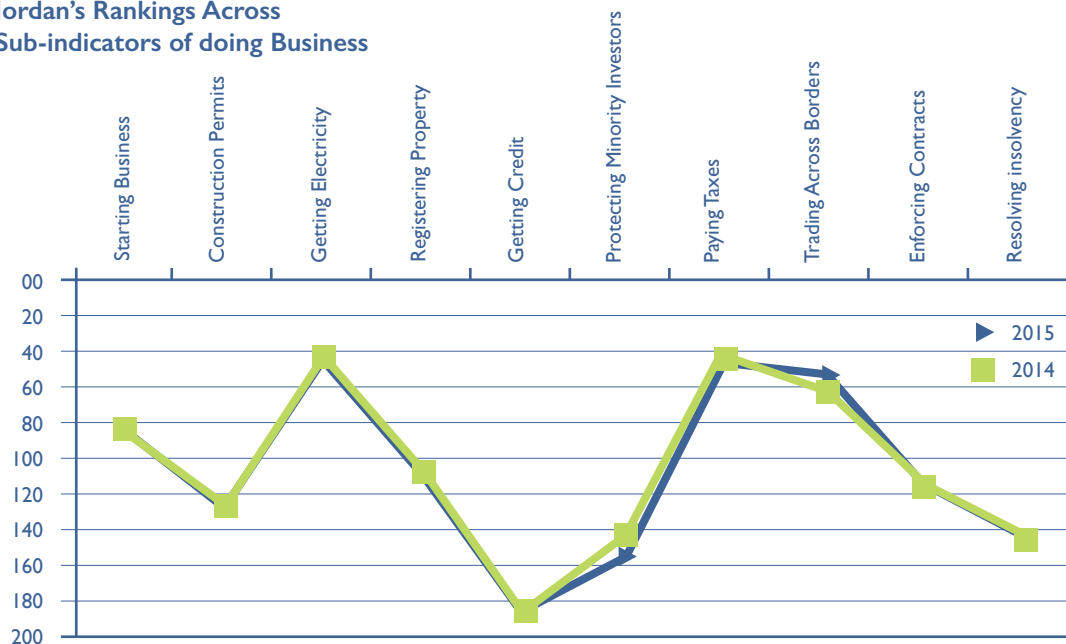
The report then moves to the second section which tackles labour supply, through first analysing the outputs of Jordan's education system then investigating employment rates according to education and occupation, among other variables. This section then presents unemployment rates according to different variables as well as the economic participation rates. The section then presents the main existing challenges in the domestic labour supply, through utilising survey results, as well as providing an account on the impact of the Syrian refugee crisis on the domestic labour market. The third section attempts to match the labour supply and demands. The final section concludes and provides suggestions for the way forward.

# Business Environment

Despite the numerous reforms that Jordan has undergone since the early the 1990s, the Kingdom's current business environment has not progressed as anticipated. A weak and unstable legislative environment, coupled with a high growth rate of production costs in the country and a very weak formal access to credit, continue to limit the extent to which the business environment can improve and act as a barrier for growth, and thus, employment.

The World Bank's Doing Business report helps further illustrate the situation. In the latest report (2015)<sup>1</sup>, Jordan ranked 117<sup>th</sup> out of 189 economies, down from the 116<sup>th</sup> rank in 2014. The below chart illustrates Jordan's rank in the various indices of this ranking in both 2014 and 2015.

**Jordan's Rankings Across Sub-indicators of doing Business**



Source: World Bank (2015)

From a regulatory point of view, Jordan is not the easiest place to establish and operate a business as the Kingdom ranks the lowest in terms of enforcing contracts, resolving insolvency, and protecting minority investors. These three issues are strongly related to the legislative environment and thus point towards gaps in Jordan's business enabling legislation, which has been unstable in recent years. Other weaknesses include obtaining construction permits and registering property. On the other hand, Jordan performs relatively well on getting electricity, paying taxes, and trading across borders.

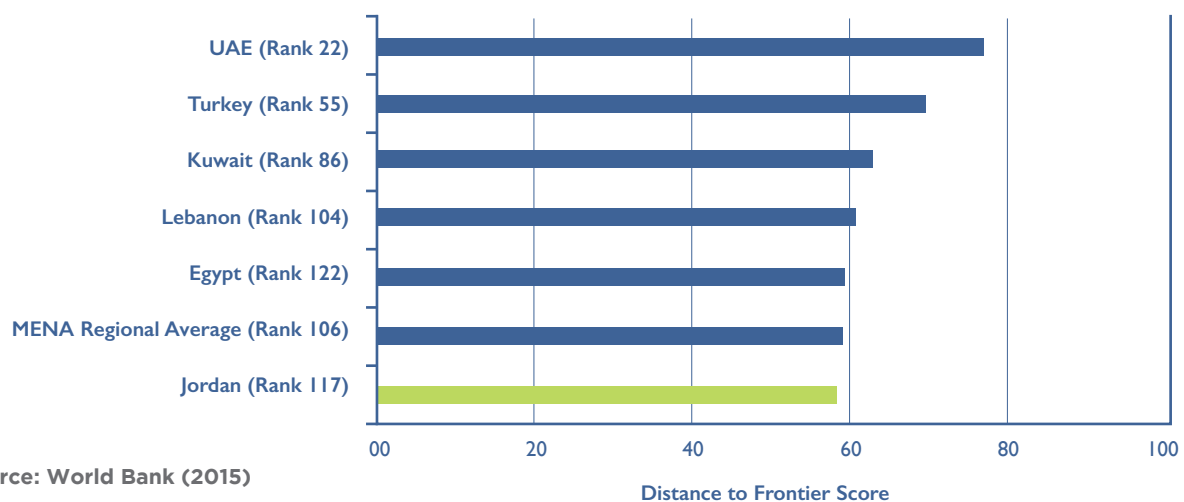
1- World Bank Group (2015) «Doing Business 2015: Jordan Economy Profile 2015.

The most striking feature of Jordan's business environment is the extremely poor performance in terms of access to credit, ranking 185 out of 189 countries. This means that the financial sector is not developed in terms of serving small business needs, which is a major obstacle hindering the growth of the majority of private sector firms, which in turn hinders the rate of job generation. This long standing weak ranking has been validated by a number of recent studies, including a study conducted by the European Bank for Reconstruction & Development (EBRD) which revealed that almost 70% of Jordanian firms that needed a loan were either discouraged from applying for the loan or rejected when they did<sup>2</sup>.

Another issue is the progress of these sub-indicators over time. Because of the changes in the methodologies used by the World Bank across the past years, a comparison can only be made between 2015 and 2014 at this stage. Looking at the two data sets, it can be noticed how Jordan's rank deteriorated in all sub indicators, with the exception of trading across borders. The most significant deterioration was seen in the 'protecting minority investors', for which Jordan's rank reached 154<sup>th</sup>, falling by 11 positions. This is despite the endorsement of a new Investment Law near the end of 2014, which did not grant enough provisions for investor protection, especially with regards to international arbitration.

When comparing Jordan's performance to other countries, results are also disappointing; the below figure charts the ranking and score for Jordan in comparison with a sample of other economies.

**Jordan's Rankings Score on Ease of Doing Business in Comparison with Similiar Econom (2015)**



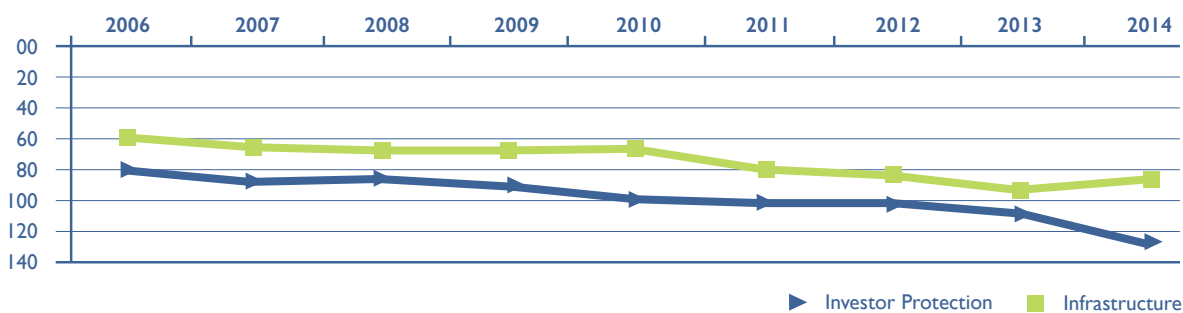
Source: World Bank (2015)

The above chart shows how Jordan's business environment is worse than the regional average and the scores of other similar countries in the region. Jordan's ranking is 11 positions worse than the regional average, and is inferior to other similar economies, including Egypt, Lebanon, Kuwait, Turkey, and the UAE. Moreover, Jordan's score, which measures the distance to frontier,<sup>3</sup> amounted to 58.4, remaining unchanged from 2014.

Other than the Doing Business report, a look at some of the indices for Jordan determined by the global competitiveness index further illustrates some of the deterioration experienced in the Kingdom's business environment. Jordan's ranking in 'strength of investor protection' deteriorated sharply from 78<sup>th</sup> in 2006 to 130<sup>th</sup> in 2014. In terms of the 'infrastructure' pillar of the index, Jordan's ranking deteriorated from 56<sup>th</sup> to 80<sup>th</sup> over the same period. The chart below provides Jordan's annual rankings under these two indicators.<sup>4</sup>

2- Jordan Times (Jul 2015) "Access to Finance Major Concern for Jordanian Businesses  
 3- According to the World Bank, the distance to frontier score shows how far on average an economy is at a point in time from the best performance achieved by any economy on each Doing Business indicators since 2005 or the third year in which data for the indicator is collected. The measure is normalised to range between 0 and 100, with 100 representing the frontier.  
 4- World Economic Forum (2014) (Global Competitiveness Index)

## Investor Protection & Overall Infrastructure Rankings

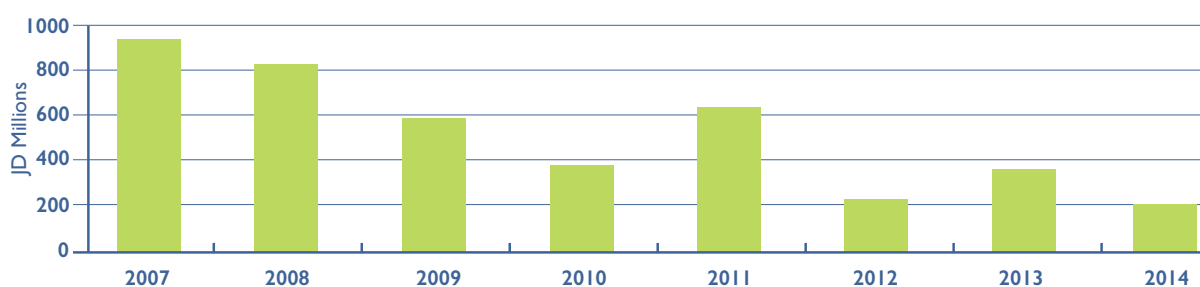


World Economic Forum (2014) "Global Competitiveness Index"

Other than the above information, it should be noted that the private sector in Jordan experienced a surge in production costs over the past few years as a result of the government's fiscal consolidation policy, which was supported by the IMF, beginning in 2012. From 2010 until 2014, energy subsidies were lifted and energy taxes were introduced, in addition to the introduction of or hikes in a number of taxes and fees by the government to boost the level of public revenues in order to cover the large increases in expenditures and debt. Therefore, compared to the period before 2010, a private sector company operating in Jordan is now faced with much higher costs including higher energy and electricity costs, higher storage and transport fees, a 1% customs service fee on exempted intermediary products, higher work permit fees, and higher social security contributions for all workers, among other costs. A new income tax law also raises the burden on the private sector.

These higher costs have inevitably impacted the profitability of private sector companies working in Jordan, which means that there are currently less resources available at companies to invest and expand production and hire more workers. Furthermore, all these high costs do not only impact the propensity of existing businesses to hire additional labour, but also acts as a deterrent for potential investors with job-intensive investments. The below chart displays the value of new capital registered in companies over the past period, and illustrates how new investments have been on a consistent downward trend, with the exception of 2011. The value of investments made in new companies in 2014 was almost 21% of investment made in new companies during 2007, disregarding any price effect. The below figure illustrates the value of new investments in companies in Jordan in recent years.

## Capital Registered in New Companies



Source: Companies Control Department

Such a fall in the size in new investments will inevitably reduce the amount of new jobs generated in an economy, as is shown in the following subsection. The findings of the fieldwork have also validated this connection between investment/growth and employment rates. When companies were asked about the average number of new jobs they generate each year, many companies could not provide an answer and stated that this ultimately hinges on how business is doing in that particular year. Even with regards to the annual number of internship positions offered by companies, many stated that this depends on the amount of new work and number of new projects taken up by the firm.

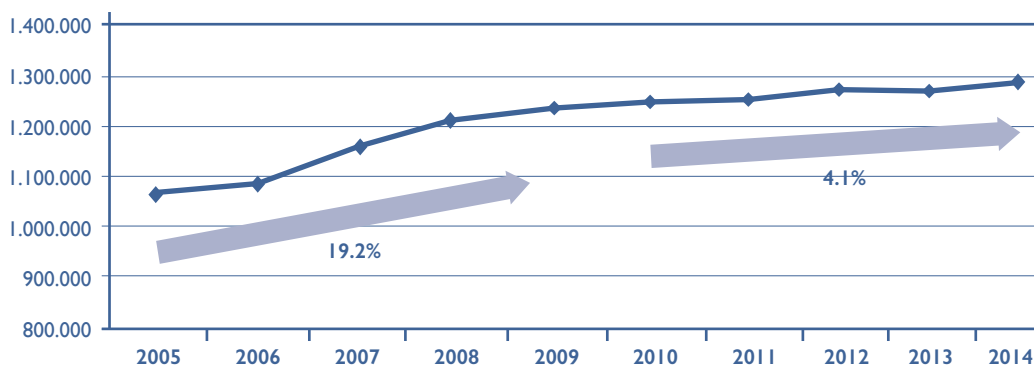
# Labour demand

Labour demand is considered to be a derived demand, meaning that it is dependent on the demand for the products or services that labour produces. In other words, if the demand for certain goods and services increases with time, it is expected that the demand for labour required to produce these goods and services will rise in tandem. Therefore, labour demand hinges on the competitiveness and growth of private sector businesses; the higher the rate of production, the higher the demand for labour needed to increase production. Due to the nature of labour demand, this section will first present an overview of the business environment of Jordan and its progress in recent years, before analysing official labour demand data, supplemented with field findings.

## Employment & Job Creation in Jordan

Labour market data in terms of employment level and the rate of job generation point towards a declining labour demand in the formal labour market, especially in the past 5 years, corresponding with the low rate of economic growth registered over this period. There are a number of ways to investigate labour demand trends, and fortunately, DOS provides data from a number of different sources, including from establishments and workers; according to the employment and unemployment survey, the below figure charts the number of Jordanians in work over the past decade.

Number of Jordanian Workers



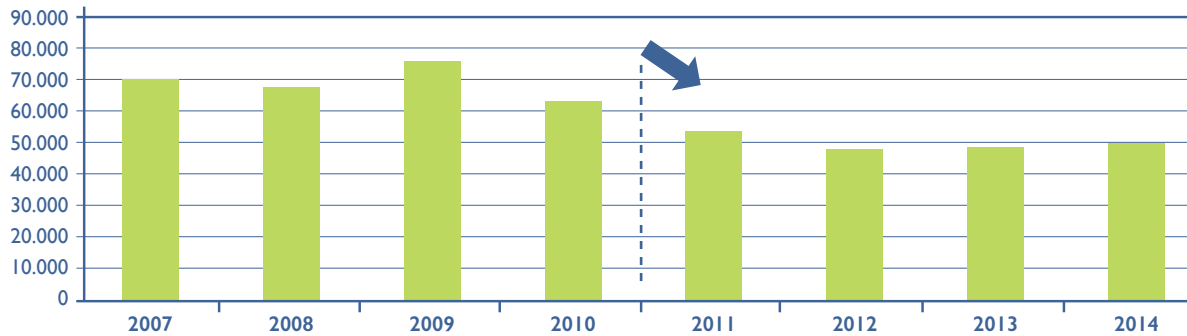
Al-Manar - Compiled from time series results of DOS' Employment & Unemployment Survey

In the decade between 2005 and 2014, the number of Jordanians in employment increased by over 25% or by 263,007 workers, indicating a considerable surge in the demand for labour in this period in accordance with the high economic growth

rates at the time. A careful investigation of this data reveals that the growth rate in the number of workers was much higher in the period between 2005 and 2009 (19.2%) than in the period of 2010-2014 (4.1%), closely following the rate of economic growth of Jordan, which was much higher in the former period. The slowdown in the growth in the number of workers reflects the slowdown experienced in the overall economy.

Another important source of information regarding the overall demand for labour is the job creation survey administered by DOS on semi-annual basis. The annual results of this survey are illustrated in the figure below.

### Net New Jobs Generated Between 2007 and 2010



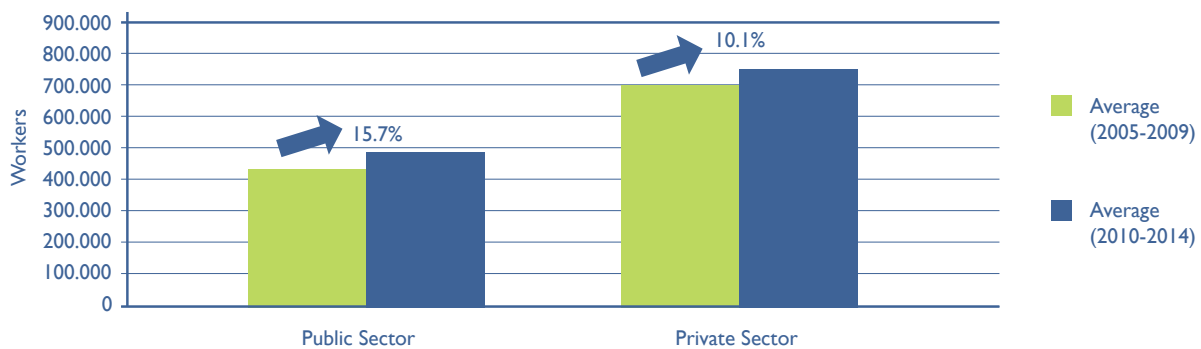
DOS - Job Creation Survey

This chart validates the preceding employment data analysis, and shows how labour demand has dwindled over the past five years<sup>5</sup>. The annual average number of new jobs generated in the four years between 2007 and 2010 is 69,644 jobs compared with an annual average of 49,866 jobs between 2011 and 2014; this indicates a significant decline of 28.4%. This is in accordance with the employment data, which illustrate that the number of workers has been increasing at a decreasing rate, especially after 2009.

## Public and Private Sectors

While the above information provides a general insight into labour demand, a look at the employment levels across different sectors can further shed light on the dynamics driving the demand for labour. But before delving into the specific sectors, it is worthwhile to present the overall trend in both public and private sector employment.

### Workers in Public & Private Sectors



Al-Manar - Compiled from time series results of DOS' Employment & Unemployment Survey

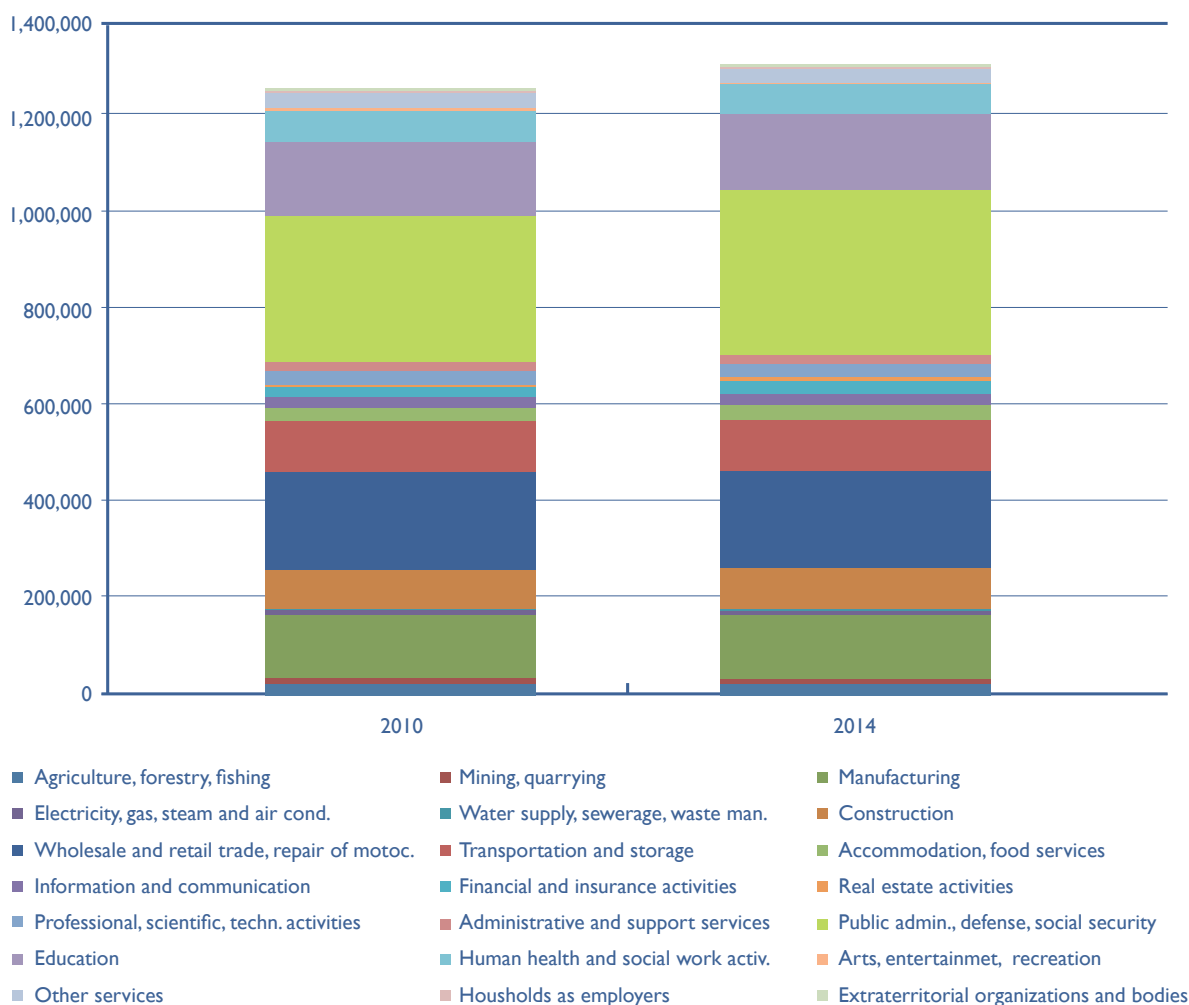
5- Job creation data is available only from 2007

Employment in the public sector is still growing at a rate higher than private sector employment, in spite of a decision made in 2010 to freeze the public sector’s hiring except for the Ministries of Education, Health and Social Development. Based on an annual average of a 5 years period, the number of workers in the public sector grew by 15.7% from (2005-2009) to (2010-2014), compared with a growth of 10.1% for the private sector.

This translates into an increase in the share of public sector employment from 36.3% of all workers in the private and public sector in 2005 to 39.3% in 2014. This means that the share of workers employed by the private sector dropped from 63.7% to 60.7% over the same period, which indicates that the share of public sector employment will eventually surpass the share of private sector employment if these rates didn’t change.

The chart below displays the number of Jordanians working in each economic sector in 2010 and 2014.

**Number of Jordanian Workers According to Sector 2010, 2014**



Al-Manar - Compiled from time series results of DOS’ Employment & Unemployment Survey

This data reveals that out of the 21 sectors mentioned above, eight sectors witnessed an increase in the number of Jordanian workers, indicating a positive demand for labour. These sectors are presented in the following table:

| Sector                           | Growth in Number of Jordanian Workers (2010 - 2014) | Number of Workers by 2014 |
|----------------------------------|---|---------------------------|
| Manufacturing                    | 1.5%  | 131,088                   |
| Education                        | 1.9%  | 152,956                   |
| Construction                     | 7.2%  | 85,335                    |
| Public Administration & Defence  | 13.2%   | 336,565                   |
| Accommodation & Food Services    | 16.5%   | 31,864                    |
| International Organisations      | 29.2%   | 5,716                     |
| Financial & Insurance Activities | 34.6%   | 27,440                    |
| Real Estate Activities           | 47.2%   | 7,305                     |

Therefore, in the five years between 2010 and 2014, the above sectors witnessed an increase in the number of Jordanian workers, while all other sectors witnessed a decrease over the same period. The labour growth seen in the real estate and construction sectors was a result of the recovery in this sector over the period under consideration. However, it should be noted that the actual (absolute) number of workers in the real estate sector in specific is one of the lowest, given that the sector is not labour-intensive. Also, despite the growth in the number of Jordanian workers in the construction sector, this sector is still dominated by migrant workers, many of which are working informally.

The financial and insurance sectors has been growing steadily over the past few years which has translated into hiring more labour in this sector, which is not particularly considered to be labour intensive such as manufacturing or construction, but still provides a good share of employment. Moreover, the increase in the number of workers in international organisations (e.g. UN agencies) was a result of the big expansion in the work of humanitarian and relief international organisations in Jordan in response to the escalating crisis in neighbouring countries and given that Jordan has been the most stable country in the region over this period, allowing for the establishment of regional offices for many of the international organisations.

The increasing number of workers in the education sector represents the increased demand for teachers and other education staff, stemming from the influx of a large number of Syrian refugees to Jordan, which created demand due to the increase in the number of students. This sector provides a major source of employment for Jordanians given its labour needs, particularly given the restrictions on employing guest workers in this sector. The increase in the number of Jordanian manufacturing workers was the result of the recovery of this sector after 2011, but the sector's production is currently being challenged by government policies that have increased production costs.

In the period under consideration, the manufacturing sector, especially the clothing subsector which dominates the Qualifying Industrial Zones (QIZs) in Jordan, has received much criticism regarding the large share of foreign workers employed in these factories. The companies operating in this sector have put additional efforts to employ more Jordanians, which also explains the rise in the number of Jordanians working in the manufacturing sector. Such a sector is crucial for employment generation, given its labour-intensive nature.

The increase in the number of Jordanians working in the accommodation and food services sector illustrates the importance of the tourism sector in generating jobs, given its vast linkages with almost all sectors. The tourism sector still has abundant room to expand employment, given that tourism promotion efforts are intensified. However, the instable region is main limiting factor of this sector and its employment rates in the current time.



Finally, it is interesting to see the ‘public administration and defence’ sector as one of the top sectors that saw an increase in demand. Despite the freeze in public sector hiring that began in 2010, the number of workers employed in public administration and defence increased by 13.2% or by 39,117 workers over this period, to reach 336,565 workers, the highest among all other sectors, employing more than double the number of Jordanians working in education.

The results of a comparison in job creation data for both 2014 and 2010 closely conform to the above information. The sectors, which registered a positive growth in the annual number of jobs created between 2010 and 2014, include:

| Sector   | Growth in Net New Jobs (2010, 2014) | Number of Net New Jobs Generated in 2014 |
|--|-------------------------------------|--|
| Public Administration & Defence                      | 15.9%                               | 13,416                                   |
| Accommodation & Food Services                        | 16.1%                               | 3,578                                    |
| Wholesale and Retail Trade; Repair of Motor Vehicles | 18.0%                               | 9,514                                    |
| Construction   | 21.1%                               | 965                                      |
| Transport & Storage                                  | 21.8%                               | 1,571                                    |
| International Organisations                          | 64.9%                               | 655                                      |
| Mining and Quarrying                                 | 67.8%                               | 264                                      |

From the table above, it is interesting to see that the sector that generated the highest number of jobs in 2014 was the public administration and defence sector, generating 13,416 job of all net new jobs created in that year. This was followed by the ‘wholesale and retail trade, and repair of motor vehicles’ sector which created a total of 9,514 net jobs in 2014.

As for the sectors targeted in this study (ICT, Health and Green Energy), our survey, conducted in 2015, clearly demonstrates that these sectors are contributing significantly to job creation in Jordan. Regarding current job openings, of the 57 companies surveyed, 57.9% indicated that they are currently offering vacancies with an average of 4.9 vacant positions per company, which indicates a strong demand for labour by the surveyed companies in the ICT, health, and green energy sectors. The breakdown of these results, according to sector, is presented in the following table.

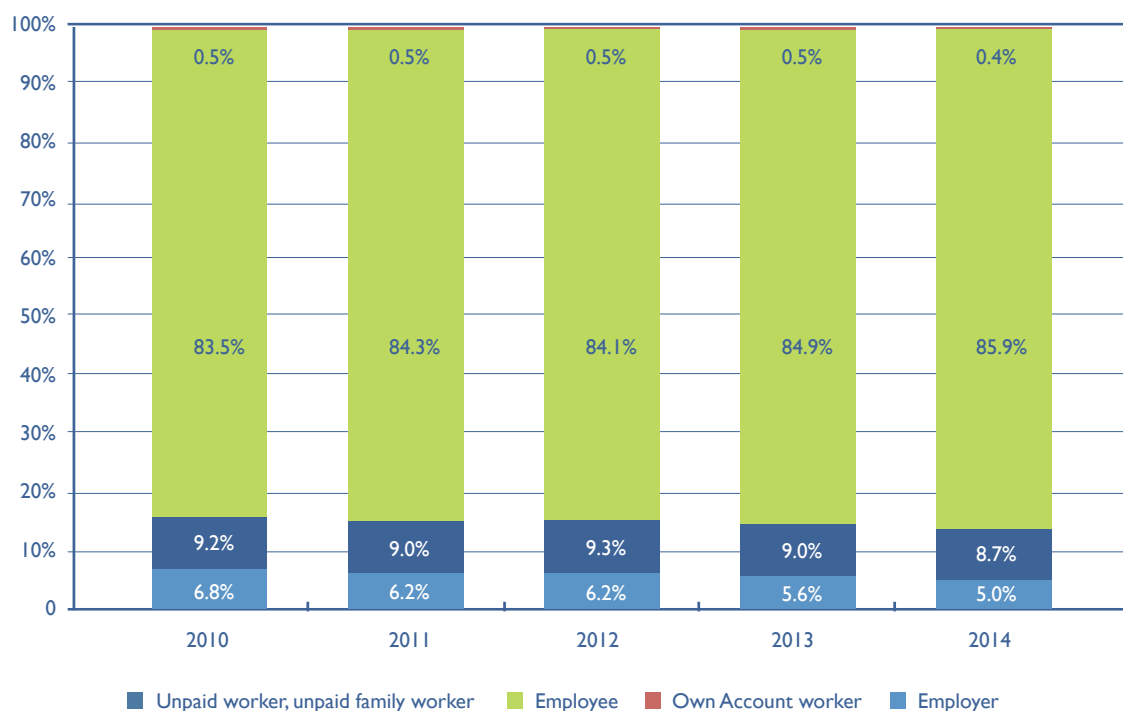
| Job Openings  |       |        |              |
|---|-------|--------|--------------|
|   | ICT   | Health | Green Energy |
| Share of surveyed companies currently offering job vacancies                  | 39.1% | 40.9%  | 50%          |
| Average number of vacancies of surveyed companies that are offering vacancies | 6.3   | 4.6    | 2.3          |

The green energy sector registered the highest share of companies with job openings, followed by the health sector and then the ICT sector. Interestingly the average number of vacancies per each company with a job opening followed the opposite trend with only 2.3 vacant positions for the green energy sector, followed by the health sector with 4.6 vacant positions, and then the ICT sector with 6.3 positions. Such a trend corresponds with the structure of each of these sectors in terms of size and number of companies.

## Employment status

An investigation of the trends in employment status of Jordanian workers over time can shed light on the status of entrepreneurship and business creation in Jordan, which remains to be the top generator of jobs on the global level. The following chart illustrates the number of Jordanian workers according to the type of job.

Employment Status of Jordanian Workers (%)



AI-Manar - Compiled from time series results of DOS' Employment & Unemployment Survey

The above charts reveal a striking trend: the share of employers out of the total number of working Jordanians has consistently declined during the past five years, from 6.8% in 2010 to 5% in 2014. Similarly the share of own-account workers fell from 9.2% to 8.7% over the same period, and the share of unpaid workers fell slightly as well. These reductions translated into an increase in the share of paid employees, which slightly rose from 83.5% in 2010 to 85.9% in 2014.

Such a small development paints a gloomy picture for the future progress of job creation, as innovation and entrepreneurship, which leads to start-ups are closely linked to the rate of job creation in any country. The reduction in the share of employers would eventually lead to a reduction in labour demand.

## The Informal Sector

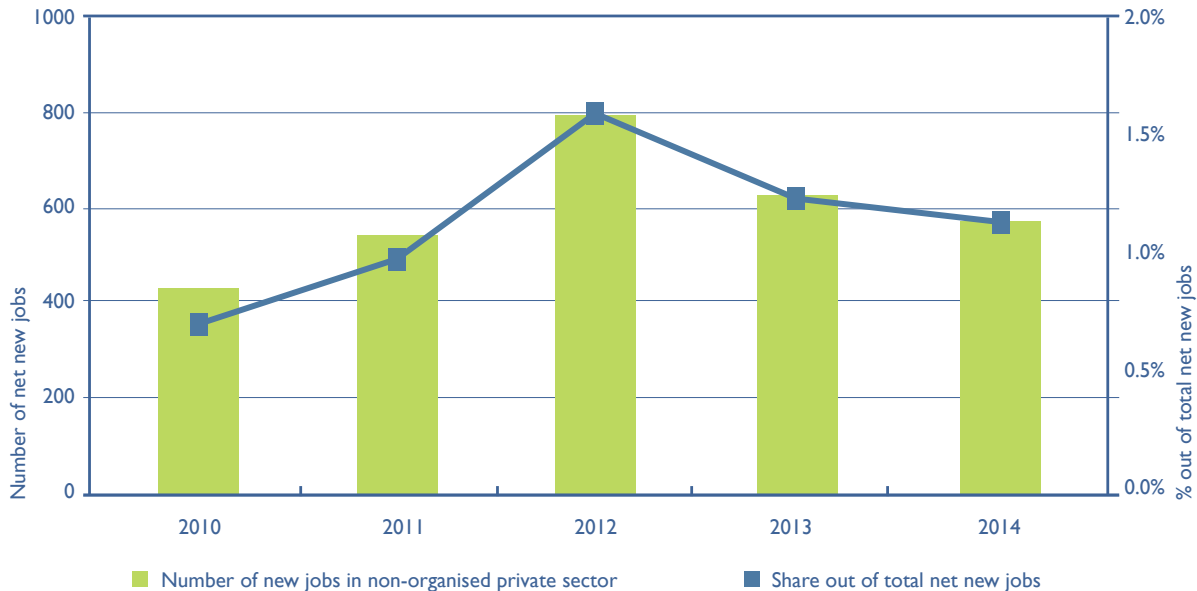
In this analysis of labour demand, the informal sector must not be neglected as it is considered to be an employer of a large number of Jordanians and non-Jordanians. Unfortunately, measuring the extent to which the informal sector contributed to overall labour demand is impossible, as periodic information and data on informal employment does not exist.

However, a comprehensive study was undertaken a few years ago, providing the most recent estimate of informal work in Jordan. The study that was carried out by the Jordan Economic and Social Council in cooperation with the UNDP and the Spanish Agency for International

Development Corporation found that 44% of total employment in Jordan is informal, revealing a large and increasing rate of informal employment.<sup>6</sup>

Nevertheless, a proxy indicator can be used to scope for the trends in informal employment. The below chart displays the share of net new jobs created by the ‘non-organised’ private sector, as determined by DOS, which is closely associated with informal working.

### Net New Jobs in Non-Organised Private Sector



### DOS - Job Creation Survey

The above chart shows how the rate of job creation in the non-organised private sector is significant, with a total of 826,000 net new jobs generated by this sector in 2012. However, it is important to note that this indicator is not intended to accurately measure the informal work sector, and is therefore considered to be highly under representative of informal employment, especially that there is no clear definition of the informal sector in Jordan.

## Migrant Labour

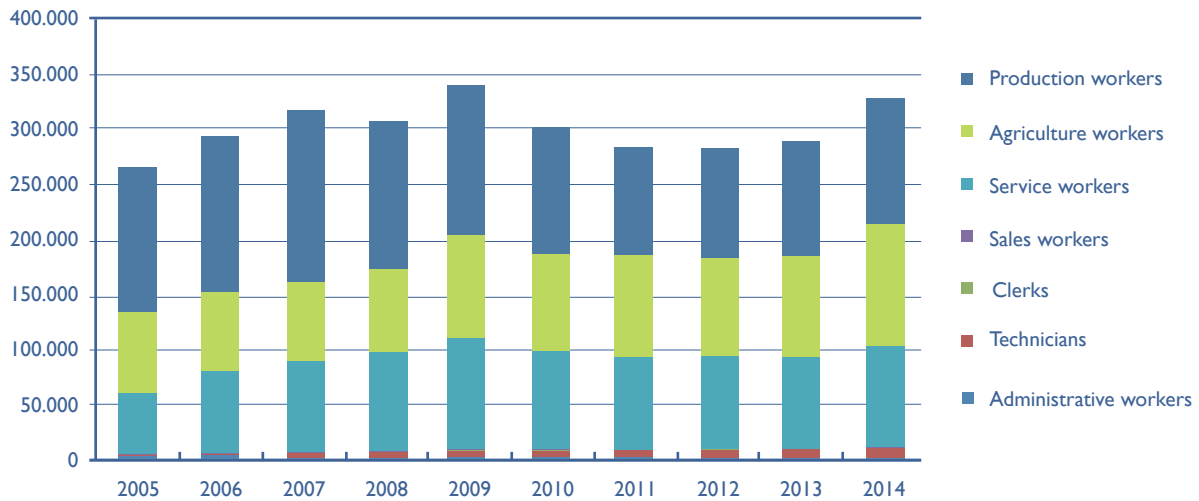
Since the 1970s, Jordan has received migrant workers in order to meet the labour supply shortage that existed at that time, especially for low-skilled labour. Until today, a majority of construction, agriculture and manufacturing workers are non-Jordanian.

However, such migratory patterns changed with time, particularly in the past few years as a result of the influx of Syrian refugees into Jordan, which has put upward pressure on the informal labour supply in Jordan, at a time when labour demand or economic growth has been already low.

The next chart presents the numbers of registered foreign workers (with valid work permits), according to occupations.

6- Ministry of Planning, UNDP, Economic & Social Council, AECID (2012) "The Panoramic Study of the Informal Economy in Jordan"

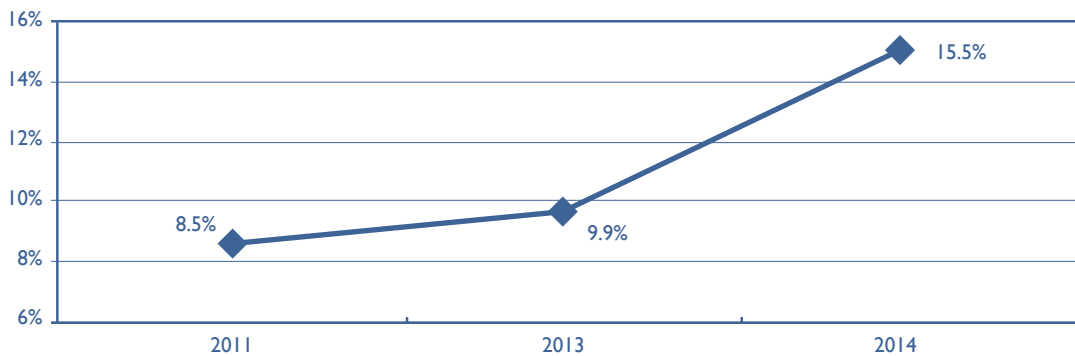
### Non-Jordanian Workers According to Occupation



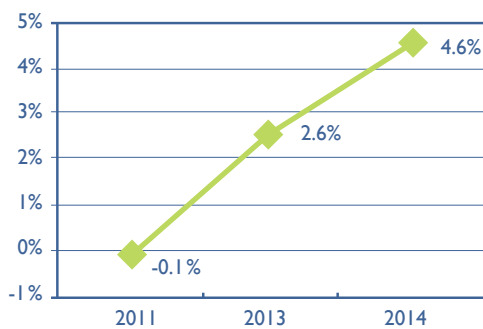
Registered foreign workers are heavily concentrated in the manufacturing, agriculture and service industries (including construction). In terms of the total number of registered foreign workers in Jordan, it has remained relatively stable throughout the past decade, with a slight growth in the first period between 2005 and 2009 followed by a decline in the following four years, and ending with an increase in 2014. This increase during 2014 is likely a result of the intensification of the authorities' campaign to crackdown on illegal employment across Jordan. Therefore, it is likely that the additional workers have moved from a state of unregistered employment to registered employment with valid work permits.

Results of the job creation survey administered in the years during which large numbers of refugees came to Jordan is shown in the below figure.

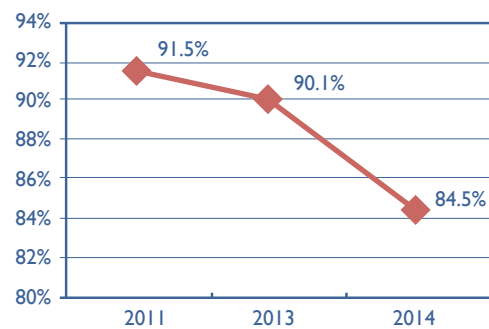
### Share of net new jobs obtained by non-Jordanians



### Syrian Share in New Employment



### Syrian Share in New Employment



The share of net new jobs taken up by foreign workers increased significantly between 2010 and 2013, which was the period in which the influx of Syrians refugees was highest, but the majority of these new jobs are in the informal sector; the share of jobs obtained by Syrian nationals surged from 0.1% in 2011 to 4.6% in 2013. This drop was accompanied by a drop in the share of jobs obtained by Jordanians, from 91.5% to 84.5% over this period, but it can't be directly linked together due to the different sectors the two groups work in.

Field research investigated the extent to which companies are hiring foreign workers, and the findings in these three sectors seems to reflect broader trends of hiring foreign labour. However, it should be acknowledged here that while this data provides useful insights into the issue of foreign employment, underreporting of this information is expected, given the strict restrictions on employing foreign labour in many sectors in Jordan. Despite this, the fieldwork found a considerable rate of foreign employment in the surveyed companies, where almost 65% of all companies currently employ at least one foreign worker, and the share of foreign workers out of total workers in these companies reached 11%. The table below presents the results, according to sector.

| Employment of Foreign Workers                                       |       |        |              |
|---|-------|--------|--------------|
|   | ICT   | Health | Green Energy |
| Share of surveyed companies that employ foreign workers             | 52.2% | 77.3%  | 66.7%        |
| Share of foreign workers from total workforce of surveyed companies | 9.8%  | 7.2%   | 8.7%         |

The above shares are similar in extent and show a significant demand for foreign labour in these sectors. A notable difference however, is the high share of health companies that employ foreign workers compared to ICT companies. It is important to note here that many companies that indicated employing foreign labour mentioned that most foreigners were employed in non-technical positions such as cleaners. The issue of foreign employment in the wider context of the domestic labour market is analysed in more detail in the third section.

## Education level

On average, the share of university graduates out of the total number of workers in surveyed companies was over 80%, which indicates the need for university degrees to be employed in these sectors. On the other hand, the research found that on average, the share of vocational graduates out of the total number of workers is only 4.6%. This share was particularly higher for green energy companies at 8.3% due to their need for workers to install, operate and maintain green energy systems among other such vocational tasks.

Moreover, a significant portion of labour demand from these companies is for recent graduates, as 89.5% of surveyed companies indicated that they hire recent graduates and the share of the recent graduates hired by the companies amounted to 35.8%, broken down according to sector:

| Hiring Recent Graduates                                |     |        |              |
|--|-----|--------|--------------|
|  | ICT | Health | Green Energy |
| Share of surveyed companies that hire recent graduates | 87% | 95.5%  | 83.3%        |
| Share of recent graduates hired by surveyed companies  | 37% | 38%    | 28.8%        |

The above information shows how the health sector tops the list in terms of the share of companies that hire recent graduates, at 95.5%, followed by the ICT sector with 87% and the green energy sector with 83.3%. Moreover, the green energy companies were found to hire the lowest share of recent graduates at 28.8%, compared to similar level for both ICT and health companies with 37% and 38% respectively. This shows how the green energy sector stands out from the other two in terms of requiring further education and experience for their needs, which might reflect a shortcoming of the education system in Jordan in terms of keeping up with the market developments of each sector. As for the health sector's high employment of recent graduates, this is due to the significant amount of practical training students receive in medical majors, whether during their studies or afterwards.

Regarding the overall non-technical job positions, the survey found that 57% of ICT firms hire graduates from ICT-related backgrounds, regardless of the job description; 34% choose graduates of business administration, accounting, marketing and finance which are suited for the non-technical positions. On the other hand, only 4% of the surveyed health companies choose graduates from non-technical backgrounds; of them, 58% choose graduates of business administration and accounting backgrounds, and 11% chose graduates with secretarial backgrounds. For the green energy sector, 50% of companies choose graduates from green-energy related academic background, and 42% of the companies choose graduates of business administration and IT backgrounds.

The fieldwork of this research investigated the skills needed by each of the surveyed sectors. The results are shown in the following table according to the most cited responses:

| Skills in Demand                             |   |                                      |
|--|---|--------------------------------------|
| ICT  | Health  | Green Energy                         |
| Communication skills.                        | Communication skills  | Communication skills                 |
| Time management                              | Precision at work   | Technical knowledge                  |
| Programming, IT and technical skills         | Computer skills in general and health related computer skills (health software operation) | Ability to work under pressure       |
| Working under pressure and stress management | English language  | Computer skills                      |
| English language skills                      | Being presentable (appearance)  | Precision at work                    |
| Analytical skills                            | Time management   | Practical knowledge                  |
| Problems solving skills                      | Working under pressure  | Commitment                           |
| Self-learning skills and self-improvement    | Stress management   | Time management                      |
| Fast achievement                             | Teamwork  | English language                     |
| Commitment                                   | Interpersonal skills  | Fast learning                        |
| Focus and promptitude                        | Confidentiality   | Fast performing                      |
| Focus and patience                           | Prioritization  | Like the sector/working in the field |
| Creativity                                   | Leadership skills   | Fast thinking                        |
| Negotiation skills                           | Discipline  | Problem solving skills               |
| Business writing                             | Honesty   | Self-awareness and self-confidence   |
| Presentation skills                          | Having strong work ethics   | Being organized                      |
| Working within a team                        | Creativity  | Being a team player                  |
| Innovation                                   | Being fast at accomplishing tasks   | Ability to present and follow-up     |

# Labour Supply

The supply of labour is generally defined as the availability of suitable human resources in a particular labour market. In economic theory, the supply of labour is the total number of hours that workers are willing and able to work at a given wage rate. In most instances, the supply of labour is considered to be the output of the country's overall educational system, whether academic or vocational. Economic participation has been traditionally low in Jordan, but the number of annual additions to the labour force is increasing, mainly due to the increase in demand by the public sector.

This section will begin by investigating the outputs of the educational system in Jordan, and then move on to investigate the employment market according to workers' level of education, followed by an investigation of trends of unemployment, particularly as it pertains to university graduates. The section will also present the major challenges facing the domestic labour supply.

## Outputs of Education

The educational system in Jordan has been traditionally considered as one of the best in the region, and the Jordanian human capital is one of the most valuable resources for Jordan. Nevertheless, the quality of education has been under questioning in recent years, and has also not been able to keep up with labour market developments, mainly due to the lack of communication or/and collaboration between the educational institutions and the labour market.<sup>7</sup>

The number of university and college graduates in Jordan amounted to 64,092 during the academic year 2013/2014, increasing by 2.8% from the number of graduates during the preceding academic year. Moreover, the number of graduates from the institutes of the Vocational Training Corporation amounted at 8,358 in 2014, which brings up the total number of graduates entering the labour market in 2014 to 72,450 graduates in total.<sup>8</sup>

However, it is worth acknowledging that this number may be underestimating the actual annual of labour supply entering the labour market in 2014, because it excludes:

- Graduates of informal education (i.e. informal vocational training).
- Graduates of foreign universities returning back to Jordan to seek employment.
- School graduates not pursuing further education.
- Large number of refugees arriving in Jordan over the past few years (mainly increasing informal labour supply).

7- For further information and details on the challenges of the Jordanian education system, please see: Identity Center (2014) "Economic Challenges in Jordan"  
8- Al-Manar- Higher Education Database

Having said that, these exclusions might be offset by factors including:

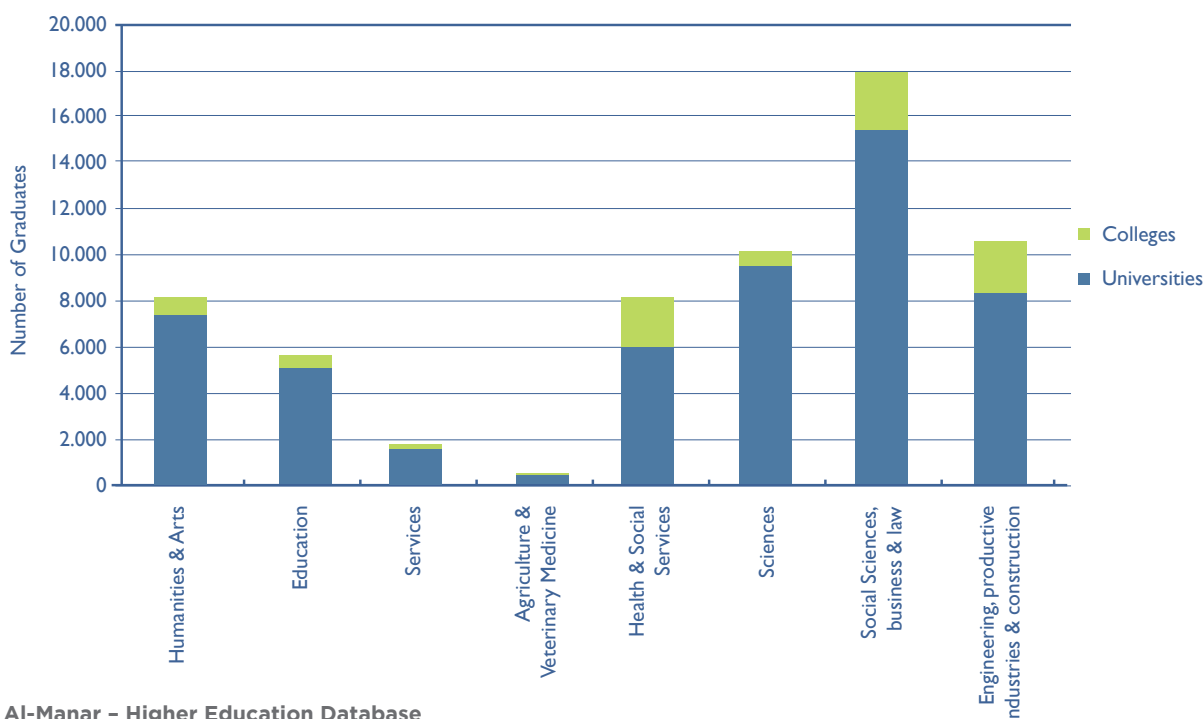
- Graduates who leave the country to work abroad.
- Graduates who pursue higher education.
- Discouraged workers or Graduates who did not enter the labour market in search of employment.
- Graduates joining the informal sector.
- Increased enrolments in school by children aged (16-19).

Therefore, given both the inclusion and exclusion considerations mentioned above, it is expected that the actual increase in the Jordanian labour supply will be in the range of 70,000 people. This figure of course excludes non-Jordanians, for which official figures are unavailable, and also excludes many Jordanians working in the informal sector.

However, official figures (employment and unemployment) actually reveal a very slight decrease (0.3%) in the labour force during 2014, which is only partly explained by the number of retirees which amounted to 12,367 according to official data from the Social Security Corporation. However, this is not sufficient to explain the slight drop in the labour supply, which might therefore indicate an increase in informal employment and/or the number of discouraged workers.

The following chart illustrates the total number of university and college graduates in Jordan in the academic year of 2013/2014, according to specialisation.

**University & College Graduates (2013/2014)**



AI-Manar - Higher Education Database

The above diagram shows that the majority of graduates during 2013/2014 had specialised in social sciences, business and law, with a total of 18,319 graduates, making up 28.5% of all university and college graduates. This was followed by engineering and construction specialisations with a total of 10,790 graduates (16.8%), and sciences with a total number of 10,372 (16.2%); as for vocational training, 61% of the graduated were in skilled work, 35% in semi-skilled work, and only 4% graduated as craftsmen.

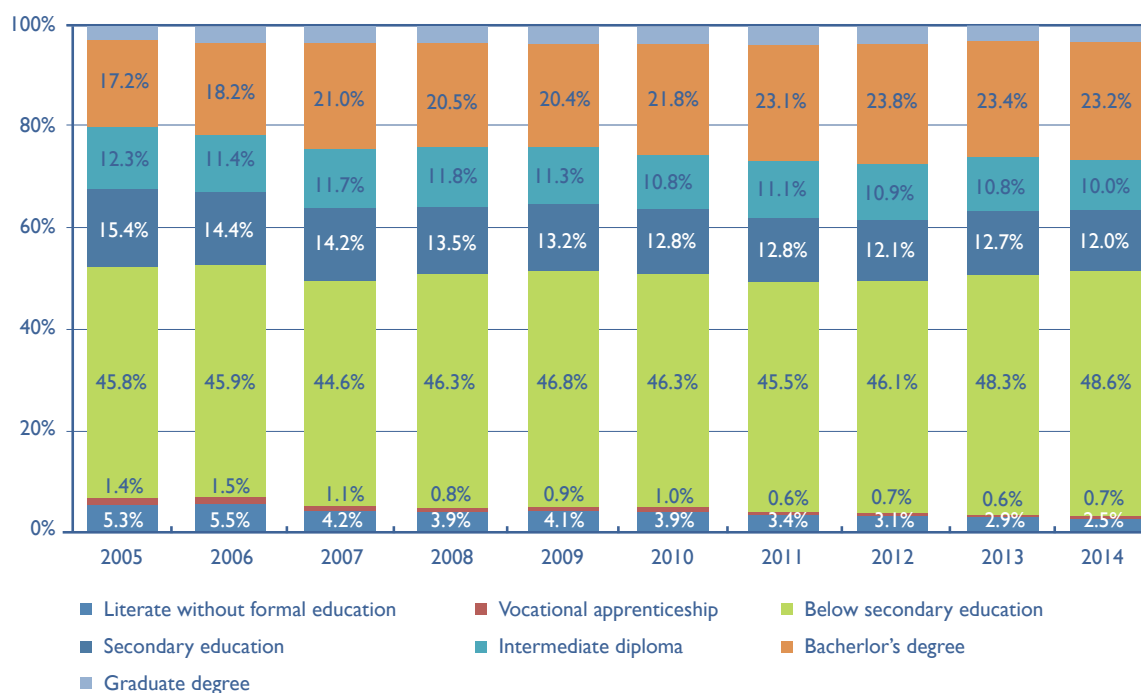


## Employment of Labour Supply

### According to Education Level

Investigating the employment and unemployment rates of the current working population helps in developing an understanding of how the supply of labour integrates into the domestic labour market. The chart below presents the total number of employed Jordanians, according to their different education levels.

Employed Jordanians According to Education Level



AI-Manar - Compiled from time series results of DOS' Employment & Unemployment Survey

The chart above reveals very important information on the composition of employed workers throughout the past decade according to different levels of education. A number of trends can be inferred from the data. First of all, the share of workers holding bachelor's degrees surged by six percentage points from 17.2% in 2005 to 23.2% in 2014, the highest percentage increase across all educational levels; this points towards a large increase in the share of university education in the total labour supply.

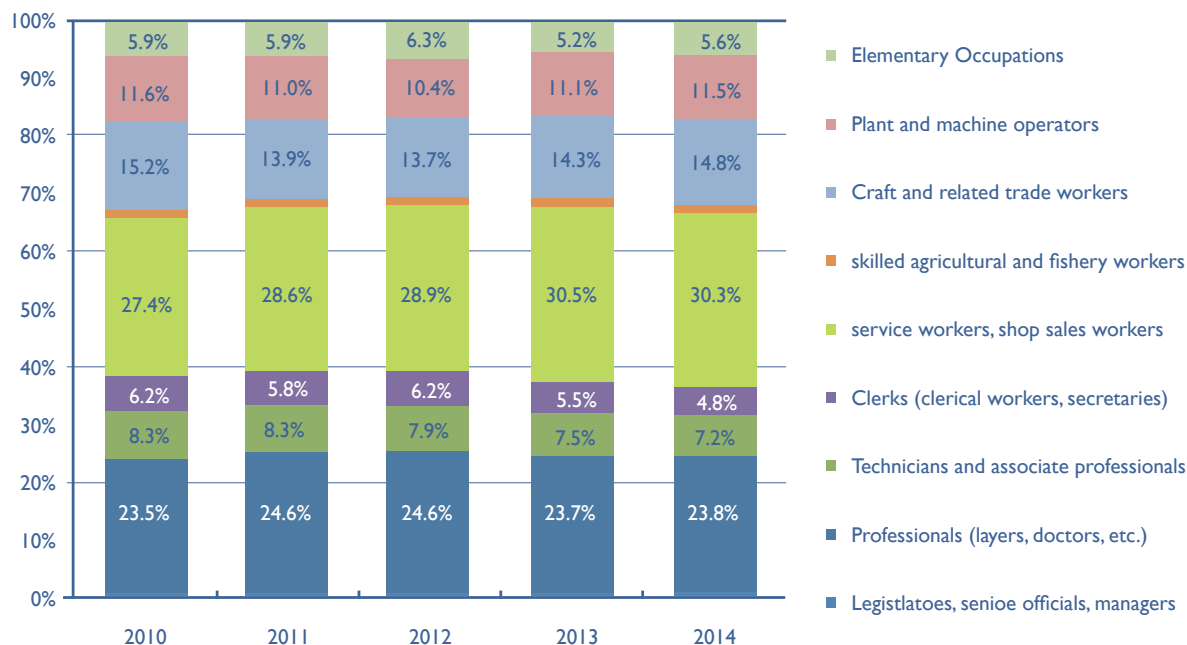
Another interesting trend to note is the increasing share of workers below secondary education, from 45.8% to 48.6% over the same period, marking the largest percentage of workers according to educational level. However, the share of literates without formal education declined substantially from 5.3% to 2.5%, which points towards higher enrolment rates into basic education, thereby explaining the rising share of workers below secondary education. In turn, the shares of workers with secondary education and workers with intermediate diplomas have also declined over the same period, as more and more school graduates are enrolling into further education at universities, which also feeds back in explaining the rising share of workers having attained bachelor's degrees.

Finally, the chart above illustrates the very low and declining share of workers with vocational education or training from 1.4% in 2005 to 0.7% in 2014, this point towards low enrolment rates and interest in vocational education and training in Jordan.

## Employment According to Occupation Levels

Having presented the educational structure of the labour working force, it is crucial to establish links with the occupations held by Jordanian workers. The below chart presents Jordanian employment according to occupation<sup>9</sup>:

### Employed Jordanians According to Occupation



AI-Manar - Compiled from time series results of DOS' Employment & Unemployment Survey

Given the data limitations in terms of occupational breakdown, only a few clear trends can be observed from the above chart. The share of service and shop workers increased from 27.4% in 2010 to 30.3% in 2014, along with the drop in the share of technicians and associate professionals from 8.3% to 7.2%. The increasing share of service workers corresponds to the increasing share of workers with education below secondary level, as shown above. Moreover, the declining share of technicians and associate professionals points towards the low share of workers with vocational education or training, which was also demonstrated earlier.

What is interesting to note here is that the increase in the share of workers with bachelor's degrees over the period between 2010 and 2014 did not translate into an increase in the share of professionals, as can be noted in the above charts. As will be illustrated in the next section, this has been the main sources of unemployment in the past decade, since a large share of those who are unemployed are university graduates.

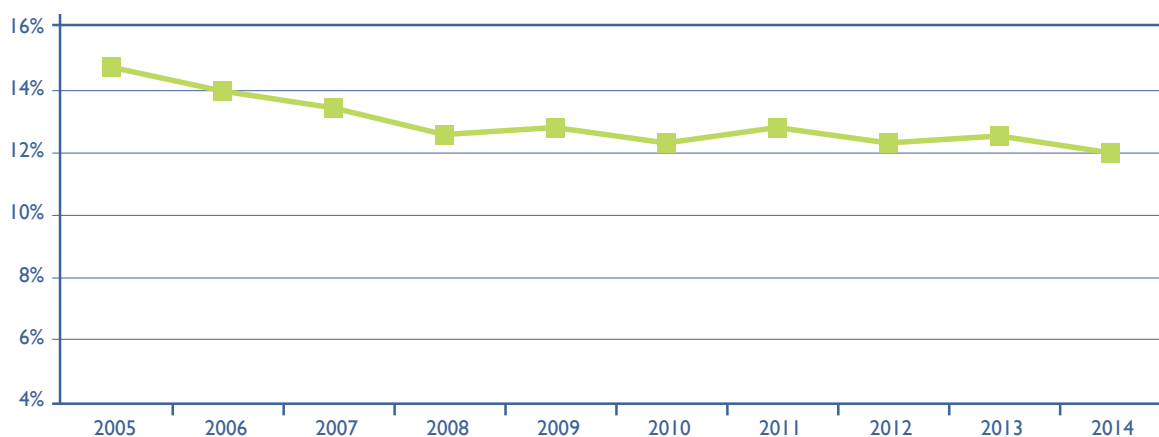
## Unemployment and Economic Participation

A simple comparison between the number of net new jobs being generated annually and the number of graduates entering into the labour market reveals the seriousness of the situation. During 2014, more than 70,000 graduates are estimated to have entered the labour market, while the number of net new jobs generated during that year did not exceed 50,000. In other words, the demand for labour from the formal private sector is not sufficient to meet the expanding supply.

The next chart presents the unemployment rate of Jordanians over the past decade.

<sup>9</sup>- Due to the change in methodology used to calculate this indicator, data calculated under the same methodology is available only from 2010.

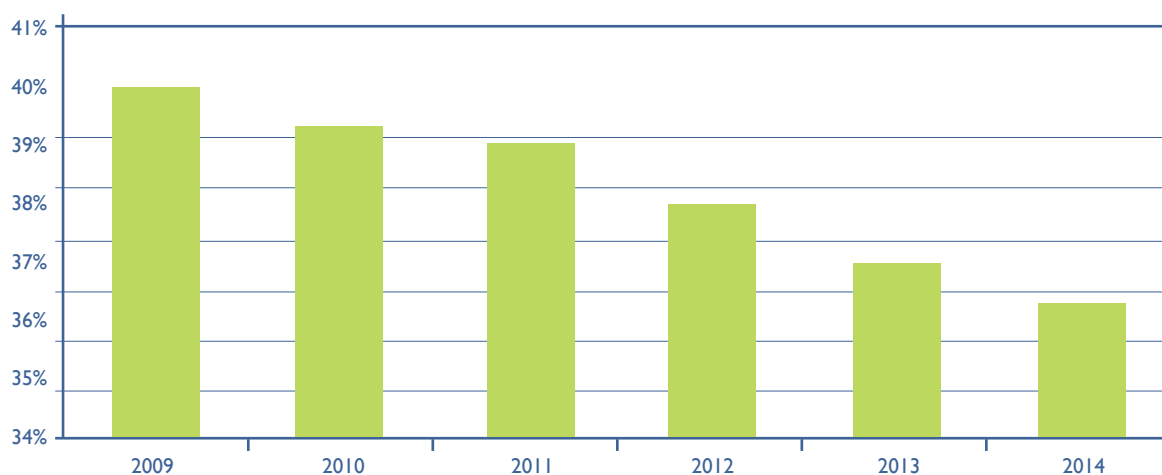
## Unemployment Rate (%)



DOS - Employment and Unemployment Survey

The unemployment rate improved from 14.8% in 2005 to 12.7% in 2008, the period in which the Jordanian economy was also growing significantly. However, since 2009 the unemployment rate has been fluctuating around 12% with a slight drop to 11.9% in 2014. While this may be perceived as an improvement at first sight, it actually points towards a declining economic participation rate, as can be seen from the below figure.

## Economic Participation Rate (%)



DOS - Employment and Unemployment Survey

The unemployment rate cannot be viewed in isolation, but should rather be analysed along with other labour market indicators, the most important being the economic participation rate. The chart above illustrates the sharp fall in the economic participation rate from 40.1% in 2009 to 36.4% in 2014. This stands in stark contrast with the youth-dominated demographic structure of the Jordanian society, and gives an indication to a range of possibilities including the increase in informal work, the increase of the number of discouraged workers and labour immigration to better opportunities abroad.

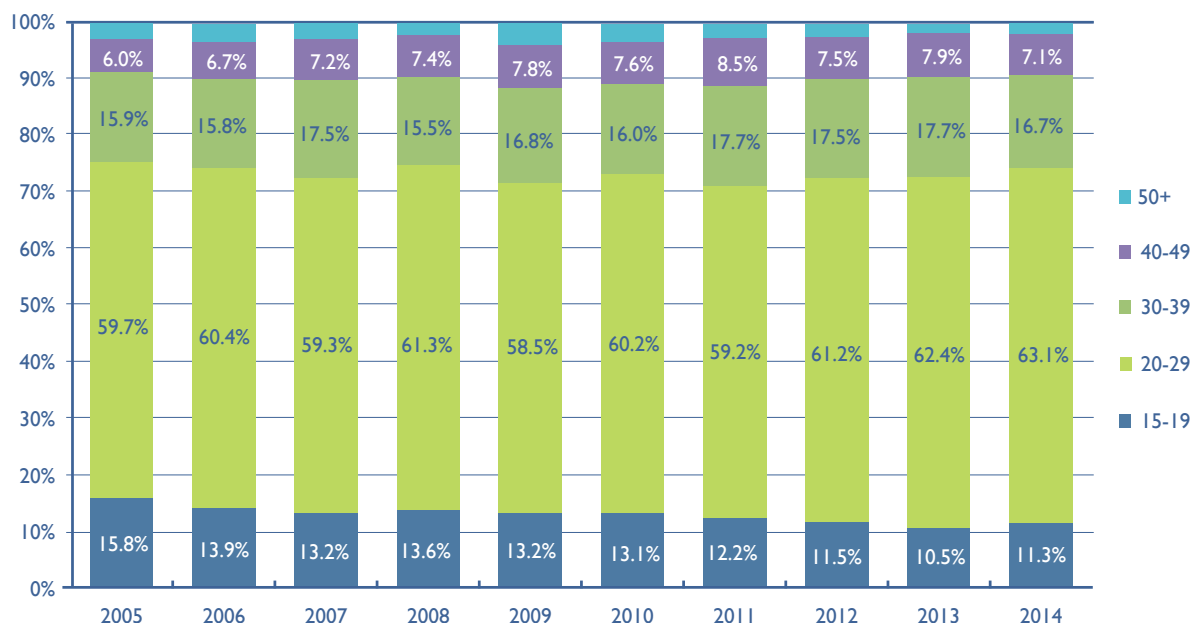
However, other factors such as the rate of discouragement among workers cannot be neglected. According to DOS, including discouraged workers raises the unemployment rate in 2014 from 11.9% to 16.2%, where the share of discouraged workers from the total labour market amounted to 2.8%, up from 2.5% in 2010. The reasons behind discouragement include the belief that there are not enough job openings in the labour market, or the inability to find a suitable job according to

one's academic qualifications; in addition to depending on the support of relatives either working inside or outside the country.

Nevertheless, it is important to point out that any change in the unemployment rate must be analysed along with the economic participation rate because the unemployment rate alone might cause misleading interpretations. For example, if the economic participation rate had not declined over the past six years, the formal labour force would have been significantly larger than it currently is, and in turn, the official unemployment rate would have registered an upward trend over this period because of the potential increase in the number of job seekers under this scenario.

Having clarified this issue, the structure of the existing unemployment will now be analysed in order to investigate the driving forces behind the misalliance between labour demand and labour supply. The below chart presents unemployment according to age group.

**Distribution of Unemployed Jordanians According to Age Group**

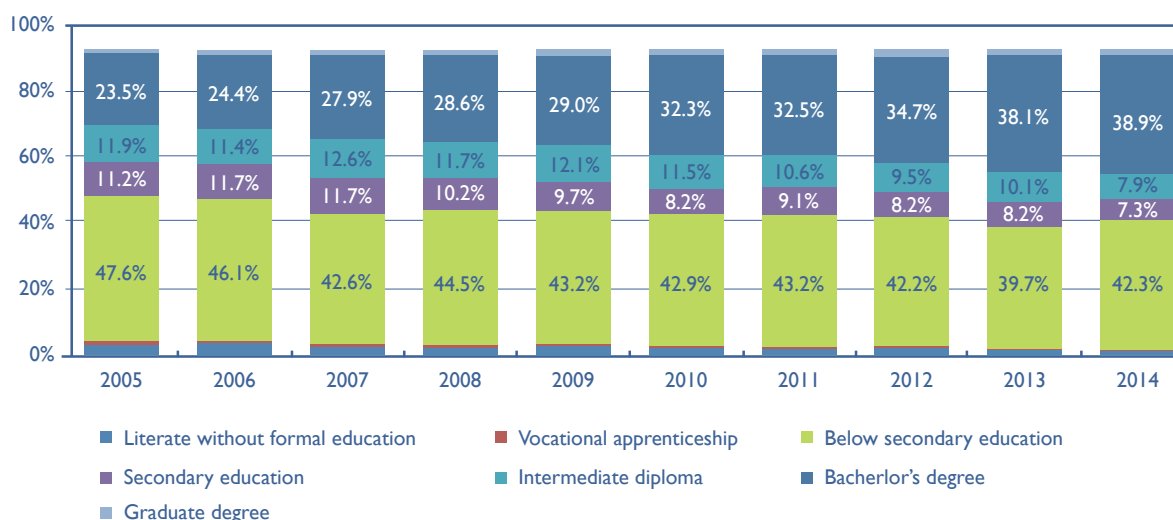


Despite the reduction in the overall unemployment rate in 2014, the above figure shows an increasing share of unemployed youth out of the total unemployed over the past five years, thereby illustrating the seriousness of the situation of youth unemployment in Jordan. By 2014, unemployed youth (aged 15 to 29) made up 74.4%, almost three quarters of the total number of the unemployed in Jordan. This, along with the declining share of unemployed persons between the ages of 15 and 19, also indicates higher school enrolment rates by young adults in this category, which validates the finding of the analysis made in preceding sections

It is also worth noting that out of the unemployed, the share of those who have never worked before has been increasing over time, rising significantly from 42% in 2010 to 46.7% in 2014. This means that around close to half of those who are unemployed do not have any practical skills that can assist them in the labour market, and thus, end up relying on the skills and competencies obtained from education or training. Companies surveyed under this study highlighted this lack of practical experience as one of the major shortcomings of the labour supply in Jordan.

In addition, other than the surplus in labour and the quantitative mismatch between labour supply and demand, the rapidly increasing youth unemployment rate also points towards a qualitative mismatch in the labour market. To further illustrate, the next chart displays the unemployed according to the educational status.

## Distribution of Unemployed Jordanians According to Education Level



Over the past decade, the share of unemployed Jordanians with bachelor's degrees out of the total unemployed surged from 23.5% in 2005 to 38.9% in 2014, representing a massive increase of more than 15 percentage points; accordingly, this development was accompanied by a drop in the shares of unemployed Jordanian with other education levels, indicating that the current state and structure of the domestic economy is not in need of such a large number of university graduates.

A simple example is the share of vocational graduates among the unemployed, which fell from 1.2% in 2005 to 0.3% in 2014, pointing towards a possible shortage in this category of workers. Despite this fact, the share of vocational graduates out of the total number of graduating youth has fallen over the past period, as was shown in the preceding section. Moreover, the share of graduates with intermediate diplomas out of the unemployed dropped significantly over this period, from 11.9% to 7.9%.

The main dilemma resulting from the aforementioned developments is that the labour supply is increasing becoming overly skewed towards university level professionals, thereby intensifying the qualitative labour market disequilibrium. Moreover, the developments illustrate how the outputs of university-level education do not seem to adequately match the requirements of the labour market, across most fields, and more and more job seekers are entering the labour market with no prior practical experience. These issues were indeed highlighted by companies surveyed in this research, presented next.

## Challenges in Labour Supply

Most of the challenges and limitations of the labour supply in Jordan stem from the quality of education and training received by graduates, as well as poor soft skills sets possessed by graduates. A lack of interest in vocational education and training is also highlighted as one of the main challenges in the labour supply.

Sixty four per cent of companies interviewed in the ICT sector said that they face challenges when recruiting new employees, compared to 84% in the health sector and 50% in the green energy sector. It should be noted that companies which stated they do not face any challenges when recruiting new employees were most often the large reputable companies receiving thousands of applications each year and having the opportunity to choose the best applicants.

The next table summarises the most cited challenges faced by employers when recruiting new workers according to field results and broken down by the three main sectors under investigation.<sup>10</sup>

10- Challenges listed based on repetition of responses.

| Top Challenges Faced when Recruiting New Workers  |  |  |
|---|--|--|
| ICT   | Health   | Green Energy   |
| Difficult to find competent people  | Finding people with proper experience                  | Lack of sufficient/relevant experience   |
| Not finding people with sufficient experience   | Practical knowledge                                    | Processing a big number of applications  |
| Lack of commitment and ambition   | Weak academic backgrounds                              | Difficulty in finding sales engineers, as most engineers do not agree to work in sales |
| Poor social and communication skills  | Weak qualifications                                    |  |
| Lack of basic market skills (soft skills)   | Difficulty finding male nurses                         |  |
| Weakness in English language  | Lack of commitment                                     |  |
| Too many applications, especially recent graduates who are unable to distinguish which vacancies are in compliance with their academic background when applying to jobs | Difficulty finding mid-wives                           |  |
|   | Candidates applying for more than one position at once |  |
|   | Processing of big number of applications               |  |

The challenges faced by companies when recruiting new employees can be categorized into two main points: (i) technical issues, and (ii) soft skills issues. The majority of companies interviewed cited the lack of adequate technical knowledge and practical expertise as significant challenges.

ICT companies highlighted weakness in English language as one of the main challenges, as well as a lack of understanding from job applicants on what job type is most suitable for their education and experience. Companies operating in the health sector highlighted a shortage of male nurses and midwives, as well as the burden of having to process a very large number of applications as job applicants often apply to more than one job position at the same time. Companies in the green energy sector highlighted the lack of sufficient or relevant experience, in addition to the large number of jobs applications that need to be processed. It can be therefore deduced from the above information that many of the challenges faced in hiring new employees stem from the quality and appropriateness of education or training, as well as from the weak level of soft skills possessed by graduates.

The results of the field research have further validated the results of analysis so far conducted in this report. Overall, 58% of surveyed companies indicated that they are satisfied with the quality of workers in the domestic labour supply, according to the following breakdown:

| Companies' Satisfaction of Labour Supply |       |        |              |
|--|-------|--------|--------------|
|  | ICT   | Health | Green Energy |
| Satisfied                                | 52.2% | 63.6%  | 58.3%        |
| Not Satisfied                            | 47.8% | 36.4%  | 41.7%        |

Similarly, around half of all the surveyed companies indicated that they participate in job fairs, yet most of these are the same companies that had expressed a satisfaction in the quality of labour available in the domestic labour supply.

When asked about communication with universities, less than half of surveyed companies (45.6%) stated that they communicate with universities for the purpose of hiring recent graduates, but only 36.8% believe that local universities can supply graduates with the required skills and competencies for the labour market.

This finding is a clear illustration of the qualitative mismatch between labour demand and supply, and points towards the negative perception that private sector companies have towards the quality of education outputs in Jordan. An overwhelming majority expressed interest in recent graduates who have received further training after university. The breakdown according to sector is presented in the table below.

| Communication with & Perception of Universities   |       |        |              |
|---|-------|--------|--------------|
|   | ICT   | Health | Green Energy |
| Communicate with universities to hire recent graduates.                                 | 52.2% | 40.9%  | 41.7%        |
| Believe that local universities supply graduates with required skills and competencies. | 34.8% | 45.5%  | 25%          |

The field research further investigated the extent to which the specialisations available at universities are relevant to the needs of the labour market. Eighty six per cent of ICT companies indicated that all needed academic disciplines they require are available, compared to 75% of companies in the health sector, and 67% of companies in the green energy sector. The other companies were asked to indicate which specialisations they think are missing from the domestic education system but are in demand by the labour market. The results are presented in the following table:

| Required Specialisations Missing from the Local Education System |                       |  |
|--|-----------------------|--|
| ICT  | Health                | Green Energy   |
| Systems Analysis   | Hospitals Maintenance | Renewable and green energy specialisations are not offered by Jordanian Universities |
| Information Quality Management                                   | Medical Secretary     |  |
| Business Financing   | Hospitals HR          |  |
| Project Crisis Management  | Medical Cleaning      |  |
| IT Sales Management  | Breathing Experts     |  |
| Financial Statement Analysis                                     | Echocardiography      |  |
| IT Project Management  |                       |  |

Important difference between the sectors' responses can be inferred. The green energy sector was the sector that expressed the most need for specialisations that are missing from the local educational system, which is expected given the novelty of renewable energy systems and applications in Jordan. On the other hand, the health sector expressed the need for specialisations that cater for secondary positions (e.g. maintenance, HR, secretary), rather than the primary positions such as doctors, which points towards the strength of medical education available in Jordan, but some supporting specialisations seem to be missing.

Regardless of the specialisations issue, companies were asked to state the main technical limitations of the recent graduates they hire, in order to further investigate the technical limitations of

graduates and of the educational system in general. The majority of surveyed companies indicated that they experience challenges when hiring recent graduates. All ICT companies (100%), 92% of companies in the health sector and 50% of companies in the green energy indicated challenges when hiring recent graduates. The table below presents the most commonly cited responses from companies that indicated challenges.

| Technical Limitations of Recent Graduates                         |   |  |
|---|---|--|
| ICT   | Health  | Green Energy   |
| Very weak practical knowledge, background and experience          | Lack of sufficient experience                           | Lack of required technical skills  |
| Academic background not relevant to the market demand             | Most candidates do not know how to deal with patients   | The gap between what's offered in universities and the actual background needed in the field |
| Lack of understanding of practical applications of specialisation | Lack of commitment. No discipline and not serious       | Not understanding the market demand  |
| Lack of knowledge on vacancy requirements                         | Poor communication skills                               | Poor communication skills  |
| Weakness in interpersonal skills                                  | Weak interpersonal skills                               | Weak interpersonal skills  |
| High grade/GPA does not translate into good technical worker      | Gap between academic background and practical knowledge | Lack of readiness for the market   |
|   | Poor time management skills                             | Long training period needed  |
|   | No problem solving skills                               |  |
|   | Lack of responsibility and loyalty to workplace         |  |

The above information points towards common elements in the challenges faced by all sectors when recruiting recent graduates. This is especially relevant in the field of soft skills, where companies in all sectors cited poor communication and interpersonal skills as a main challenge. On the technical level, companies in all sectors expressed a lack of practical experience as the top challenge, in addition to the gap that exists between the outputs of education and labour market demand.

In the ICT sector, companies mentioned that academic backgrounds are not relevant to the market demand meaning that the graduates' grade/GPA does not reflect the technicality of the worker. A lack of practical experience and understanding of practical applications was especially highlighted by ICT companies.

In the health sector, companies highlighted the poor soft skills in specific, mentioning challenges such as poor communication and interpersonal skills, poor time management skills, lack of responsibility and loyalty to the workplace and lack of commitment, discipline and seriousness. Not knowing how to deal with patients was also a commonly cited limitation of recent graduates. On the technical level, challenges were concentrated on the lack of practical experience and a gap between academic backgrounds and practical knowledge.

In the green energy sector, the focus of the challenges cited by companies was on the lack of the required technical skills, including no understanding of market demand and a gap between educational backgrounds and required competencies. According to the companies, recent graduates are not ready to meet the requirements of the labour market and this generates the associated challenge of needing a substantially long training period.

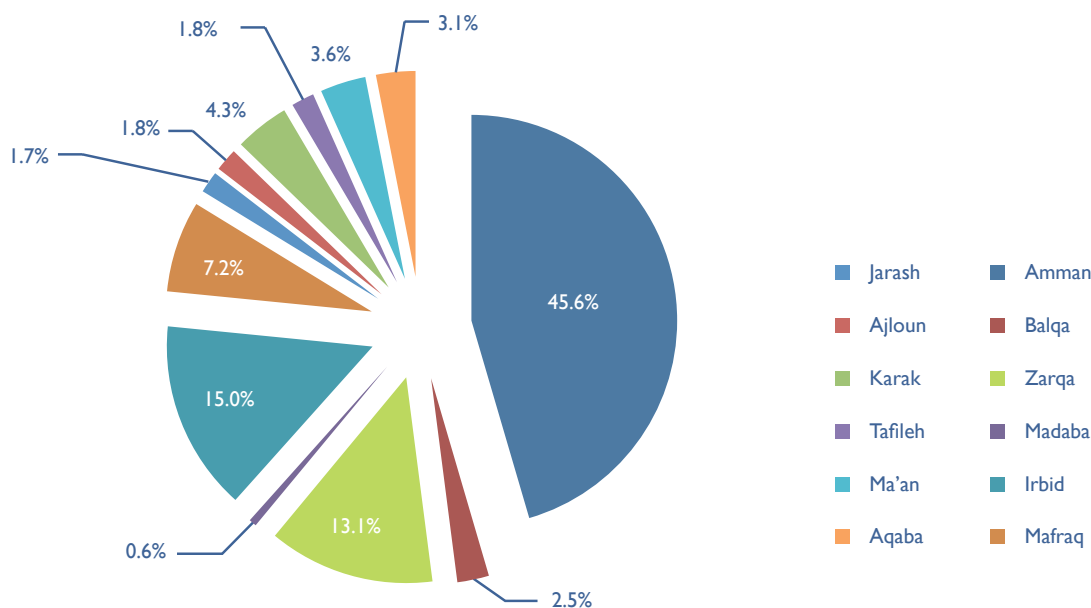


## Other Sources of Misalliance - Geography & Government Regulations

Thus far, the report has focused on the education-related qualitative mismatch between labour demand and supply in addition to the quantitative mismatch. However, it is important to note that there are other types of mismatches that exist in the Jordanian domestic labour market.

One source is the geographical disparities between labour demand and supply in the national labour market, where demand is highly concentrated in the three governorates of Amman, Irbid and Zarqa. The below chart shows the distribution of net new jobs created during 2014 according to governorate.

Distribution of Net New Jobs Generated in 2014 by Governorate



### DOS - Job Creation Survey

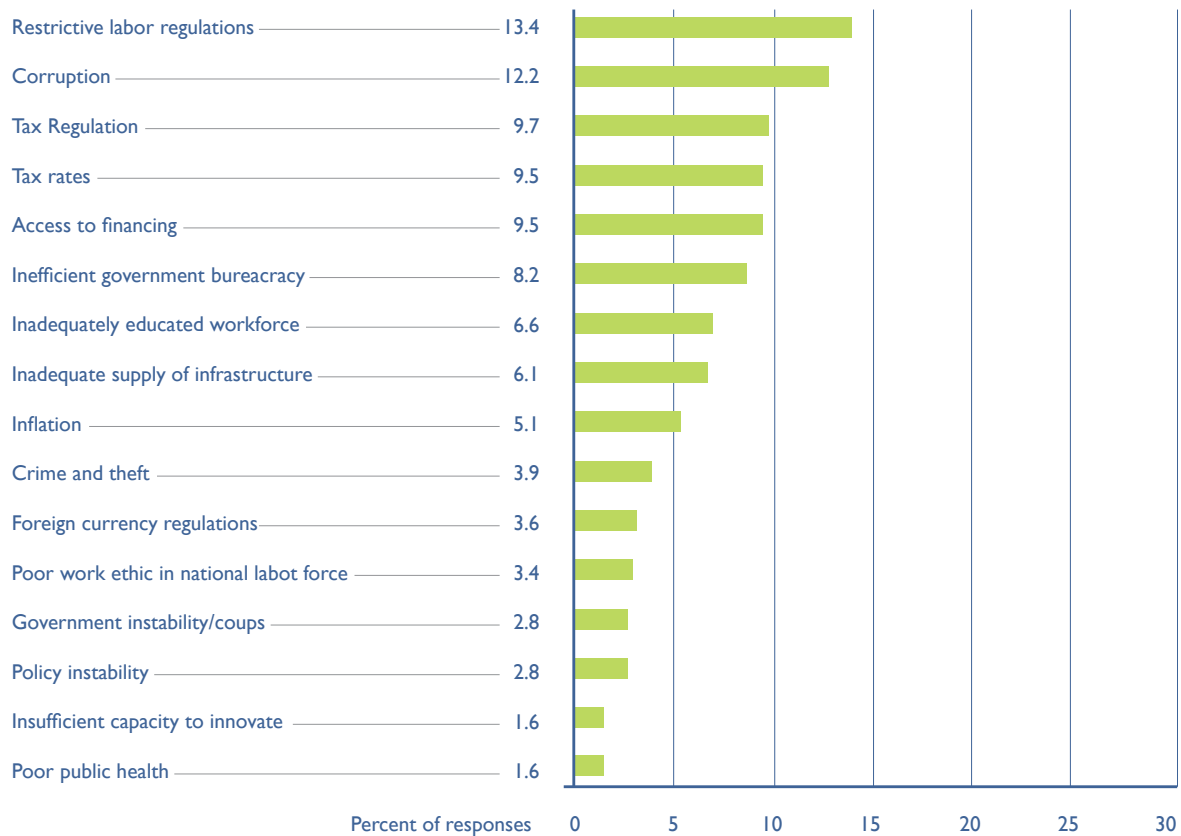
Seventy two point seven per cent of net new jobs in 2014 were generated in the three main urban governorates of Amman, Irbid and Zarqa. The above information shows how Amman is the major source of labour demand, generating 45.6% of all net new jobs, followed by Irbid with 15% and Zarqa with 13.1%; for this reason, these governorates usually record the lowest unemployment rates compared to the other governorates.

Another major source of labour market incongruity involved government regulations, and the extent to which such regulations are restrictive to the functioning of a business. Regarding the level of minimum wage in Jordan, it falls within an acceptable range, standing at 39% of the value added per worker, which is higher than the current median value for the world. Compared with regional competitors, Turkey stands at 0.42, Tunisia at 0.54 and Morocco at 0.74.<sup>11</sup> Therefore, the existing minimum wage level does not constitute any significant impediment to increasing productive employment.

Nevertheless, according to the most recent Global Competitiveness Report (2015), the number one most problematic factor for doing business in Jordan is 'restrictive labour regulations'. The report states that there is a significant room for improvement to boost labour market efficiency (current rank is 94<sup>th</sup>). The following diagram was retrieved from Jordan's 2015 Doing Business profile.

11- World Bank Doing Business, Employing Workers data.

## The Most Problematic Factors for Doing Business



Most of the restrictiveness in labour market regulations stem from the large number of migrants currently in the labour force in Jordan, which puts pressure on the authorities to institute regulations and measures that protect Jordanian employment. And since Jordanians are scarce in certain sectors and abundant in others, the regulations could not be applied to all sectors equally. Therefore, authorities have determined a list of priority sectors for Jordanian citizens, presented in the adjacent box.

Given the ad-hoc approach followed by government in regulating each sector, fourteen agreements were signed with associations from the various sectors in recent years, through which the ratio of foreign labour to Jordanian labour was determined for the purpose of regulating the labour market in these sectors. A table of these sectors along with the determined ratios is presented in annex 2, revealing the complexity for businesses to follow up and adhere to these regulations.

### List of Priority Sectors for Jordanians:

- Manufacturing
- Restaurants & Hotels (i.e. tourism)
- ICT
- Services
- Health & Nursing
- Agriculture Engineering
- Construction
- Wholesale & Retail Trade Sector

# Matching Labour Supply and Demand

This section will combine both the demand and supply for labour, and provide potential solutions for the overall misalignment between the demand and supply of labour in Jordan, utilising the findings from the field research on the ICT, health and green energy sectors.

## Solutions to Match Supply and Demand

All the surveyed companies were requested to suggest solutions to overcome these challenges and limitations, in terms of skills development. The suggestions are presented in the below table according to sector and will be further discussed in the next concluding section:

| Distribution of Surveyed Companies According to Sector  |
|---|
| <b>ICT</b>  |
| Activating practical training in education institutions through working on actual projects.           |
| Establishing compulsory market orientation trainings at universities, based on market knowledge.      |
| Establishing a regulatory institution, like the Civil Service Bureau, for the private sector.         |
| Increasing the number of computer labs at universities.   |
| Coordination between universities and training centres to encourage students into practical training. |
| Reforming the theoretical teaching system and adding more practical components.                       |
| <b>Health</b>   |
| Training, which requires a long period of time.   |
| <b>Green Energy</b>   |
| Establishing a compulsory market orientation course at universities.                                  |
| Increasing the focus on practical training by both universities and training centres.                 |

A common element in the solutions presented across the three sectors is training, and given that around two thirds of surveyed companies indicated that local universities are unable to meet the demands of the labour market, over 84% expressed their readiness to hire and qualify interns. The average number of training opportunities

offered per company is 13 and the average number of current interns now working at the surveyed companies is 6 with average internship/training duration of around 2 months. These results are broken down by sector in the following table:

| Internships   |       |        |              |
|---|-------|--------|--------------|
|   | ICT   | Health | Green Energy |
| Readiness to hire/qualify/train interns                   | 91.3% | 81.1%  | 75%          |
| Annual average number of internship opportunities offered | 8.1   | 22.8   | 1.8          |
| Average duration of training/internship (months)          | 2.3   | 2      | 2.3          |
| Average number of interns currently working at company    | 4.7   | 9.7    | 1.6          |

The above information illustrates how companies in the green energy sector are the least inclined to offer internships to their employees, likely because of the large gap in needed skills, while the ICT sector was found to be the most inclined to offer internships. For the health sector, the comparatively high number of internship opportunities offered is due to university graduation requirements that state that students in health-related majors must complete, at least, one internship.

During the field research, the surveyed companies were asked to list the main criteria for hiring interns. The most commonly cited responses are presented in the table below.

| Main Criteria for Hiring Interns           |  |   |
|--|--|---|
| ICT  | Health   | Green Energy  |
| University degree in an ICT-related field. | A recommendation letter from a university.       | To be a university graduate from a related field.             |
| Willingness to learn and work.             | To be within the company's/hospital's specialty. | To have a high GPA.   |
| Commitment.                                | University degree.                               | To have strong technical knowledge.                           |
| Passing the interview/test.                | Commitment.                                      | To pass special technical tests.                              |
| Previous experience/training.              | Willingness to learn.                            | To have good qualifications.                                  |
| Discipline.                                | Medical clearance.                               | Willingness to learn.   |
| Training courses.                          | Practical knowledge.                             | Ability to work under pressure.                               |
| Good social and interpersonal skills.      | Discipline.                                      | To have a good personality.                                   |
| Good English language.                     | Having a clear training program.                 | Companies should have running projects in the training field. |
| Having no criminal record.                 |  | Letter from universities for training students.               |

The field research delved even further into the issue of training that is held by the companies for new workers. The shares of companies that offer trainings are presented in the following table according to type of training:

| Internal Training Offered by Companies   |     |        |              |
|--|-----|--------|--------------|
|  | ICT | Health | Green Energy |
| Do not offer training  | 18% | 12.5%  | 24%          |
| Offer only technical training  | 64% | 58.5%  | 50%          |
| Offer training based on job description and requirements (e.g. technical plus supporting functions such as sales or administration). | 18% | 29%    | 26%          |

Furthermore, the field research examined the companies' perceptions of the training centres operating in Jordan, and the companies were asked to rate the centres (very good, good and weak). The results are shown in the following table:

| Companies' Perception of Training Centres Operating in Jordan |     |  |              |
|---|-----|--|--------------|
|   | ICT | Health   | Green Energy |
| Very good   | 9%  | 5%   | -            |
| Good  | 40% | 40%  | 33%          |
| Weak  | 23% | 30%  | 59%          |
| No collaboration with training centres                        | 13% | 25% indicated that there is no specialised centres | -            |
| No Answer   | 15% | -  | 8%           |

As the general perception of training centres is between good and weak, almost all companies agreed that there is significant room and potential for training centres to improve the services they provide. ICT companies suggested that cooperation between ICT companies and training centres might reduce the gap between the training offered and the job requirements.

ICT companies also suggested that training centres should be connected with universities to encourage students to take part in practical trainings. On the other hand, surveyed companies in the green energy sector suggested creating comprehensive and integrated training programs on renewable/green energy.

This average perception of training centres among other factors (e.g. costs) leads companies to provide newly hired recent graduates with immediate on-the-job training. Nevertheless, this is usually associated with a range of challenges.

The field research found that 95.5% of ICT companies face challenges when training and coaching recent graduates, compared to 92% for health companies and 76% for green energy companies. The lower rate for green energy companies may be explained by the fact that it is the sector that is least inclined to hire recent graduates, mostly due to the gap in the required competencies and skills. The next table presents the most widely cited challenges faced when training/coaching recent graduates.

| Challenges Faced in Training & Coaching Recent Graduates                            |  |   |
|---|--|---|
| ICT   | Health   | Green Energy  |
| Weak technical and practical skills.  | Lack of practical knowledge.   | Lack of practical knowledge.  |
| Lack of commitment, responsibility and loyalty.                                     | Poor communication skills.   | Gap between university learning and market reality.                                 |
| Lack of responsibility and seriousness in learning.                                 | Lack of responsibility.  | Weak academic backgrounds.  |
| Poor communication skills.  | Lack of commitment.  | Long period of training.  |
| Lack of sufficient time to supervise the training and coaching of recent graduates. | No follow up by universities.  | Not able to work under pressure.  |
| Trainees don't have an understanding for the market.                                | Lack of enthusiasm.  | Lack of commitment.   |
| Weak language skills.   | Weak language skills.  | Weak interpersonal skills.  |
| No logical thinking and problem solving skills.                                     | Confidentiality-related problems.  | Not understanding market requirements.  |
| Difficulties in adapting to the work environment.                                   | Problems in attitude.  | Agreeing to be trained in order to seek opportunities abroad not to actually learn. |
| Weak interpersonal skills.  | Weak ability to handle work pressure.                                    |   |
| They try to leave and work for competitors after finishing the training.            | They try to leave and work for competitors after finishing the training. |   |
| They always seek senior positions they are not qualified for.                       | Big numbers of applications.   |   |

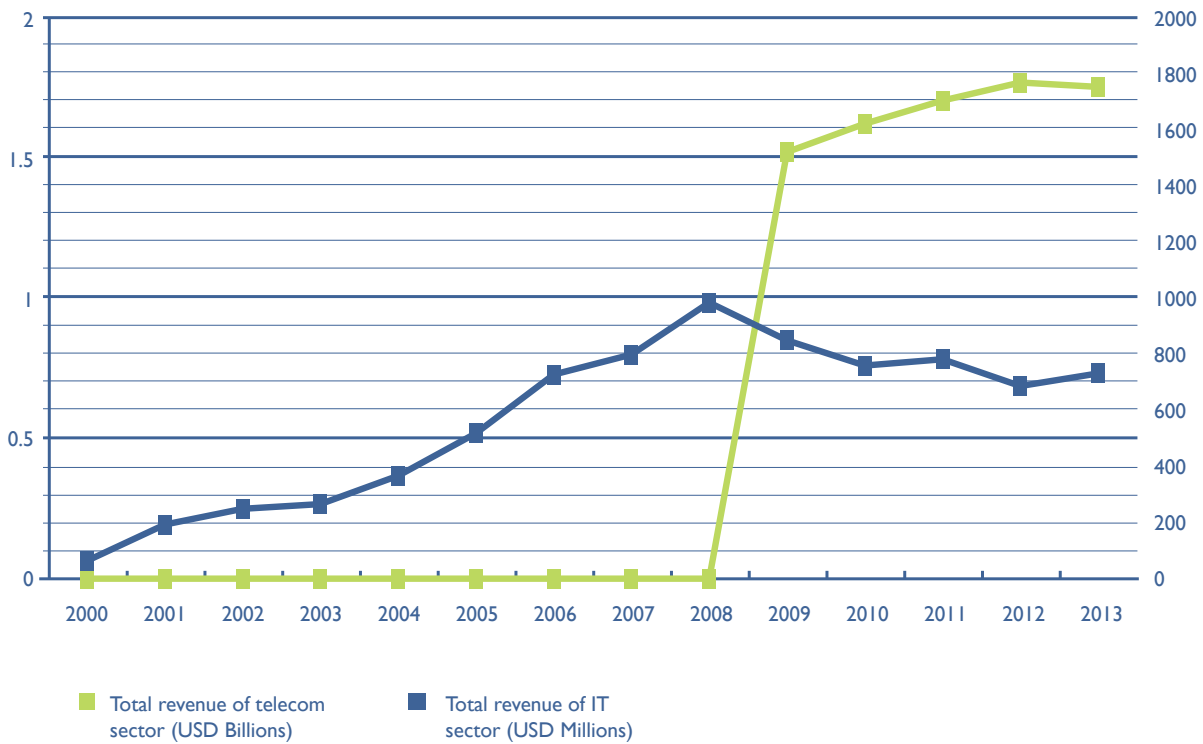
The results above are very similar to the responses of companies when asked about the challenges faced when hiring recent graduates. Again here there is a focus on the issue of the lack of practical experience and soft skills, in addition to an overall lack of commitment. However, a large majority of companies mentioned a common major limitation of training recent graduates, which is that upon completion of the training, workers tend to seek better opportunities elsewhere, and therefore, the investment made on such training yields no returns.

## Sector Projections

### CT Sector:

The ICT sector in Jordan has been going through volatile and unsteady situation in the last decade, especially in terms of total revenues, where the revenues of IT companies dropped from 962 million USD in 2008, to 638 million USD in 2013; and the revenues of telecom companies dropped from 1,721 million USD in 2011, to 1,582 USD in 2013; as shown in the following graphs.

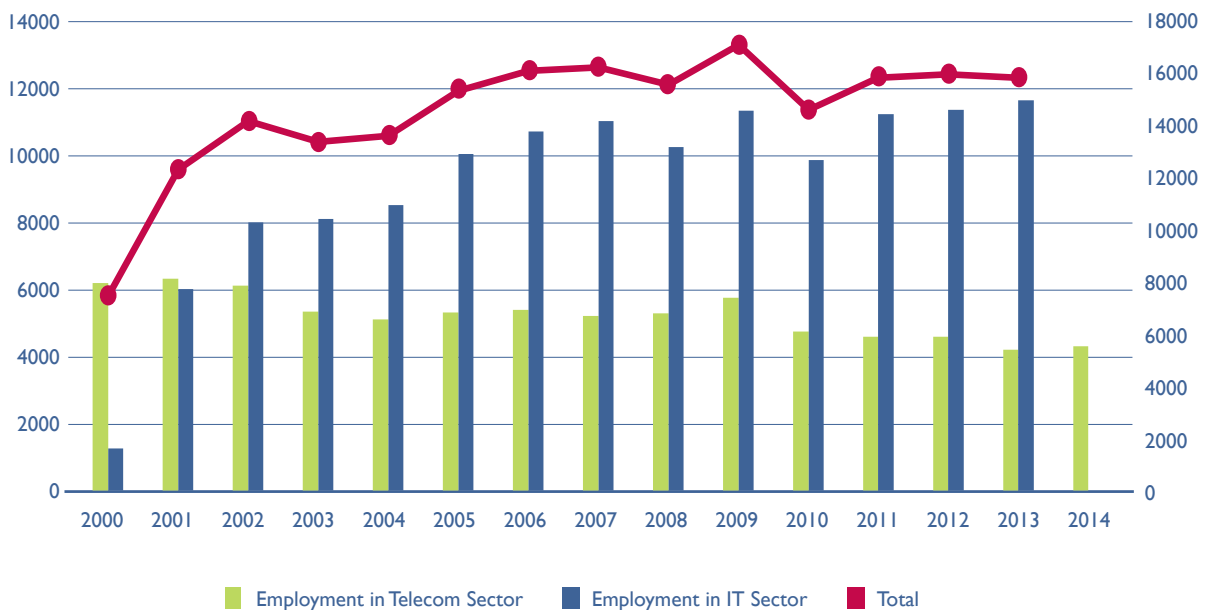
### Total Revenue of IT and Telecom Sector



Source: Information and Telecommunications Technology Association - Jordan (Int@j)

This decrease in revenues has two major effects on the number of new jobs opening in the ICT field. The first is that the number of employees didn't drop in accordance with this drop in revenues. In 2008, the total number of employees in the ICT sector was 15,574, and in 2013 the number was 15,849, as shown in the following graph. The reason for that is that ICT companies, especially the big ones, face a lot of challenges in finding qualified employees, so they tend to keep their qualified and trained staff rather than losing them and becoming unable to find replacements.

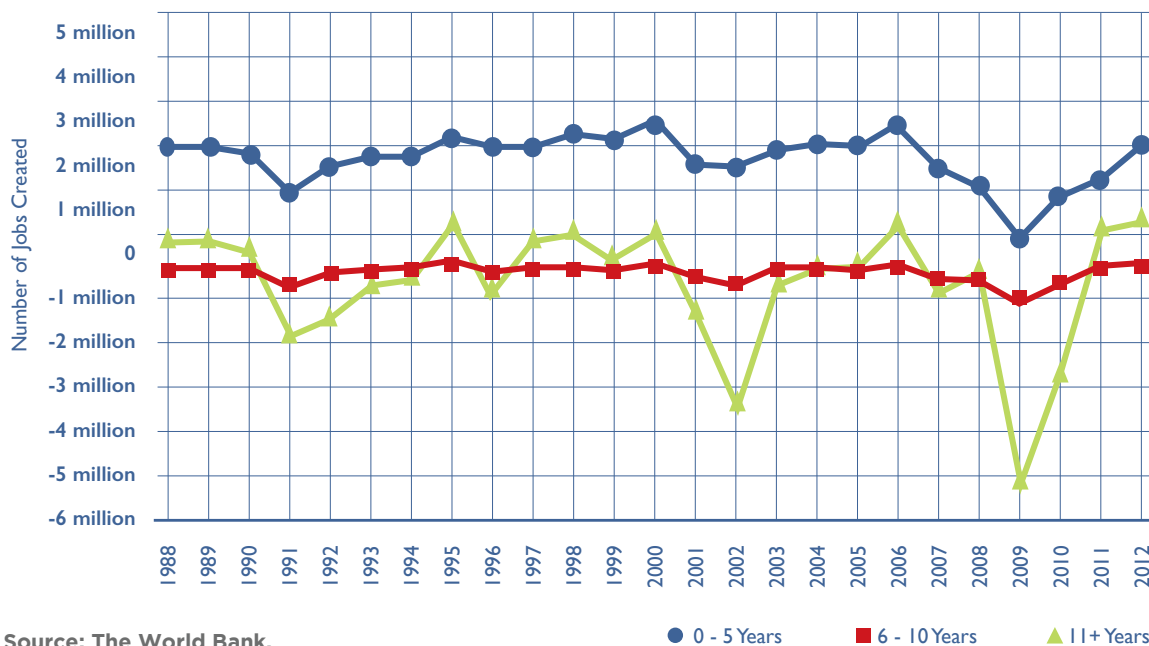
### ICT Employment Sector



Source: Information and Telecommunications Technology Association - Jordan (Int@j)

The second is that the ICT sector became much more competitive, causing a lot of companies to shut down their business. Although 60% of the startups (around 100 companies) opening each year work in the IT field<sup>12</sup>, but these companies are mainly small businesses that employ 3 – 5 employees each, creating between 400 – 500 new jobs each year; but these new jobs are temporary because around 80 out of these 100 companies either closes or move to another country where their clients are based (mostly GCC countries), and their employees become part of the new 100 startup IT companies that will open the following year, and this is why most of the new jobs in the ICT sector are offered in IT companies not telecom companies that keeps their employees and have very strict regulations regarding recruiting new employees. This situation contradicts with the global rates where ICT companies should have the peak of its net job creation in the first five years of its operation.

### Net Job Creation



Source: The World Bank.

Most of the new jobs created every year in the ICT sector focuses on Computer Science because it is the most flexible academic background for ICT companies. Specialties such as Telecom Engineering and Computer Engineering are dead in the market and there is no demand whatsoever on it<sup>13</sup>, even officials and associations ask high schools graduates to avoid such specialties every year.

In conclusion, the estimated number of graduates in ICT related specialties is about 5,000 graduates each year, while the total number of new jobs opening in the field is 500 jobs every year, at best. This means that only 10% of fresh graduates in ICT related academic backgrounds will find work in the field.

### Health sector:

Jordan, being a healthcare hub for Arab countries became a leading medical tourism destination, over 250,000 patients travelled to Jordan for treatment in 2012<sup>14</sup> and the number is steady according to Oxford Business Group, with expectations of increase. In addition to that there is an increasing demand on healthcare services in the public sector due to the Syrian refugees' influx to Jordan during the past four years.

12- Int@j.

13- <http://www.ammonnews.net/article.aspx?articleno=128012>

14- Jordan Private Hospitals Association.



According to Jordan Medical Association, there are currently only 4,000 doctors working in the public healthcare sector<sup>15</sup>, this is creating pressures on the public healthcare sector due to the fact that fresh graduates tend to seek employment at private hospitals or go abroad as the incentives and wages in the public sector lag behind. Total number of doctors graduating from Jordanian universities each year is 1,500, but only 600 of them are Jordanians, and the demand on them is very high.

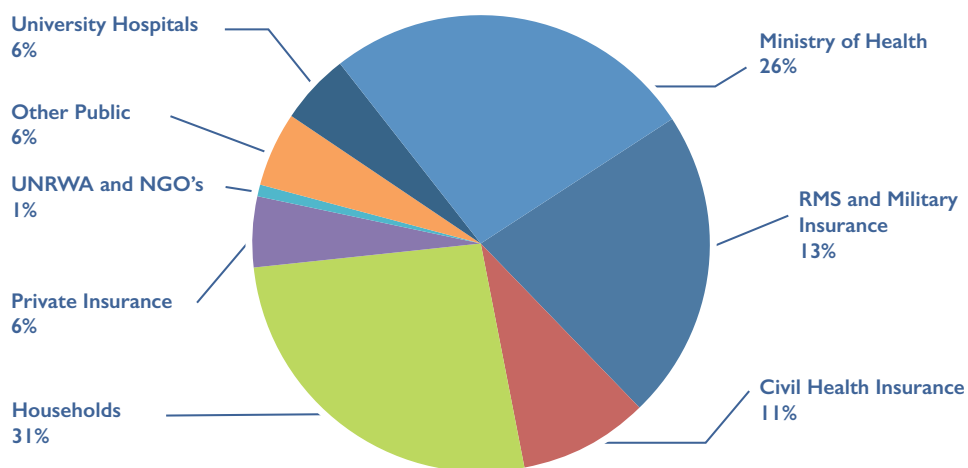
The field of nursing has a similar situation, with 6,000 Jordanian nurses working abroad and a big demand inside the country; although there is 1,000 graduates of nursing each year, and the demand for nurses is the market is around 500 each year, there is still a lack of nurses, especially female nurses, which led hospitals to bring female nurses from other countries. This is due to the fact that a lot of the experienced nurses leave the country to work in other countries for much better salaries.

According to Jordan Nurses and Midwives Council<sup>16</sup>, there are 11,000 beds in Jordan, this number of beds requires 12,100 nurses; currently there are 10,000 nurses working in Jordan, this means a demand of 2,100 nurses, of which only 350 were employed in 2015.

Being the largest provider of health services in Jordan, the Ministry of Health employed 5,500 doctors and nurses during the past five years through the Civic Service Bureau, ending unemployment in those two fields, but the high competitiveness between the public and private sectors is leading to the public sector losing a lot of them to the private sector, creating a continuous demand. Recently, the MoH requested an additional 55 million JD from the government to use them as incentives to keep doctors and nurses in the public sector.

The biggest financing source of health services in Jordan is households, with a share of 32% in 2008, according to the Jordan Fiscal Reform Project II<sup>17</sup>; this indicates that most of this share goes to the private sector hospitals; adding this to the revenues coming from the medical tourism, the private healthcare sector is heading toward demanding more workers in the coming years.

**Figure I - Sources Of Health Care Financing In 2008**



Source: USAID: Jordan Fiscal Reform Project: Health Public Expenditures Working Paper

According to WHO, the utilization of health services and the per capita total expenditure on health is increasing in Jordan; this is another indicator that the market demand for workforce in the healthcare sector is going to increase over the coming years.

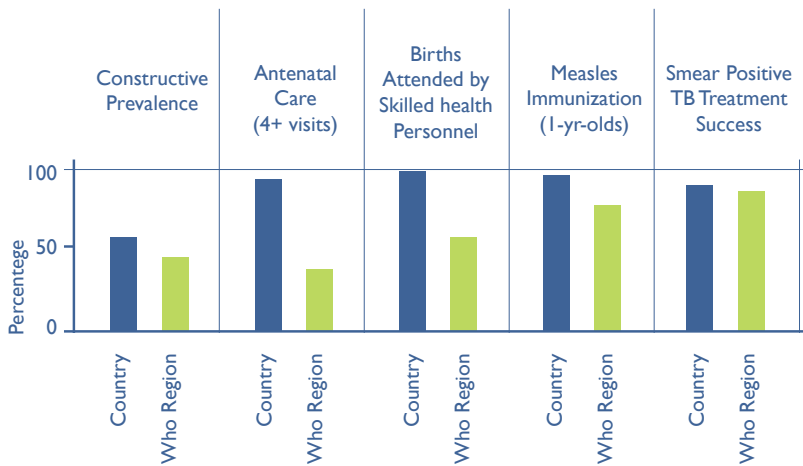
15- <http://ar.ammannet.net/news/242776>

16- [http://www.al-sijill.com/sijill\\_items/sitem1749.htm](http://www.al-sijill.com/sijill_items/sitem1749.htm)

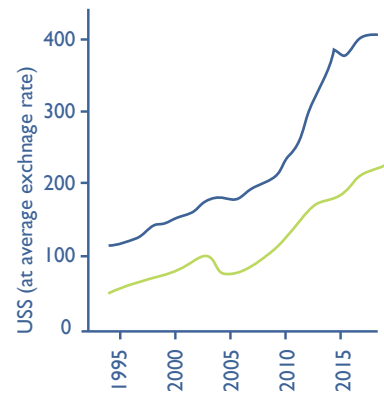
17- USAID: Jordan Fiscal Reform Project: Health Public Expenditures Working Paper; <http://www.frp2.org/english/Portals/0/PDFs/Health%20PEP%20Working%20Paper.pdf>

### Utilisation of Health Services\*

\*Data refer to the latest available from 2017.



### Per Capita Total Expenditure on Health



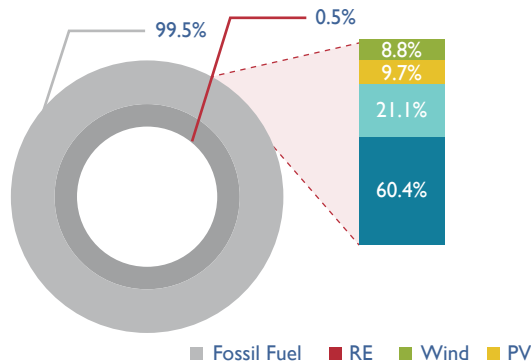
As a conclusion, with the growth in the healthcare sector, there is a growing demand in graduates of healthcare related specialties, especially doctors and nurses. From the available information, it is clear that the number universities graduates in these fields and specialties is not enough to cover the market demand due to the high request for those professionals in other countries, which leads them to seek better opportunities outside Jordan.

### Green energy:

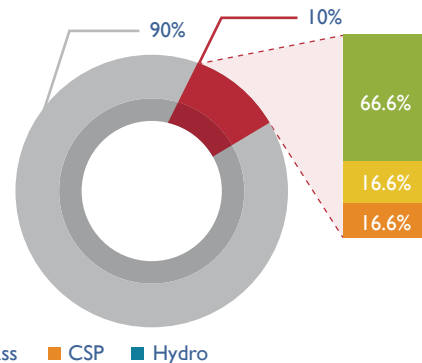
With the lack of conventional energy sources, green/renewable energy has been a focus in Jordan during the past decade as part of the “green economy” concept. The increase in oil prices over the past five years, and the huge increase in demand also contributed to increasing the focus on green energy sources and methods of developing the sector. A lot of companies started to explore the possibilities. This lead to creating a demand on green energy related academic fields.

The Ministry of Energy and Natural Resources (MEMR) crafted the National Energy Strategy (2007-2020) to implement ways to develop conventional, renewable and alternative resources-wind, solar, oil shale and nuclear. Expected investments in the sector are around \$1.4 – 2.1 billion through 2020. Contribution of the renewable energy to the energy mix is set to rise from 1% in 2007 to reach 7% by 2015 and 10% by 2020. Renewable energy generation will be composed of: 600 – 1000 MW from Wind, and 300– 600 MW from Solar and 30 – 50 MW from Waste<sup>18</sup>.

#### Current Installed Capacity



#### RE Targets - Year 2020



|           | Wind  | PV  | Biomass | Hydro | Total RE | Total all Energy |
|-----------|-------|-----|---------|-------|----------|------------------|
| <b>MW</b> | 1.445 | 1.6 | 3.5     | 10    | 16.545   | 3100             |

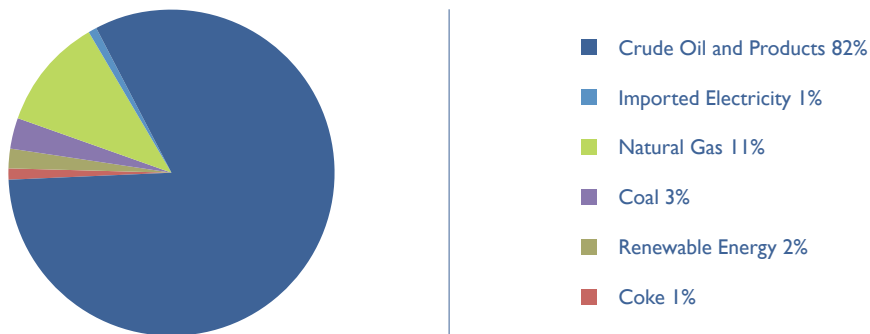
|           | Wind | PV  | CSP | Total | Target Date |
|-----------|------|-----|-----|-------|-------------|
| <b>MW</b> | 1200 | 300 | 300 | 1800  | 2020        |

Source: Regional Center for Renewable Energy and Energy Efficiency: Jordan renewable energy country profile.

18- Jordan Economic and Commerce Bureau: Jordan: Building a Green Economy; <http://www.jordanecb.org/library/634242781763938750.pdf>

The National Energy Strategy was designed based on a forecast of investments in the energy field, what happened is that most of these forecasted investments didn't happen, which lead to hindering the development of green energy projects in the country. The expectations of the plan was reaching 7% renewable energy out of the overall energy used in Jordan by 2015, in reality, the percentage is around a humble 2%.

### Primary Energy Consumption 2013



Source: National Energy Research Center: Energy Situation and State of Research in Jordan

This has dramatically affected the number of offered jobs in the green energy sector in Jordan over the past five years, leading to an increasing number of unemployed graduates from related specialties, especially university graduates; while most of the jobs offered are in technical fields and targeting graduates of Vocational Training Centers.

With the big drop in oil prices during 2015, along with the high cost of investment in the green energy sector; the situation of the sector became more critical causing a lot small companies in the field to close and freezing any potential demand on workers in the sector by existing companies.

Currently, there are no plans, strategies or forecasts regarding the situation of the green energy sector; there are no jobs offered in this sector and no expectations for new jobs opening except in the case of new and big investments in the sector.

# Conclusion & Suggestions

In conclusion, this report aimed to present an overview of the labour market in Jordan through investigating the structures and dynamics of labour supply and demand, and their interaction in the overall domestic labour market but with particular focus on the ICT, health and green energy sectors. This was based on a combination of qualitative and quantitative research methods, from both primary and secondary sources. Primary data and information was collected from a total of 57 companies in the ICT, health, and green energy sectors. This information was supplemented by the main source of secondary data and information, which was the official data generated by DOS and other public sector organisations, as well as some recent research studies conducted on this topic.

## Labour Demand

Given the close positive relationship between the aggregate demand for goods and services in an economy and the associated demand for labour, this study first analysed the situation of labour demand from a business environment lens, and found that despite the many reforms carried out over the past two decades or so, Jordan's business environment and overall competitiveness remains insufficient in a number of different areas, including investor protection, the enforcement of contracts, resolving insolvency, and a very weak formal access to credit. Coupled with legislative instability, these obstacles act as a barrier to higher job opportunities.

According to official data, new investments in companies in Jordan dropped significantly over the past five years, which has in turn translated into a reduction in the net new number of jobs being generated annually by the private sector. This relationship between the business environment and employment growth was further verified from the field findings, where many companies could not determine the number of expected vacancies in coming years, saying that this will ultimately depend on how business is doing and the amount of new projects that a company takes on. For many, this is uncertain.

The analysis of labour data revealed a strong demand for labour in the period between 2005 and 2009, in which the number of Jordanian workers grew by over 19%. However, labour demand diminished significantly in the following five years, with a growth rate of only 4.1%. Such developments corresponded with the level of aggregate demand and thus with the economic growth rates of this period. This was validated by job creation data, which reveals a significant decline of 28.4% in the annual average of newly generated jobs between 2005-2009 and 2010-2014. The number of net new jobs generated during 2014 amounted to 49,935.

According to labour demand per sector, the public sector was found to still constitute a major portion of labour demand in Jordan, where public sector workers increased by 15.7% between the two period of 2005-2009 and 2010-2014, whereas workers in the private sector grew by 10.1%. This translated into a drop in the share of private sector workers from 63.7% to 60.7% over this period.

Moreover, the sector exhibiting the largest demand for workers between 2010 and 2014 was the Public Administration and Defence sector, which managed to employ a total 39,117 Jordanians during these five years. Other sectors, which displayed a strong growth in demand, include the financial sector, the construction sector, and the accommodation and food services sectors, among others. Job creation data showed a similar trend, but also revealed a significant demand from the mining sector and transport and storage sectors.

The report also found that the share of employers out of the total number of Jordanian workers has consistently declined over the past five years, from 6.8% in 2010 to 5% in 2014. Such a development adversely affects future job creation levels, as entrepreneurship and business start-ups are considered to be a major and sustainable source of job creation in any country. The reduction in the share of employers will continue to translate into a reduction in labour demand.

Nevertheless, the fieldwork results in the three sectors of ICT, health, and green energy has pointed to a good level of demand, where 58% of surveyed companies indicated that they are currently offering job vacancies with an average of 4.9 vacant position per company. A significant portion of labour demand from these companies is for recent graduates, as 89.5% of surveyed companies indicated that they hire recent graduates and the share of the recent graduates hired by the companies amounted to 35.8%.

Regarding the demand for foreign labour, the field research found that 65% of all surveyed companies currently employ at least one foreign worker, with the share of foreign workers in these companies standing at 11%. According to the surveyed companies, the skills required by these three sectors were concentrated on soft skills such as communication and interpersonal skills, but also included the need for high quality technical knowledge and practical experience.

## Labour Supply

Given the close association between the labour supply and the education system, the section on labour supply first presented a brief overview of the structure of the education system and linked it to the different occupation levels in the labour market. The research found that the total number of graduates from universities, colleges, and vocational training institutes in 2013/2014 amounted to over 70,000, which points towards a large yearly increase in the number of new job seekers. The specialisations of these graduates were concentrated in social sciences, business and law followed by engineering and construction specialisation. With regard to vocational graduates, 61% graduated in skilled work, 35% in semi-skilled work, and only 4% as craftsmen.

Investigating official time-series data revealed that the share of workers holding bachelor's degrees increased by six percentage points from 17.2% in 2005 to 23.2% in 2014, the highest percentage increase across all education levels in this period. However, those with education below the secondary level constituted the largest share of workers. Along with the fall in workers with secondary education, this information indicates an increasing rate of school enrolment among young people, as well as a higher rate of school graduates that continue into higher education, meaning that the majority of students who graduates high school pursue college or university education. The data also illustrates the very low and declining share of workers with vocational education/training, which fell from 1.4% in 2005 to 0.7% in 2014.

The report also showed how with regard to occupation level, the share of service and shop workers increased from 27.4% in 2010 to 30.3% in 2014, along with the drop in the share of technicians and associate professionals from 8.3% to 7.2% over this period. An interesting finding in this area was that the sharp increase in the number of workers holding bachelor's degrees between 2010 and 2014 did not translate into an increase in the share of professionals, which has been a major source of unemployment among Jordanians over the past decade or so, where a increasingly larger share of those who are unemployed are university graduates.

The analysis of the domestic labour supply was not limited to Jordanians, but also investigated the supply of non-Jordanians in the labour market. According to the Labour Ministry's data on registered foreign workers, the numbers of foreign workers increased between 2005 and 2009, but then began declining from 2010, except for a sharp increase in 2014. Nevertheless, investigating job creation data reveals different results. The share of net new jobs taken up by foreign workers increased significantly between 2010 and 2013; the share of jobs taken up by foreigners increased by seven percentage points over this period from 8.5% to 15.5%.

The field research of this study found that employers experience significant challenges in the domestic labour supply, where 62% of ICT companies, 84% of health companies, and 50% of green energy companies indicated a number of challenges faced when recruiting new workers. The number one challenge most cited by companies was the difficulty in finding workers with the suitable knowledge and practical experience required for the job opening, in addition to the overall weak academic and technical backgrounds available in the labour supply that are irrelevant to market needs. Moreover, many companies cited the challenge of weak commitment by new workers, and the burden of having to sift through a large number of job applications, because applicants do not understand what the job requirements are.

## Matching Labour Demand and Supply

Comparing the number of net new jobs being generated in 2014 (49,935) with the total number of graduates from the domestic education system (over 70,000) reveals a large quantitative disparity between the supply and demand for labour. However, despite this gap, the study found that the unemployment rate improved in 2014, and the total size of the Jordanian labour force (in or seeking formal employment) declined slightly. This tallies with the declining economic participation rate among Jordanians over the past five years.

This evolving education structure of the Jordanian workforce, along with the reduction in the labour force and the unemployment rate during 2014, leads to the conclusion of an increasing rate of informality in the Jordanian labour market, as well as increasing school enrolment rates of young adults. The recent comprehensive study prepared by the ILO on the impact of the Syrian crisis on the domestic labour market has also found increasing informality in employment in Jordan over the past three years.

The trends in the education and age structure of unemployment in Jordan, coupled with the findings of the fieldwork, revealed a qualitative mismatch between the demand and supply for labour. The share of young people (aged 15 to 29) out of the total number of unemployed Jordanians has been increasing over the past five years, reaching 74.4% by 2014. Out of the total number of unemployed Jordanians, the share of those who have never worked before increased from 42% in 2010 to 46.7% in 2014, meaning that close to half of the unemployed do not have any practical skills that can be applied in the labour market. The surveyed companies particularly highlighted this lack of practical experience and knowledge.

The unemployment rates broken down by education levels further validates the findings of this research, revealing a sharp increase in the share of unemployed Jordanians holding bachelor's

degrees out of the total unemployed, from 23.5% in 2005 to 38.9%, representing a massive increase of more than 15 percentage points over a 10 year period. Accordingly, this development was accompanied with a drop in the shares of unemployed Jordanian with other education levels. For example, the share of vocational graduates among the unemployed fell from 1.2% in 2005 to 0.3% in 2014, and the share of graduates with intermediate diplomas dropped from 11.9% to 7.9% over this period.

The main problem in the aforementioned developments is that the labour supply is increasingly becoming overly skewed towards university level education that is not meeting the demands of the labour market, thereby intensifying the qualitative labour market disequilibrium. Moreover, the developments illustrate how the outputs of university-level education do not seem to adequately match the requirements of the labour market, across most fields, and more and more job seekers are entering the labour market with no prior practical experience. These issues were indeed highlighted by companies surveyed in this research, of which only 58% indicated that they are satisfied with the quality of workers in the domestic labour supply.

Out of the companies surveyed, only 45.6% stated that they communicated with universities for the purpose of recruiting recent graduates, but only 36.8% believe that local universities are able to supply graduates with the required skills and competencies needed for the labour market. Some of the companies even indicated that universities are not offering some specialisations, which the local labour market requires. This was especially the case for green energy companies, of which 75% believe that universities are unable to provide the required skills because of the fact that green energy specialisations are not offered by Jordanian universities.

Most of the companies surveyed face challenges in the technical level of recent graduates as was revealed by the survey results. The lack of practical experience and knowledge, along with the gap between education outputs and labour market requirements, were the most commonly cited challenges. Companies also focused their responses on a range of weak soft skills of recent graduates including poor communication and interpersonal skills. Companies when asked about the challenges they face in training and coaching recent graduates cited almost the same set of challenges. However, an additional challenge cited by most companies in this area was the high turnover rate of trained workers, who often receive the training for the purpose of pursuing work elsewhere.

Other than this qualitative discrepancy associated with the quality and relevance of education, the report investigated other possible sources. One major source of disequilibrium is the geographical disparity between labour supply and demand. In specific, the study found that over 72% of the net new jobs in 2014 were generated in the three governorates of Amman, Irbid, and Zarqa, with a disproportionately large share of job generated in Amman, at 45.6%. Another major source of mismatch found by the study was the restrictiveness of labour market regulations in Jordan. According to the most recent Global Competitiveness Report (2015), the number one most problematic factor for doing business in Jordan is 'restrictive labour regulations'. Most of this restrictiveness stems from the large number of migrants and refugees working in Jordan, which has pressed authorities to institute regulations and measures that protect Jordanian employment from competition. The fact that Jordanian workers do not seek employment in some sectors but are present in large numbers in others means that any regulation or restriction cannot be applied equally across all sectors. Therefore, the Ministry of Labour has signed agreements with more than a dozen associations across the sectors through which the ratio of foreign workers to Jordanian workers was determined for the purpose of regulating the labour market in these sectors.

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## ANNEX 1

### Company Interview Questions:

- 1) Is your company satisfied with the quality of the labour market in Jordan?
- 2) Does your company participate in job fairs? If not, is the company willing to?
- 3) Is your company willing to couch youth/interns?
- 4) Does your company hire fresh graduates? If yes, is it preferable to hire the ones who done have done internships?
- 5) Does your company approach universities seeking fresh graduates with certain criteria?
- 6) Do you think that Jordanian universities equip their graduates’ with the necessary skills and requirements needed in the job market? If not, do you think that training centres are capable of mending this gap?
- 7) Has your company hired people that were trained by government schemes (such as vocational training centres)? If so, was the employee able to perform the task assigned to him/her adequately?
- 8) What is the percentage of non-Jordanians hired at your company?
- 9) How many vacancies are currently available at your company?
- 10) What is the percentage of fresh graduates hired at your company?
- 11) What is the percentage of university degree holders working at your company?
- 12) What is the percentage of vocational centre graduates working at your company?
- 13) How many new jobs open in your company every year?
- 14) What is the number of internships open at your company every year?
- 15) How many interns does your company currently have, and for how long do you usually have them?
- 16) Are there any people with disabilities employed at your company? If so, how many?
- 17) What is the percentage of females in your workforce? If the percentage is below 50%, please explain.
- 18) What are your company’s requirements for internships?
- 19) What type of training and coaching programs does your company have?
- 20) In your opinion, what is the level of training centres working in the same field as your organisation? Can you provide any recommendations for improvement?
- 21) What are the biggest problems/ challenges your company faces when training/coaching fresh graduates?
- 22) For non-technical positions, what is the most preferred academic backgrounds at your company, and why?
- 23) Are there any degree programs required in your sector that are not provided in Jordanian educational institutions? If so, what they?
- 24) What are the main challenges facing your company/sector when recruiting? How can they be overcome?
- 25) From your company’s experience, what are the main academic problems graduates in your sector have, and what suggestions do you have to tackle these issues?
- 26) List the five most important skills that employees must have to work efficiently in your company/sector?



# ANNEX 2

| Agreements Signed by Ministry of Labour with Sectorial Associations to Determine Permissible Shares of Foreign Labour                           |   |                      |                      |                      |           |
|---|---|----------------------|----------------------|----------------------|-----------|
| Sector  | Ratios  |                      |                      |                      |           |
| <b>Jordanian Housing Developers Association</b>   | Maximum of 5 foreign workers, on condition of a minimum of 3 Jordanian workers                                  |                      |                      |                      |           |
| <b>Jordanian Construction Contractors Association</b>   | Jordanian workers: 50%  |                      | Foreign workers: 50% |                      |           |
| <b>Gas Station Owners Association</b>   | Jordanian workers: 60%  |                      | Foreign workers: 40% |                      |           |
|   | Jordanian share to increase by 5% annually  |                      |                      |                      |           |
| <b>Support Services Companies Owners Association</b>  | Jordanian workers: 60%  |                      | Foreign workers: 60% |                      |           |
| <b>Jordan Restaurant Association</b>  | Share of foreign workers  |                      |                      |                      |           |
|   | Classification  | Touristic Restaurant | Coffee Shop          | Entertainment cities | Fast Food |
|   | stars 4   | 30%                  | -                    | 25%                  | -         |
|   | stars 3   | 30%                  | 30%                  | 25%                  | 20%       |
|   | stars 2   | 40%                  | 40%                  | 25%                  | 20%       |
|   | star 1  | 40%                  | 40%                  | 25%                  | 20%       |
|   | In terms of recruitment from abroad, no more than 30% foreign labour is allowed in each category                |                      |                      |                      |           |
| In terms of specialised restaurants such as Italian, Asian, French, Chinese... etc. restaurants, an additional 5% on the above rates is allowed |   |                      |                      |                      |           |
| <b>Jordan Association for Restaurants and Sweets</b>  | Jordanian workers: 55%  |                      | Foreign workers: 45% |                      |           |
|   | Jordanian share to increase by 5% annually  |                      |                      |                      |           |
| <b>Foodstuffs Traders Association</b>   | Share of foreign labour to be allowed will be based on the recommendation of the Foodstuffs Traders Association |                      |                      |                      |           |
| <b>Bakeries Owners Association</b>  | Mechanical bakeries   |                      |                      |                      |           |
|   | Jordanian workers 30%   |                      | Foreign workers 70%  |                      |           |
|   | Semi-mechanical bakeries  |                      |                      |                      |           |
|   | Jordanian workers 15%   |                      | Foreign workers 85%  |                      |           |
| Regarding stone bakeries, a maximum of 5 foreign workers are allowed for each stone bakery  |   |                      |                      |                      |           |

|  |  |   |
|--|--|---|
| <b>Jordan Hotel Association</b>  | Classification   | Share of foreign labour                               |
|  | stars 5  | 12%   |
|  | stars 4  | 15%   |
|  | stars 3  | 15%   |
|  | stars 2  | 25%   |
|  | stars 1  | 25%   |
|  | Hotel Suites   | Determined based on recommendation of the Association |
| <b>Association of Workers in Mechanical Professions</b>                          | (Year 1 (as of 23/9/2013                               |   |
|  | Jordanian workers 20%                                  | Foreign labour 80%                                    |
|  | Years after year 1                                     |   |
|  | Jordanian workers 30%                                  | Foreign labour 70%                                    |
| <b>Jordan Chamber of Industry</b>  | Industrial Sectors excluding factories working in QIZs | Share of foreign labour                               |
|  | Chemical industries                                    | 20%   |
|  | Mineral/mining industries                              | 15%   |
|  | Food industries  | 20%   |
|  | Therapeutic industries                                 | 5%  |
|  | Engineering industries                                 | 15%   |
|  | Packaging & printing industries                        | 20%   |
|  | Wood industries  | 35%   |
|  | Construction industries                                | 60%   |
|  | Plastic industries                                     | 60%   |
|  | Clothes industries                                     | 40%   |
| <b>Gas Stores</b>  | Jordanian workers 50%                                  | Foreign workers 50%                                   |
|  | Jordanian workers only in Amman, Zarqa, and Irbid 40%  |   |
| <b>Association of Beauty Salon Owners</b>  | Recommendation from the association                    |   |
| <b>Jordanian Association of Natural Stone and Bricks Exporters and Producers</b> | Share of Jordanian workers should not be less than 20% |   |

Source: Ministry of Labour





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