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THE STRUCTURE AND EVOLUTION
OF EMPLOYMENT IN JORDAN

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Abstract

In this paper we use a new and original data set, the Jordan Labor Market Panel Survey of 2010 (JLMPS 2010) to study changes in the structure and evolution of employment in Jordan over the past quarter century. Although, this is only the first wave of what is to be a longitudinal survey, it is possible to ascertain dynamic trends through detailed retrospective questions that allow us to reconstruct the employment trajectories of individuals who have ever been employed. Because this data can portray flows into the labor market and then follow the new entrants several years into their careers, they are able to highlight changes in trends much more precisely than regular quarterly labor force survey data that simply look at stocks of workers in different segments of the labor market at different points in time. The data also offer additional important advantages over the regular quarterly surveys in their ability to identify informal employment in its various guises, including wage and salary employment without contracts or social insurance and self-employment and unpaid family employment. Some of the main findings of the JLMPS 2010 is that the private sector is increasingly taking over from the public sector as the main engine of employment growth in Jordan but that formal employment, while growing rapidly, is becoming more precarious over time as employers attempt to gain flexibility by providing workers with social insurance but either temporary contracts or no contracts. Besides the initial bout of informality that new entrants to the formal sector experience, there seems to be a sharp divide between informal and formal employment, with few workers being able to cross from one to the other. Informal wage workers may become self-employed or even employers, but are much less likely to move into formal jobs. While hiring in the government sector appears to have slowed significantly since the 1970s, there appears to be a recovery in public sector employment in recent years with many workers moving into public sector employment after an initial spell in formal private sector employment. This is a major change from the past when most educated workers got government jobs as a first job. Self-employment is a relatively low but stable part of employment in Jordan. Workers seem to get such employment after spending some time as either informal wage workers or unpaid family workers.

JEL classification codes: J21, J62

Keywords: Employment Structure; Employment Dynamics; Job Creation; Labor Market; Jordan

ملخص

في هذه الورقة التي نستخدمها مجموعة بيانات جديدة ومبتكرة، وهي المسح التتبعي لسوق العمل على الأردن 2010 (JLMPS 2010) لدراسة التغيرات في هيكل وتطور العمل في الأردن على مدى ربع القرن الماضي. على الرغم من أن هذا ليس سوى الدفعة الأولى من ما سوف يكون مسح مطول، فمن الممكن التحقق من الاتجاهات الديناميكية من خلال أسئلة تفصيلية بأثر رجعي والتي تسمح لنا بإعادة بناء مسارات العمل من الأفراد الذين تم توظيفهم من أي وقت مضى. ولأن هذه البيانات تستطيع أن تصور التدفقات إلى سوق العمل ومن تتبع الداخلين الجدد لسنوات عدة في وظائفهم، فهي قادرة على تسليط الضوء على التغيرات في اتجاهات بطريقة أكثر تحديدا من البيانات الربعية المنتظمة لمسح القوى العاملة والتي تنتظر ببساطة إلى مخزون العمال في قطاعات سوق العمل المختلفة في أوقات مختلفة. كما تقدم البيانات مزايا إضافية أهم من المسوحات الربعية الدورية في قدرتها على تحديد العمالة غير الرسمية في مختلف مظاهرها، بما في ذلك الأجور والمرتبات للعاملين بدون عقود عمل أو تأمين اجتماعي والعاملين لحسابهم الخاص والعمالة بدون أجر. بعض من النتائج الرئيسية لمسح JLMPS 2010 هو أن القطاع الخاص يغلب بشكل متزايد على القطاع العام كمحرك رئيسي لنمو فرص العمل في الأردن، وبالرغم من النمو السريع، إلا أنه أصبح أكثر خطورة مع مرور الوقت لمحاولة أرباب العمل اكتساب مرونة من خلال توفير التأمينات الاجتماعية للعمال ولكن إما بعقود مؤقتة أو بدون عقود. وإلى جانب موجة العمالة

الغير رسمية للوافدين الجدد للقطاع الرسمي، يبدو أن هناك انقساماً حاداً بين العمل الرسمي وغير الرسمي، مع بعض العمالة التي تقدر على أن تعبر من القطاع الغير رسمي إلى القطاع الرسمي. ويمكن للعاملين بأجر في القطاع الغير رسمي أن يعملوا لحسابهم الخاص أو حتى أصحاب أعمال، ولكن احتمالية انتقالهم إلى وظائف رسمية أقل بكثير. في حين أن التوظيف في القطاع الحكومي قد تباطأ بشكل كبير منذ السبعينيات، يبدو أن هناك انتعاشاً في التوظيف في القطاع العام في السنوات الأخيرة مع انتقال العديد من العمال إلى العمل في القطاع العام بعد فترة أولية في العمالة في القطاع الرسمي الخاص. ويعد ذلك تغيير كبير عن الماضي حيث كانت تعمل معظم العمالة المتعلمة في وظائف حكومية كأول فرصة عمل لهم. ويعتبر العمل الحر منخفض نسبياً لكنه يعد جزءاً مستقر من العمالة في الأردن. ففي الغالب يحصل العمال على عمل من هذا القبيل بعد أن إضاء بعض الوقت إما في العمل بأجر في القطاع الغير رسمي أو في العمل العائلي بدون أجر.

1. Introduction

Despite the fact that Jordan has experienced significant economic growth in the past decade, it continues to suffer from persistently high unemployment, especially among educated youth. Despite an average annual growth rate of 6 percent from 1999 to 2009, the unemployment rate has hovered somewhere between 13 and 16 percent during this period. Unemployment is growing particularly rapidly among educated workers whose numbers are growing rapidly due to the rapid expansion of education in Jordan. This pattern of growth with persistently high unemployment is a long-term feature of the Jordanian economy (World Bank 2007 [6]) but was exacerbated by the recent slowdown of growth due to the world financial crisis. GDP growth rates in 2009 decelerated markedly to just over 2 percent per annum after having reached nearly 8.5 percent in 2007. This slowdown appears to have disproportionately affected educated workers who besides being at greater risk for unemployment are increasingly finding themselves in either temporary formal employment or in informal employment. The employment challenges faced by these increasingly educated new entrants co-exist with an economy that is creating a large number of low-quality informal jobs in construction and services that are mostly being filled by a growing legion of foreign workers.¹

In this paper we use a new and original data set, the Jordan Labor Market Panel survey of 2010 (JLMPS 2010) to study changes in the structure and evolution of employment in Jordan over the past quarter century. The JLMPS 2010 offers significant advantages over the regular Employment and Unemployment (EUS) survey conducted quarterly by the Department of Statistics (DOS). Although it is only the first wave of what is to be a longitudinal survey, it contains a number of retrospective questions that allow us to reconstruct entire employment trajectories rather than simply get a snapshot of a single point in time. The main advantage of this approach is that it allows for the examination of flows into various segments of the labor market and not simply stocks over time. Since flows are much more sensitive to changes than stocks, it is a powerful tool to study developing trends in the labor market.

The JLMPS 2010 data also offers significant advantages over the EUS in its ability to identify informal employment in its various guises, including wage and salary employment without contracts or social insurance and self-employment and unpaid family employment. It also offers a more detailed view of employment conditions including paid and unpaid leaves, the presence of health insurance, hours of work, and the type and size of economic unit in which the worker is employed.

Since JLMPS 2010 has the same sampling strategy as the EUS it focuses exclusively on the population residing in regular households rather than in collective residential units. This makes it equally likely as the EUS to under-sample the foreign worker population in Jordan. This version of the data makes no attempt to try to correct for this potential under-representation of foreign workers by using Ministry of Labor information on foreign worker licenses, etc. The accurate estimation of the role of foreign workers in the Jordanian labor market therefore remains a challenge, although we can get some sense of what kinds of jobs they are likely to be concentrated in.

Some of the main findings of the JLMPS 2010 is that the formal private sector in Jordan is taking over from government as the main engine of employment growth. The share of formal private employment in the employment of new entrants to the Jordanian labor market has more than tripled from 10-12 percent in the mid 1980s to 36-38 percent in 2010. Although growing rapidly, private formal employment is becoming more temporary in nature as employers attempt to achieve greater flexibility by providing definite duration contracts or no

¹ See Ministry of Labor and Ministry of Planning and International Cooperation (2012) for further discussion of these challenges [5]

contracts at all. Over time however, more than half the workers employed on temporary or no contracts manage to obtain permanent contracts. There appears to be very limited mobility between the informal and formal segments of the labor market, although many workers hired in formal firms are first hired informally for a period of time. After declining significantly since the late 1980s, government employment is now experiencing a small recovery, but, unlike earlier times, many of the workers being hired by government are now coming with some experience in the private sector. This is a significant change from the 1980s when the opposite was true, with workers getting their first job in government and then, in some cases, moving to the private sector later. Self-employment has been a low but stable part of total employment in Jordan, and is mostly accessed only after a period of time as either an informal private wage worker or an unpaid family worker.

2. GDP Growth, Employment and Unemployment in Jordan in the New Millennium

2.1 GDP growth, employment growth and unemployment in Jordan

As shown in figure 1, GDP growth in Jordan accelerated significantly in the second half of the past decade, before slowing significantly in 2008 and 2009 at the heels of the world financial crisis. GDP growth rates went from a healthy 4-6 percent in 2000-2003 to an impressive 8-8.5 percent per annum from 2004 to 2007. Despite this tremendous acceleration in GDP growth, unemployment rates, which were over 14 percent in the early part of the decade, fell only slightly to over 12 percent, increased again to over 14 percent in 2005 and then fell slowly to just over 12 percent at the end of the decade. This level of responsiveness of the unemployment rate to aggregate growth appears particularly weak given the very healthy growth rates achieved from 2004 to 2007.

While the unemployment rate was particularly sluggish in its response to economic growth, the employment to population ratio, which indicates how employment is growing is more responsive, but with a significant lag. While the acceleration in growth occurred between 2003 and 2004 as shown in figure 2, the employment to population ratio rose from around 35 percent to around 38.5 percent only two years later. The 2009 slowdown in growth was not yet reflected much in the employment to population ratio again because of this lagged response.

The contrasting trend in the unemployment rate and the employment to population ratio suggests that the Jordanian labor market seems to draw on a source of labor supply that is not coming from the pool of unemployed Jordanians. This could well be foreign workers, who are not captured very well by either the EUS or the JLMPS or from individuals who are outside the labor force and who enter in periods of high labor demand. Resolving this puzzle is one of the principle objectives of this paper. The hypothesis that I would like to test is that the composition of the workforce is increasingly shifting toward higher education graduates who are looking for a specific kind of job, namely professional or white collar jobs, and who are willing to remain unemployed for a time until they find such jobs. On the other hand, the economy seems to be generating lower quality jobs that do not appeal to these graduates and that are more likely to go to foreign migrants.

Before moving to an analysis of the changing composition of the workforce and its connection to unemployment in Jordan, I examine more carefully the data on net employment growth in Jordan in recent years and the extent to which employment growth appears to be associated with the influx of foreign workers. There are three sources of data that allow us to estimate net employment growth on an economy-wide basis in Jordan, namely the Employment and Unemployment Survey (EUS), the Job Creation Survey (JCS) and the Jordan Labor Market Panel Survey of 2010 (JLMPS 2010). The EUS is the official source of data on employment and unemployment in Jordan and is conducted quarterly on a sample of about 12,000 households per quarter. The JCS is a relatively new household survey, carried

out for the first time in 2007 and is carried out semi-annually on a sample of 40 thousand households per round. It enquires about any new jobs, job changes, or job endings that the household experienced during the survey year. While the JLMPS 2010 is not designed to measure employment growth, we can get an estimate of net job creation by estimating the number of entries and exits into the labor market every year from the retrospective data. Figures more than a few years old should be interpreted with care, however, since some of those who exited could have died or migrated out of the country, and, therefore, disappeared from the survey sample. This could be particularly true of foreign workers in Jordan who would tend to leave the country when their jobs end. JLMPS also ignores spells of employment or non-employment that last for less than six months.

Figure 3 shows the net change in employment every year (relative to the year before) in both absolute numbers and as a proportion of total employment, as estimated by the three sources. While the figures fluctuate a lot from year to year and from one source to the other, we can still use them to draw some general conclusions. With the exception of 2007, when the EUS produced an unrealistically high figure, and 2009 where JLMPS produces a low figure, the estimates from the EUS and the JLMPS tend to agree with each other, suggesting a net job growth of 35 to 45 thousand jobs per year from 2005 to 2009.² The estimates from JCS appear to be consistently on the high side, providing an estimate of job growth of about 70 thousand jobs per year in 2007 and 2008, and 76 thousand in 2009. With the exception of 2007, the EUS estimates an employment growth rate of between 3.0% and 4.1% (see table 1). JLMPS 2010 estimates similar rates of growth of between 3.0% and 4.0% between 2006 and 2008. In contrast, the rates of growth suggested by the JCS range from 5.2% to 5.9% from 2007 to 2009.

The source of the discrepancy in the estimation of employment growth between the EUS and the JLMPS on the one side and the JCS on the other is not entirely apparent. All three surveys are household surveys and will therefore not be representative of the large number of foreign workers than do not live in traditional households. In any case, it is unlikely that job growth among foreign workers accounts for the difference, since, according to the 2009 JCS survey, 90% of the 69 thousand net jobs created that year went to Jordanians.

2.2 The changing composition of the workforce and unemployment in Jordan

Now we move to a discussion of changes in the composition of the Jordanian labor force toward more educated groups, whose preference for formal and public sector jobs would lead them to search longer and therefore have higher unemployment rates. This can be easily ascertained from an examination of the composition of the working age and employed populations by educational attainment shown below.³

As shown in figure 4, the proportion of illiterates and those who can only read and write in the working age population has declined from about 18 percent to 12 percent over the decade, at the same time as that of those with basic education has been stable at about 50 percent and the proportions of those with secondary and post-secondary education have either been rising slowly or stable. In contrast, university graduates is the one group whose proportion has increased rapidly from about 8 percent to 13 percent of the working age population in only ten years.

²The very high job growth estimate produced by the EUS between 2006 and 2007 appears to be the result of a change in the EUS sample which was updated in that year using the results of the 2004 population census. This new sample seems to have a much larger proportion of Egyptians than before. Egyptians tend to have much higher employment rates than Jordanians since they are mostly single adult males coming to Jordan for work. The number of Egyptians showing up in the EUS sample more than doubles from the last quarter of 2006 to the second quarter of 2008. This is not likely to be due to a doubling of the number of Egyptians in the country. Data on work permits from the Ministry of Labor shows that the number of Egyptians on work permits in Jordan only increased by 10% from 2006 to 2007.

³See also Assaad and Amer (2008) [1] for a more detailed analysis of the composition of the Jordanian workforce based on EUS data.

Since participation in employment is higher among the educated, their proportion among the employed is larger than in the working age population, but the same rising trend is apparent. While the proportion of all education groups is either declining or stable as shown in figure 4, that of university graduates has increased from about 16 percent of the employed to just under a quarter (figure 5). This rapid increase in the stock of educated workers among the employed suggests that their proportion in the flow of incoming workers into the labor market is not only high but increasing rapidly. We can ascertain this directly from the flow information available in the JLMPS 10. Figure 6 shows the distribution of new entrants to the labor market by educational attainment and year of entry.

As shown in figure 6, the composition of new entrants in Jordan has changed dramatically since the 1960s. In the 1960s, there was a precipitous decline in the proportion of illiterates and a rapid increase in the share of those with basic and secondary education. This rapid progress was stalled somewhat in the 1970s, but the decline in illiterates resumed its rapid decline since the 1980s so that now fewer than 5 percent of new entrants are illiterate. In the 1980s and early 1990s, the improvement in education essentially translated in the rapid growth of the share of those with basic education. However, since the mid 1990s, that share stabilized and the share of those with university degrees took off. The share of those with university degrees rose from 15 percent of new entrants to over 30 percent in less than two decades.

The rapid increase in the share of university graduates among new entrants is reflected in the share of university graduates among the unemployed, who tend to be young new entrants, and hence a better reflection of the flow into the labor market than the stock of workers. As shown in figure 7, the share of those with university degrees and above among the unemployed rose from about 12 percent in 2000 to over 30 percent in 2010.

The more rapid rise in the share of university graduates among the unemployed than among the employed translates directly into rising unemployment rates for these graduates. Figure 8 shows that, although the unemployment rates of all the educational groups below the university level have fallen during this period, those of university graduates have risen sharply in 2000-2003 and then stabilized thereafter. However, as the composition of the workforce shifted in their direction, their higher unemployment rates in the latter period, kept the overall unemployment rate high.

The inability of the Jordanian economy to absorb the growing number of university graduates is linked to the shifts that were occurring in the structure of employment away from the public sector and in favor of more private sector employment. This is an issue we will explore in great detail below. For now, we can ascertain this fact from EUS data, which tracks the stock of workers over time by sector. As shown in figure 9, the share of the government in total employment fell in the mid 1990s from 38 percent to about 32 percent and then remained at that level thereafter. Even with a fixed proportion of overall government employment and a growing share of educated workers, the probability that a given educated worker will get a government job declines significantly.

3. The Dynamics of the Jordanian Labor Market as Ascertained by JLMPS 2010 Data

We examine in this section trends in the Jordanian labor market by taking advantage of the complete employment trajectories that JLMPS 2010 data make available as well as the more detailed characterization of jobs that is possible from this data. We take advantage of the fact that we have similar data from the Egypt Labor Market Panel Survey of 2006 (ELMPS 06) to make comparisons with labor market trends in Egypt. Egypt went through a similar liberalization process as Jordan, but with different timing and from different starting points.

We note at the outset that the JLMPS 2010 and the EUS produce very similar results for the variables they measure in common. We show in Appendix A, a few charts comparing JLMPS 2010 results with those of the first two quarterly rounds of 2010 for the EUS, which were carried out at roughly the same time.

In this analysis, we will distinguish between five types of employment, namely: (i) government employment, (ii) formal private wage work, which includes wage and salary employment with either a legal employment contract or social insurance coverage in either the private sector or in state-owned enterprises, (iii) informal private wage work, which includes wage and salary work in the private sector with neither a contract nor social insurance coverage, (iv) employers and self-employed individuals in the private sector, and finally (v) unpaid family workers in the private sector. In some more detailed analyses, we further breakdown private formal wage work into “permanent” and “temporary”. Permanent formal wage work includes indefinite duration contracts with social insurance coverage and temporary formal wage work includes definite duration contracts as well as work with social insurance coverage but not contract. The other category includes the more precarious and temporary jobs in private sector that nevertheless offer social insurance coverage. Figure 10 shows the breakdown of employment in Jordan in 2010 according to these categories and by sex.

As previously ascertained from EUS data, government employment contributes about a third of total employment in Jordan. Just over a fifth of employment is in formal private wage work and over a quarter is in informal private wage work despite significant efforts in recent years to increase the coverage of the social insurance system. Under a fifth of employment is in own account work as employers and self-employed workers, and a tiny fraction is in unpaid family work.

As shown in figure 10, female workers in Jordan are more likely to be working for the government and more likely to be in formal wage work than males. They are significantly less likely to be employers and self-employed workers. A further breakdown of formal employment, shows that nearly all government workers (97 percent) have permanent contracts whereas only 70 percent of formal private sector wage workers are permanent. Almost all employers/self-employed workers (97 percent) are informal in the sense that they do not have social insurance coverage, as are all unpaid family workers.

In what follows, I focus on flows into the labor market by examining the job status of new entrants by year of entry into the labor market. To smooth over year-to-year fluctuations and sampling error, I fit a trendline through the data using a 6-year moving average. Later we examine the job status five and ten years after entry to distinguish between permanent changes over time versus changes in the patterns of insertion into the labor market. The advantage of this analysis is that it distinguishes changes in labor market structure that affect different cohorts of new entrants from changes that occur over workers' life cycles as they progress in their careers.

Figure 11 shows the distribution of employment by type job for the first job obtained by new entrants by year of entry from 1960s to the 2000s for both Jordan and Egypt. The figure shows that from 1960 to the mid 1970s in Jordan, there was a continuous rising trend in the share of government employment among new entrants, with the share going from 5 percent in 1960 to nearly 50 percent in the mid 1970s. The share of government in first jobs remained high until 1990, after which it declined sharply until 2000, where it reached 25 percent, half of its value at the peak. There appears to be a recovery in the role of government in employing new entrants in the past decade, with the share growing to about a third by 2010. The growing share of government in the hiring of new entrants in Jordan mirrors the

experience in Egypt from the 1960s to the late 1970s. However, the reversal occurred a decade earlier in Egypt and has persisted throughout the 2000s.

The growth of government employment in the 1960s and 1970s in Jordan came at the expense of informal employment, whether in the form of informal wage employment or self-employment or unpaid family labor. Formal private sector work was very limited and growing rather slowly until the late 1980s. However, it is very clear that when the role of government began to decline in Jordan in the mid-1980s, it is the formal private sector that took over the mantle of employment creation. The growth of its share from 10 percent to 30 percent of new jobs in one decades almost completely makes up for the declining share of government. Although informal private wage work grew at first in response to the decline of government in the 1980s, its growth stabilized as that of formal private employment took off.

This picture offers a very clear contrast with the situation in Egypt where nearly all the declining share of government was made up by the growth of informal wage employment. Formal wage employment in Egypt grew much more slowly than in Jordan, going from about 5 percent of employment in the mid 1970s when the share of government began to decline to just over 10 percent by 2005.

Another important contrast between Jordan and Egypt is in the growth of entrepreneurship among new entrants as measured by the share of self-employment (and employers) in the employment of new entrants. Although this share declined in the 1960s in Jordan and remained constant at about 5 percent since then, it has been increasing steadily in Egypt from less than 5 percent in 1970 to nearly 10 percent in 2005

Further insights can be gained on the changing structure of the labor market over time, by limiting our analysis to the labor market experience of educated new entrants. By focusing only on those with secondary education and above, we can see that the declining role of government in employment looms much larger in both Jordan and Egypt. As shown in figure 12, over a little more than one decade from the mid 1980s to the mid 1990s in Jordan, the share of government employment among educated new entrants was halved from 60 percent to 30 percent and then remained at roughly that level throughout the 2000s. The decline in Egypt began earlier, was more gradual but ended up being larger in magnitude, with government providing from over 70 percent of first jobs for educated new entrants in the 1960s to just 20 percent of first jobs in the 2000s. Again the contrasting roles of formal and informal private wage employment in Jordan and Egypt is quite clear, with the former taking up the almost the entire slack in Jordan and the latter doing so in Egypt.

In concluding this discussion of the changing structure of the labor market facing new entrants, we can ascertain that Jordan was able to avoid the informalization of employment that occurred in Egypt as a result of the restructuring of the economy away from the public sector. As we will see below, Jordan managed to do so by making formal private employment more flexible through the use of temporary contracts, while maintaining social insurance coverage.

We now move to a deeper look that follows individuals through time as they progress through the labor market to see what can be learned about the changing structure of employment five and ten years into workers' careers for different cohorts of workers. Again the share of each employment type in total employment at the time of entry is viewed by year of entry, but now we add the share five and ten years into the labor market. To make the figures comparable, we limit the analysis to workers who stay in the labor market for at least ten years, so as to abstract away from compositional changes due to exits from employment altogether.

We start by looking in figures 13 and 14 at the share of the two formal sectors of employment, namely government and formal private wage employment. From other analysis of JLMPS 2010 data, we know that there is virtually no mobility between informal and formal employment once a person has entered one of these tracks (Amer 2012 [2]), so it is useful to examine mobility within the formal segment and within the informal segment.⁴ We can see from the two figures that up to approximately 1983 in Jordan, there was hardly any further movement once people got a first job in either of these two sectors. From 1983 to about 1990, it appears that some people who got first jobs in the government, later moved to formal private wage employment. The opposite appears to be true after the mid-1990s, with a significant proportion of workers first starting their careers in formal private employment and then moving to government. This pattern corresponds to the time period in which the government's share of first jobs was recovering after the sharp decline it experienced from the mid 1980s to the mid 1990s. When taking into consideration these instances of delayed entry, the decline in government hiring from 1990 to 1998 is significantly attenuated and the recovery since 1998 appears to be much stronger than by simply looking at new entrants.

The picture in Egypt is somewhat different. Until 1977 or so when the share of government was rising, most workers seemed to be starting their careers in government employment. After that, a significant proportion appears to be starting elsewhere and then moving into government, although the share of government was declining over time even for workers with ten year of experience. Unlike Jordan, these workers moving into government jobs do not appear to be coming from formal private wage employment, but from informal wage employment. In the Egyptian case, informal workers also seem to have a small chance of moving into the formal private sector after five to ten years of experience. The contrast between the growth of the formal private sector in Jordan and Egypt continues to look very striking.

To understand how Jordan was able to successfully substitute formal private sector employment for government employment and avoid the sort of informalization that occurred in Egypt, we need to delve deeper into the form that formal private employment took in Jordan. Here we make a distinction between temporary and permanent formal wage employment. As mentioned earlier, temporary employment is either with a definite duration contract or no contract and permanent employment is with an indefinite duration contract. Both the temporary and permanent wage employment categories considered here are covered by social insurance and hence are formal. Unfortunately, similar data on definite and indefinite duration contracts is not available for Egypt, preventing us from undertaking the Jordan-Egypt comparison.

As shown in figure 15, it is temporary wage employment that appears to be growing dramatically among new entrants in the post-1985 period when formal private wage employment was growing rapidly. Permanent employment grew as well among new entrants from 1985 to 1995, but more slowly and its growth reversed in the 1995-2000 period. However, we can also see from the figure that the share of temporary wage employment falls significantly once workers have been in the labor market for five years and even further after 10 years and that the gap between new entrants and more experienced workers is growing over time. The opposite is true for the permanent employment category, which sees its share growing as workers spend more time in the labor market. These patterns strongly suggest that workers on temporary (or no) contracts eventually acquire permanent contracts as they gain experience. Some of these temporary workers do so within the formal private sector and some move to government as we have seen above. Again, it should be kept in mind that this

⁴ In this analysis we ignore mobility from informal to formal employment in the same job as it is typical of formal employers to test out workers by hiring them informally for some time and then registering on the social insurance rolls. In this analysis we treat these workers as formal from the very start

analysis does not include temporary workers who withdraw from the labor force altogether, such as young women who may withdraw at marriage, since we are only considering workers who have been in the labor market for at least ten years. These results strongly suggest that the ability to hire workers on temporary contracts has allowed Jordanian private firms to flexibly grow their employment without resorting to informalization and that, eventually, most of these workers manage to obtain permanent formal employment. One point of concern however is that the growth of permanent formal private sector jobs in Jordan has stagnated in recent years even for those who have been in the labor market for 10 years. This is probably due to both the recent resurgence in government employment and the increasing reliance of the private sector on temporary contracts.

Despite the rapid growth of formal private employment in Jordan, the second largest category of employment in Jordan (and Egypt) after government is informal private wage employment; a category to which we now turn our attention. As shown in figure 16, there is a tendency for workers to move out of this category a few years after entry. While the share of the category among new entrants has been rising from 1985 to about 1998, the increase is much smaller among workers who have been in the labor market for five and ten years. There is however no evidence in the Jordanian case that these workers have been formalizing their employment over time. In fact, the main destination of those who leave this state appears to be self-employment/employer, as shown in figure 17, a category that also receives workers from those in unpaid family work (figure 18). Of the 7 to 8 percentage points of employment that appear to move into the employer/self-employed category in Jordan after 10 years of experience, approximately 4-5 percentage points appear to come from informal wage work and 2-3 percentage points appear to come from unpaid family labor. In contrast, in Egypt, most of the increase in the size of the employer/self-employed category after 10 years of experience appears to match exactly those who leave the unpaid family work category within 10 years of starting to work. The relatively slow growth or even stagnation of these mostly informal categories over time also contrasts with their more rapid growth in Egypt.

4. Characteristics of Private Wage Employment in Jordan

We focus in this section more closely on private wage employment, including both its formal and informal subcomponents, as it is the segment of the labor market that is likely to be most dynamic in the upcoming period. We begin by looking at its composition by firm size and then examine the characteristics of employment and workers for different size categories. One of the issues we attempt to address is the composition of the private sector work force by nationality, given the tendency of many private employers in Jordan to prefer foreign workers. While we acknowledge that, like the EUS, the JLMPS underestimates the number of foreign workers in the Jordanian economy, it can still provide an indication of the kind of jobs they are concentrated in.

4.1 The size distribution of firms and the type of employment by firm size

As shown in figure 19, nearly one third of private wage employment is in establishments of fewer than 5 workers and just under one half in enterprises of fewer than 10 workers. If we include non-wage workers, the proportion of workers in establishments of fewer than 10 workers rises to 57 percent. This compares to 69 percent in the case of Egypt. Enterprises of more than 100 workers employ about a quarter of total private wage employment, leaving about 30 percent in small and medium enterprises of 10 to 99 workers.

Figure 20 shows that workers in enterprises of fewer than 5 workers are almost entirely informal (92 percent). This is partly due to the fact that Jordan's current social insurance law exempts enterprise of fewer than five workers from social insurance coverage. The share of informal workers then drops steadily from 68 percent in the 5-9 category to 10 percent in the 100+ category.

Within formal wage work, the proportion of permanent workers hovers between 60 and 65 percent for the intermediate size categories (5-9 to 50-99), but increases to 77 percent for the 100+ category (figure 20). This suggests that while the largest firms can provide the most stable and protected forms of employment, they still like to maintain a margin of flexibility by either hiring workers informally (10% of their employment) or using temporary contractual forms (21 percent). Overall, only 45 percent of private sector wage workers in Jordan are formal and only 31 percent have permanent formal contractual arrangements.

The occupational structure also varies significantly by firm size. As shown in figure 21, small firms hire very few professionals and managers. Professionals become significant only in firms of 10 workers and above. This highlights the growing conundrum in the Jordanian labor market, which is the fact that the educational system is producing increasing numbers of university graduates, but structure of labor demand in the private sector is still highly skewed toward semi-skilled and unskilled occupations. These occupations tend to be, for the most part, below the professional expectations of Jordanian university graduates.

4.2 Non-wage benefits in private wage work

Formal employment in Jordan is associated with a number of non-wage benefits that are likely to make it attractive to educated workers. Our definition of formal employment is based on the presence of social insurance coverage, but a question still remains whether it comes with other non-wage benefits, such as various types of paid leaves or medical insurance. We also distinguished between permanent formal work and other formal work based on the availability of an indefinite duration contract. We maintain this distinction in the following analysis. As shown in figure 22, most permanent formal jobs come with either full paid leave (72 percent) or some other kind of paid leave (20 percent). However other formal employment, which tends to be more precarious is much less likely to be accompanied by paid leave, with up to 24 percent of these jobs not having any kind of leave. As expected, informal jobs, which make up 55 percent of wage and salary jobs in the Jordanian private sector, are most typically not accompanied by paid leaves. Overall, only 36 percent of Jordanian private sector wage workers get full paid leave and up to 44 percent do not get any kind of paid leave.

The type of leave is also strongly associated with establishment size. As shown in figure 23, establishments of 1-4 workers provide very little in paid leave, with only 4 percent of their workers having full leave and 20 percent having any paid leave. By the time we reach the 100+ category, 66 percent of workers have full paid leaves and 88 percent have some kind of paid leave.

Other non-wage benefits like the availability of medical insurance are also strongly associated with firm size. As shown in figure 24, the proportion with medical insurance increases steadily from 3 percent in enterprises of 1-4 workers to 62 percent in enterprises of 100+ workers, with the overall average being 28 percent of all private sector wage workers receiving such benefits.

4.3 The role of non-Jordanians in Jordan's private sector

Although the proportion of non-Jordanians is probably understated in the JLMPS 2010, we can still get some information about what type of work and activities they are concentrated in. The expected pattern is that non-Jordanians are recruited to occupy the kind of jobs that Jordanians are less willing to take. These would include informal jobs without benefits and jobs in smaller enterprises.

Both the JLMPS 2010 and the first two rounds of the EUS in 2010 estimate a proportion of non-Jordanians of about 8 percent of the working age population and about 10 percent of employment. The fact that the two sources agree does not necessarily mean that the figure is

accurate, but that they have the same sampling scheme, which leads to the same degree of underestimation. Both surveys only sample traditional households and not the collective places of residence, which many foreign workers occupy.

As shown in figure 25, Egyptians are the largest single nationality group, but the group “other Arabs”, which presumably includes Palestinians without Jordanian citizenship is even larger. The percentages from the two surveys are fairly close with the exception of the “other Arabs” category and the “non-Arab” category. The discrepancy among the latter group is particularly large and probably involves some differences in the way that domestic workers were counted in the two surveys. It appears that in the JLMPS 10, foreign domestic workers were not counted as members of the Jordanian households in which they temporarily reside.

As shown in figure 26, the proportion of non-Jordanians among private wage and salary workers rises to 16 percent, since these workers are more likely to be concentrated in that sector. Comparing the different types of private wage and salary jobs, the highest concentration of non-Jordanians (25 percent) is in informal jobs, the least desirable jobs for Jordanians.

It is not surprising that the highest proportion of non-Jordanians is in the two smallest firm size categories. As shown in figure 27, the proportion of non-Jordanians is above average only for the 1-4 and 5-9 categories and is below 10 percent in the other firm size categories. It is possible that the proportion is even more understated for larger firms if these firms are more likely than smaller firms to use collective residential arrangements for their foreign workers.

Combining the type of job and firm size, we see that non-Jordanians are more likely to be informal in all firm size categories, but the highest proportion is found among informal workers in the smallest firms. As shown in figure 28, informal workers in the smallest firms are the most likely to be non-Jordanian (32%) and formal workers in the medium to large firms are almost entirely Jordanian.

5. Conclusion

The analysis of the JLMPS 2010 data has demonstrated clearly that the Jordanian labor market has gone through a period of rapid transformation as the Jordanian economy liberalized. The rate of government hiring has dropped precipitously since the mid to late 1980s only to recover somewhat in the 2000s. This was done partly by delaying the hiring of educated workers into the government and partly by reducing government hiring altogether. Formal private sector employment appears to have picked up the slack, with its share in the hiring of new entrants tripling from 11 percent in 1985 to 33 percent in 1995 and then continuing to rise slowly to 38 percent in 2010 as the share of government stabilized and recovered. This experience is in sharp contrast to that of Egypt where a similar restructuring away from government employment resulted in a significant informalization of employment among new entrants. Jordan was able to achieve this dramatic increase in the role of private formal employment by making such employment much more flexible through the use of temporary contracts or in some case no contracts at all. New hires were being enrolled with the social insurance, but increasingly not being given indefinite duration contracts. While this meant a greater precariousness of private sector employment, a majority of these new entrants in temporary employment managed to obtain permanent contracts within ten years of their entry into the labor market. Nevertheless, there appears to be an increasing reliance on temporary employment arrangements in recent years, even for workers with ten or more years of experience.

Despite Jordan's success at formalizing employment relations by providing social insurance coverage, private informal employment is still the second largest category of employment

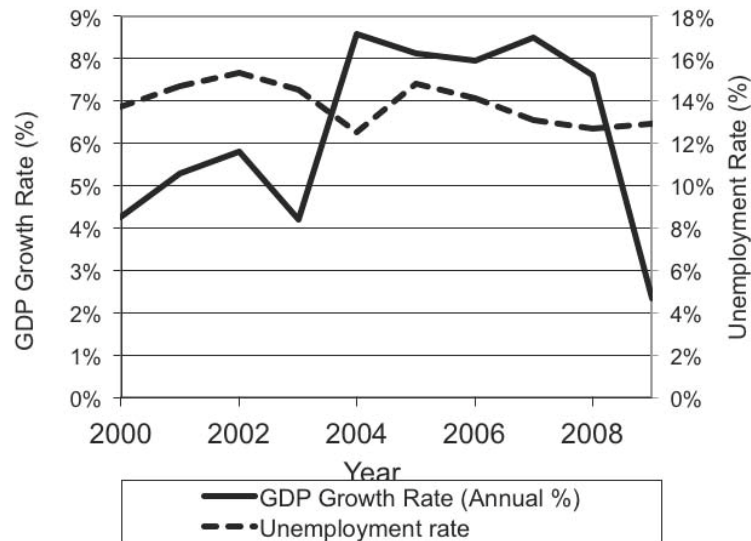
after government. This category makes up 55 percent of private wage employment and is particularly concentrated in enterprises of fewer than 5 workers, a category that was until recently exempt from social insurance coverage. This category of employment is generally seen as undesirable by Jordan's increasingly educated workforce and, as such, attracts a large number of non-Jordanian workers. There also appears to be very few opportunities for workers with informal jobs to upgrade to formal employment by changing jobs. At best, informal wage workers are able to upgrade to becoming self-employed.

The main problem facing the Jordanian labor market appears to be the mismatch between the kinds of jobs that are being created in the private sector and the expectations of the very rapidly growing supply of university graduates (Ministry of Labor and Ministry of Planning and International Cooperation 2012). Temporary and informal jobs in small private sector enterprises generally do not come with the kinds of non-wage benefits and stability that university graduates in Jordan have come to expect. This mismatch is currently being accommodated by continued high unemployment rates among graduates and the employment of large numbers of foreign workers to take the jobs that are shunned by the increasingly educated Jordanian workforce.

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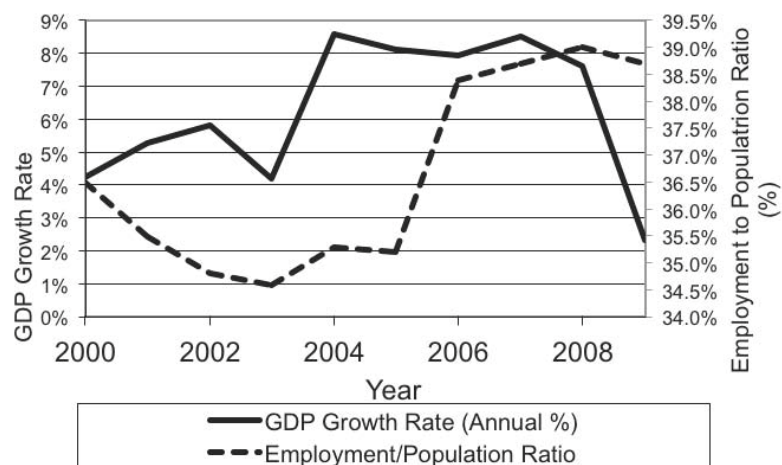
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Figure 1. Jordan:GDP growth rate and unemployment rate, 2000-2009



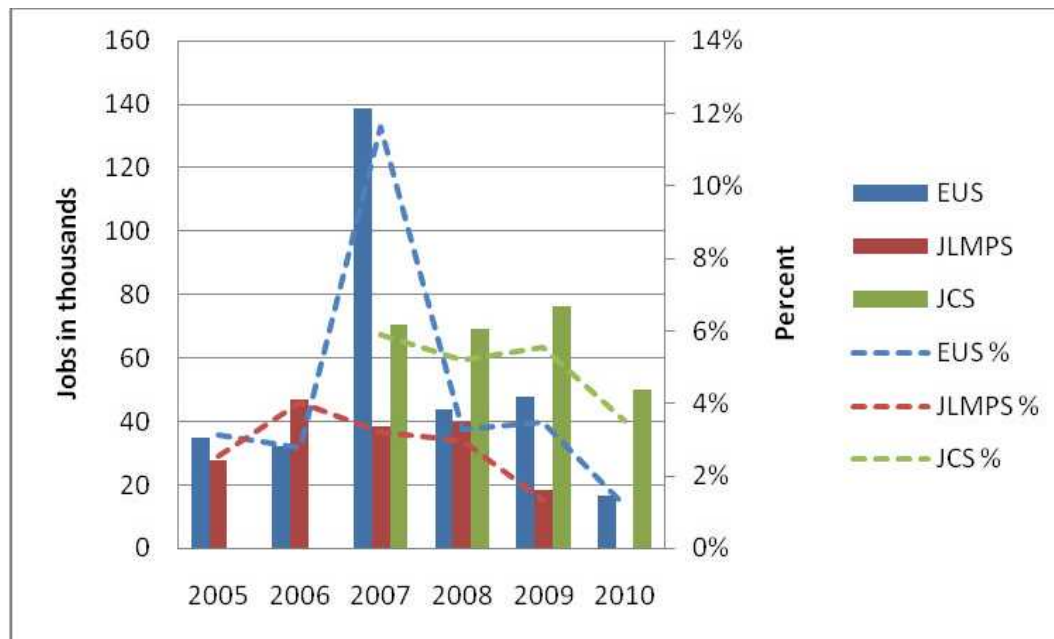
Source: Department of Statistics (DOS), Hashemite Kingdom of Jordan.

Figure 2. GDP growth rate and employment/population ratio over time, 2000-2010



Source: Department of Statistics (DOS), Hashemite Kingdom of Jordan.

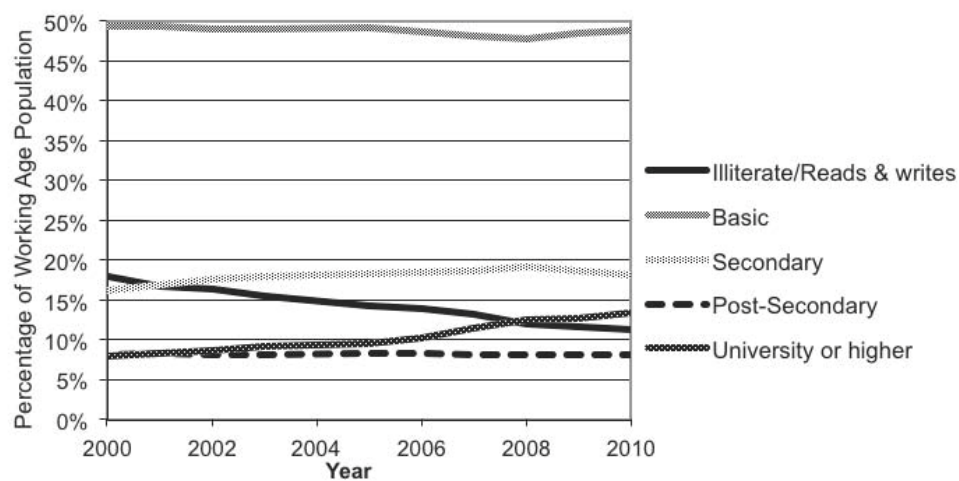
Figure 3. Net job growth in the jordanian economy according to three different sources in thousands of net jobs per year (left axis) and as a percent of employment (right axis)



Note: Figure from JCS is based on the first half and was doubled to obtain an annual rate.

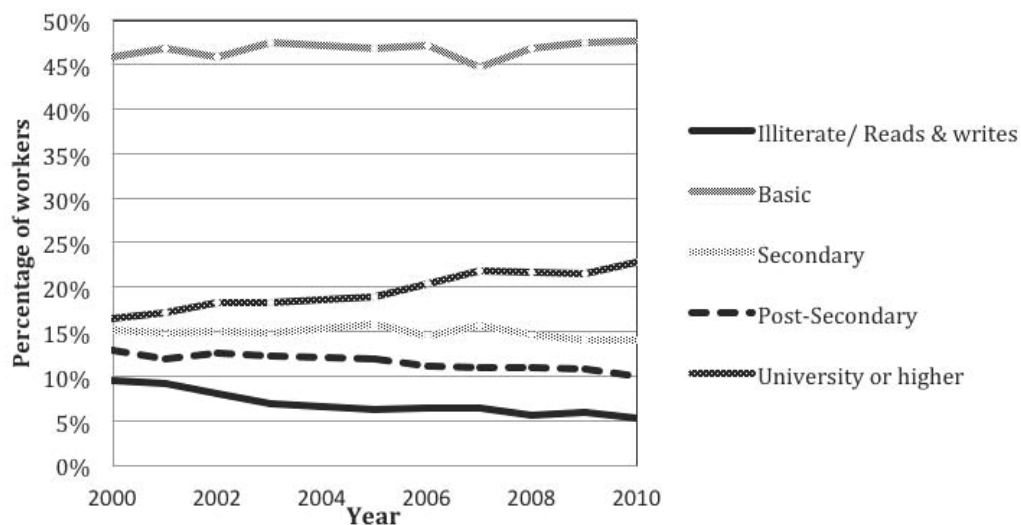
Sources: i. Employment and Unemployment Survey (EUS), DOS, Hashemite Kingdom of Jordan. ii. Job Creation Survey (JCS), DOS, Hashemite Kingdom of Jordan. iii. Jordan Labor Market Panel Survey (JLMPS), 2010.

Figure 4. Distribution of the working age population (15-64) by educational attainment, 2000-2010



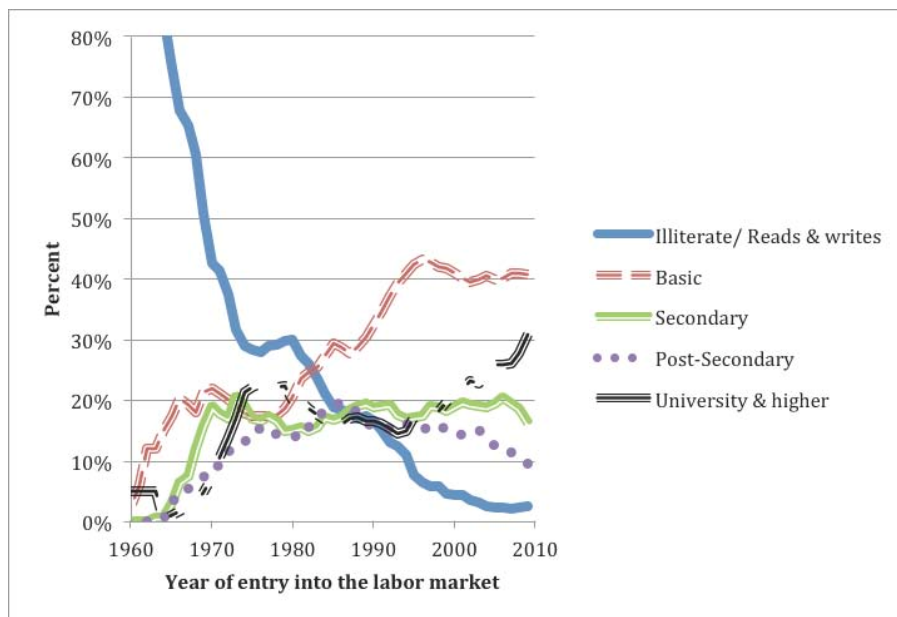
Source: DOS, Employment and Unemployment Survey.

Figure 5. Distribution of the employed population (15-64) by educational attainment, 2000-2010



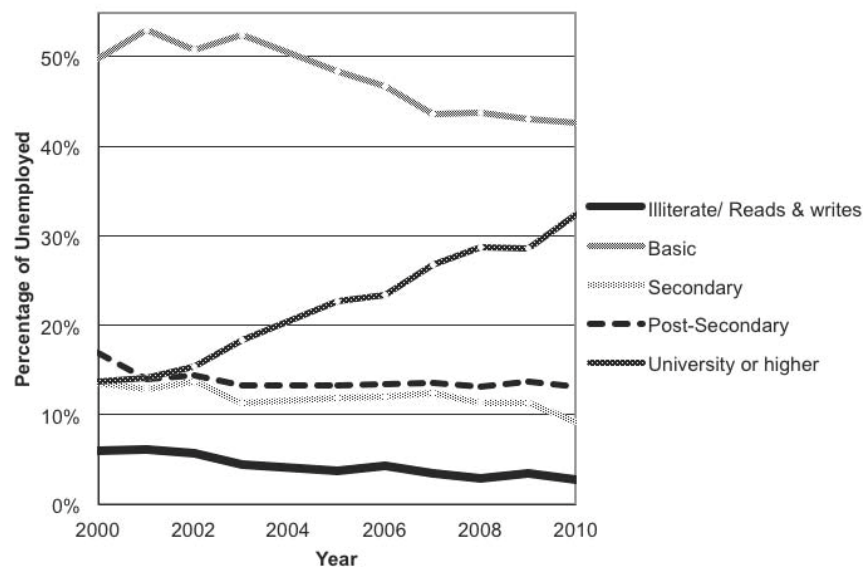
Source: DOS, Employment and Unemployment Survey.

Figure 6. Distribution of new entrants by educational attainment and year of entry into the labor market, ages 15-64, Jordan



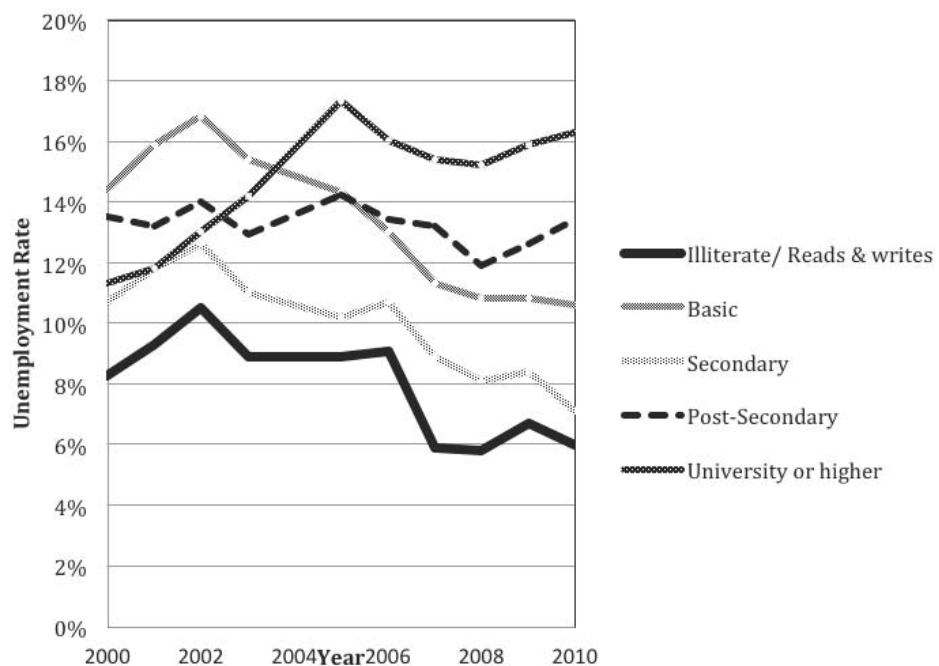
Source: DOS, Employment and Unemployment Survey.

Figure 7. Distribution of the unemployed (15-64) by educational attainment, 2000-2010



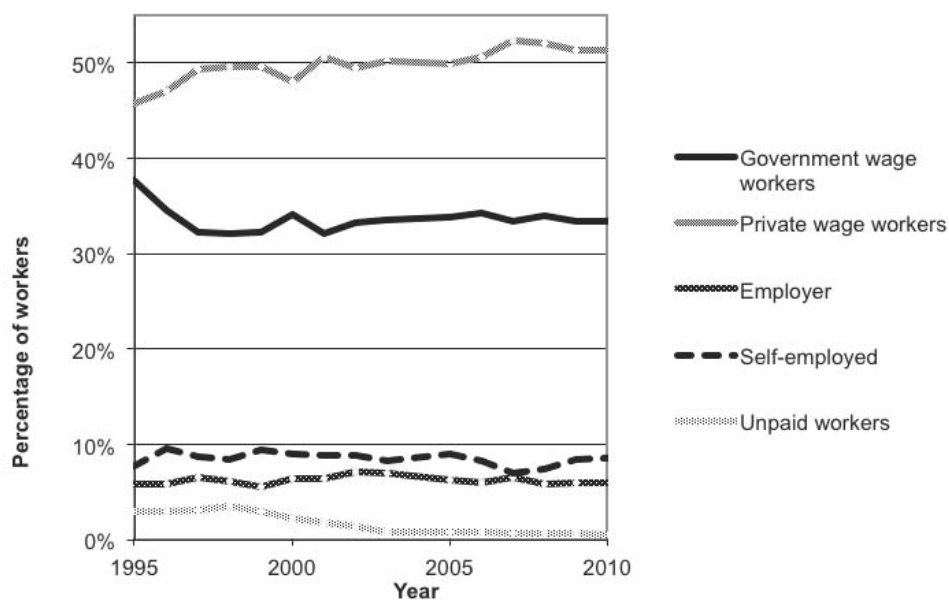
Source: DOS, Employment and Unemployment Survey.

Figure 8. Broad unemployment rate (15-64) by educational attainment, 2000-2010



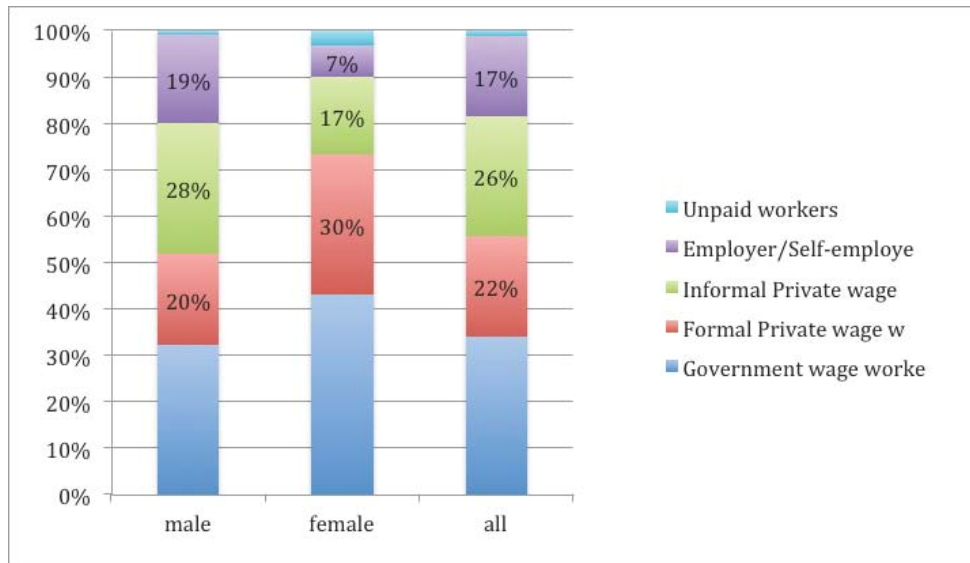
Source: DOS, Employment and Unemployment Survey.

Figure 9. Distribution of employment (15-64) by type, 1995-2010



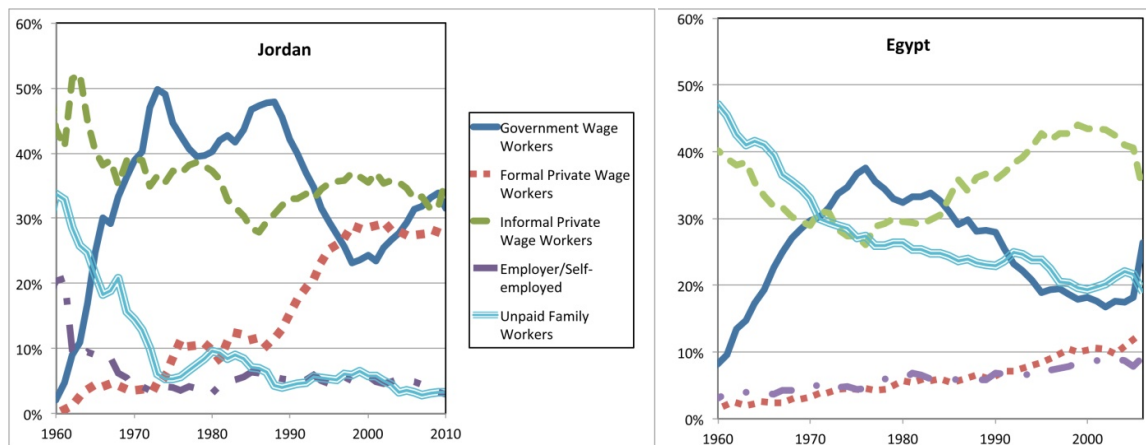
Source: DOS, Employment and Unemployment Survey.

Figure 10. Distribution of employment (15-64) by type of employment and sex, 2010



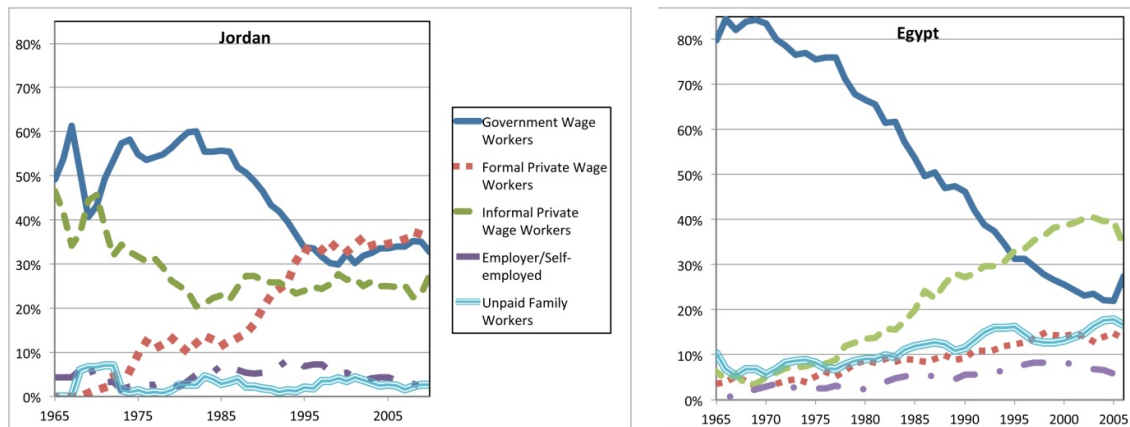
Source: JLMPS 2010.

Figure 11. Distribution of employment by type in first job by year of entry into labor market, 1960-2010 (5-year moving average)



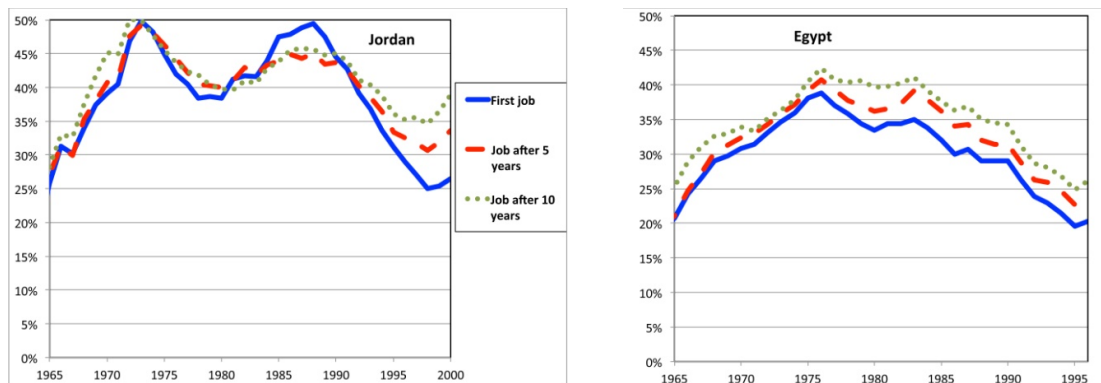
Source: JLMPS 2010 and ELMPS 2006.

Figure 12. Distribution of employment by type in first job by year of entry into labor market for new entrants with secondary education and above, 1960-2010 (5-year moving average)



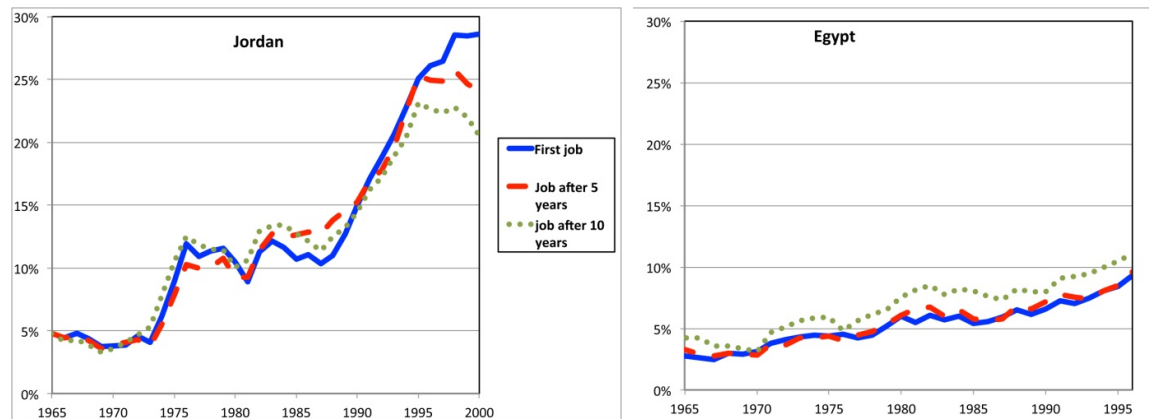
Source: JLMPS 2010 and ELMPS 2006.

Figure 13. Evolution of the share of government wage workers among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



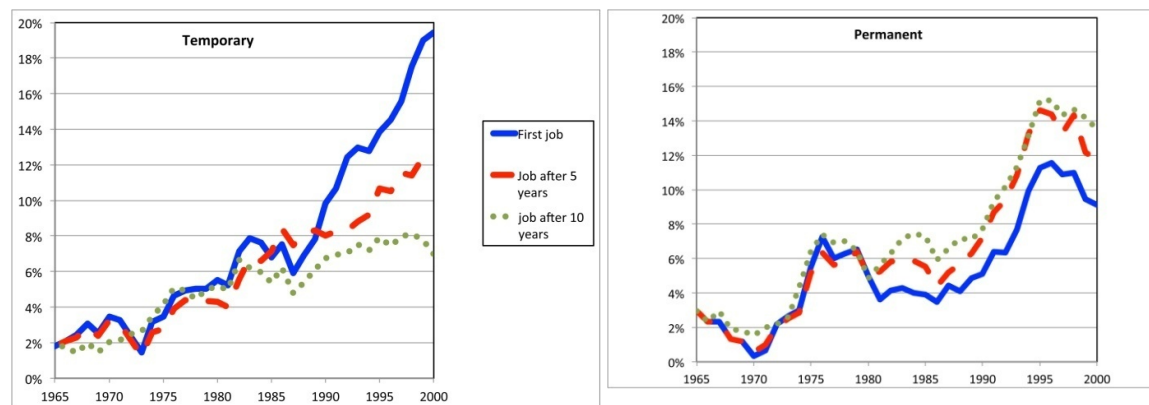
Source: JLMPS 2010 and ELMPS 2006.

Figure 14. Evolution of the share of formal private wage workers among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



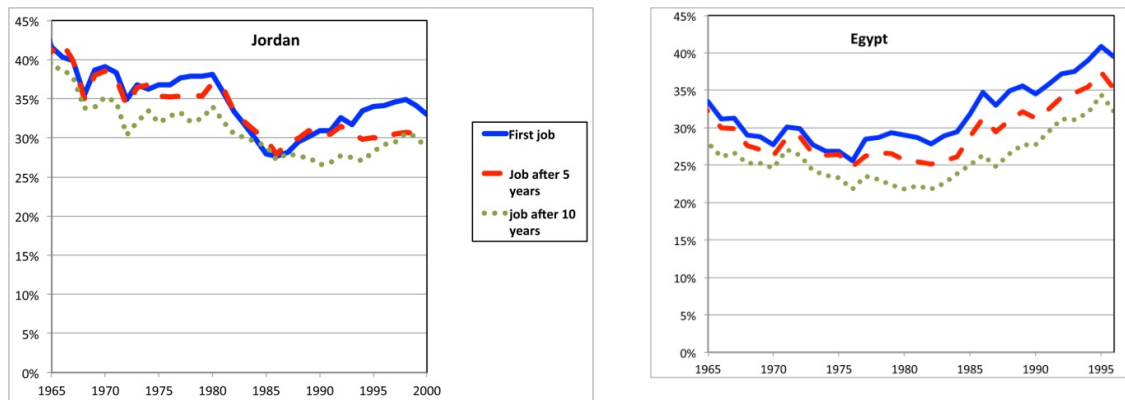
Source: JLMPS 2010 and ELMPS 2006.

Figure 15. Evolution of the share of temporary and permanent formal private wage workers among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



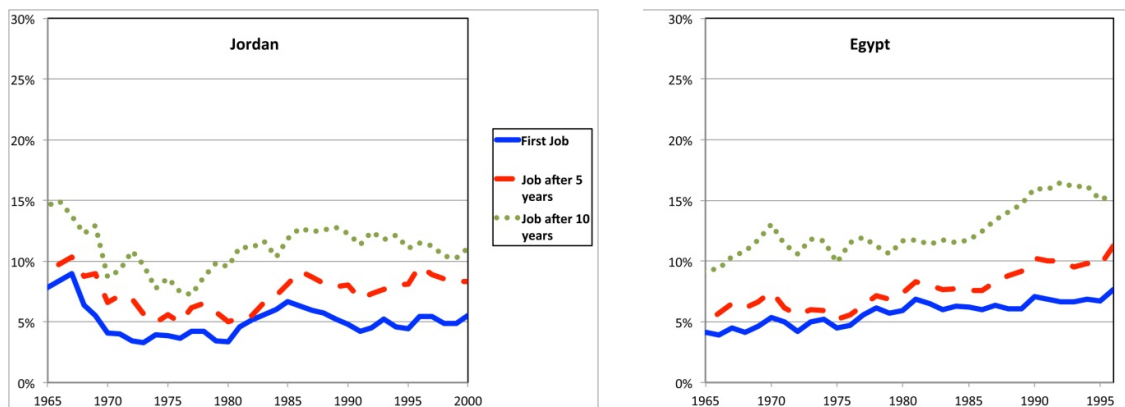
Source: JLMPS 2010 and ELMPS 2006.

Figure 16. Evolution of the share of informal private wage workers among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



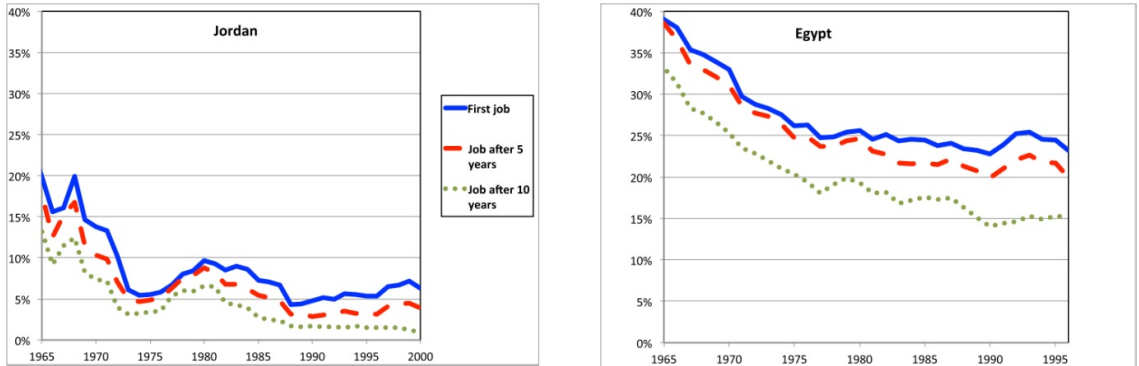
Source: JLMPS 2010 and ELMPS 2006.

Figure 17. Evolution of the share of employers & self-employed among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



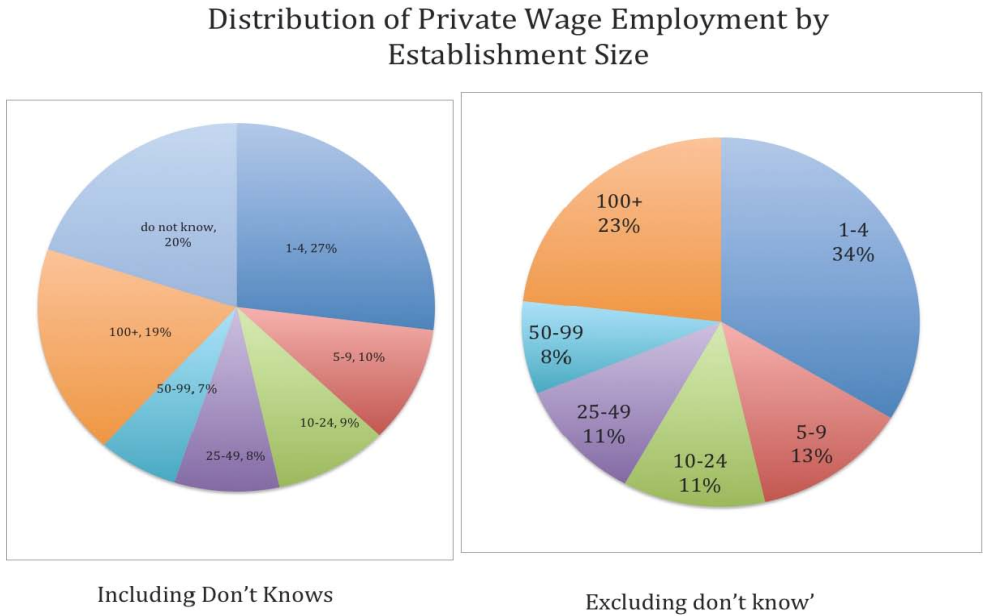
Source: JLMPS 2010 and ELMPS 2006.

Figure 18. Evolution of the share of unpaid family workers among first jobs, jobs after 5 years and jobs after 10 years (5-year moving average)



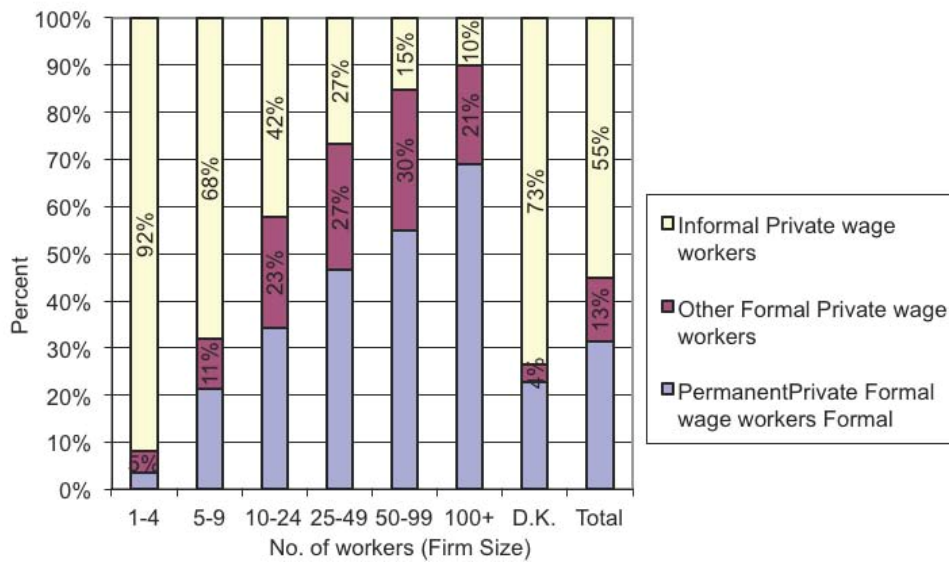
Source: JLMPS 2010 and ELMPS 2006.

Figure 19. Distribution of private wage employment by establishment size, in 2010



Source: JLMPS 2010.

Figure 20. Employment structure in private wage employment by firm size, in 2010



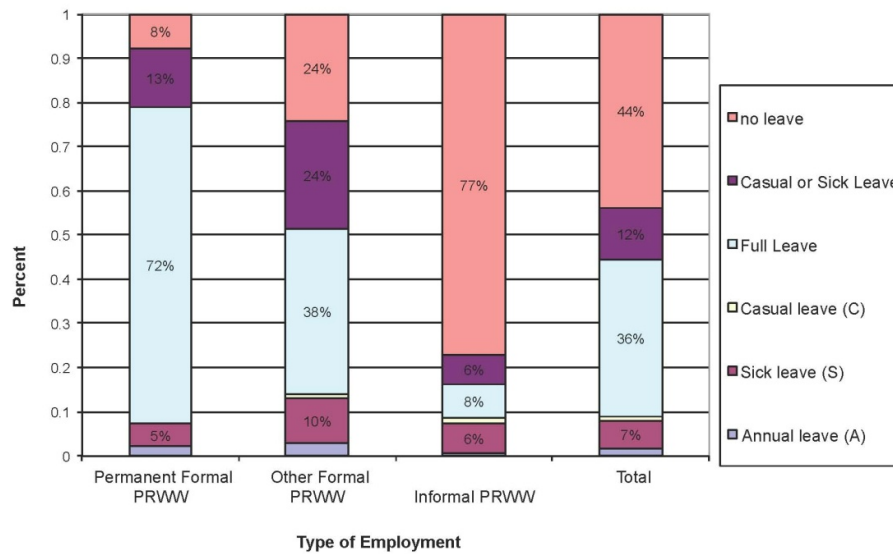
Source: JLMPS 2010.

Figure 21. Proportions of different occupations within private wage employment by firm size, in 2010



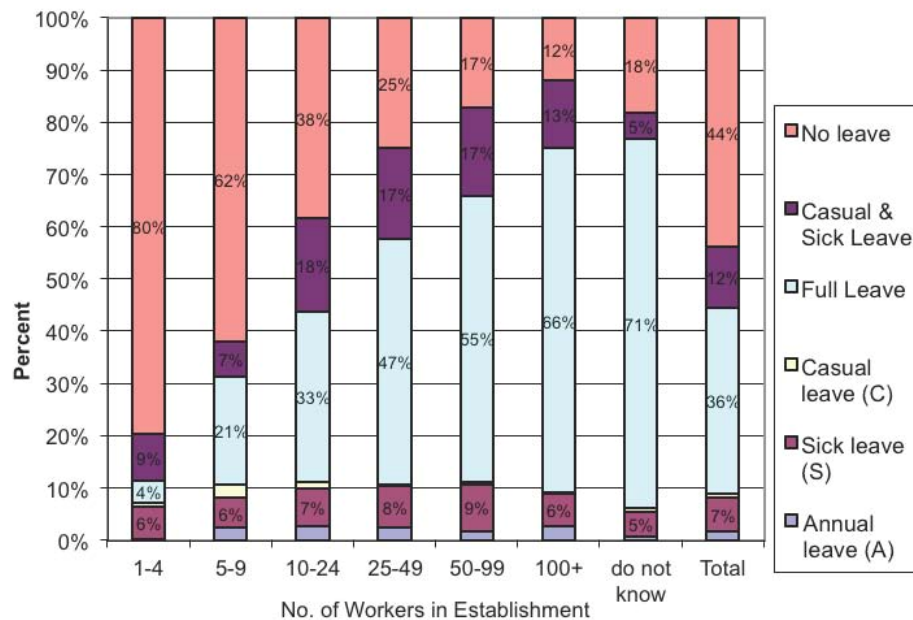
Source: JLMPS 2010.

Figure 22. Proportions of the different types of vacations within private wage employment by type of job, in 2010



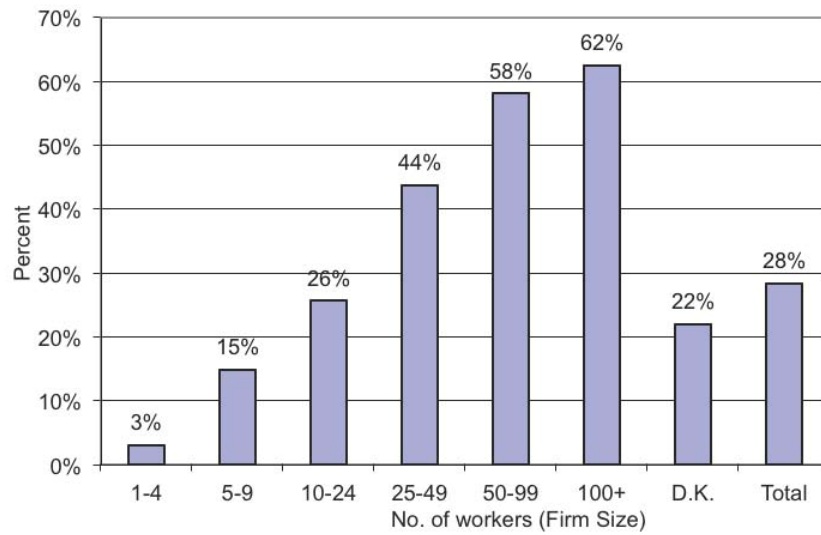
Source: JLMPS 2010.

Figure 23. Proportions of the different type of vacations within the private wage employment by establishment size, in 2010



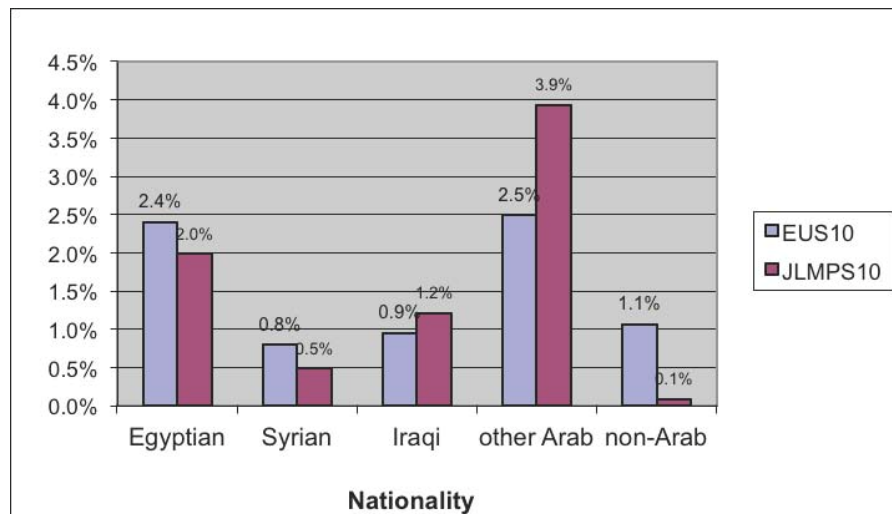
Source: JLMPS 2010.

Figure 24. Proportion of private wage workers with medical insurance by firm size, in 2010



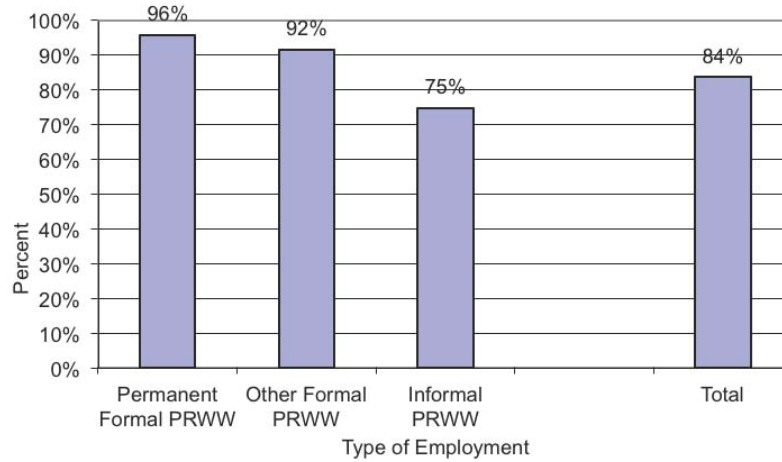
Source: JLMPS 2010.

Figure 25. Distribution of the working age population by nationality, EUS/JLMPS 2010



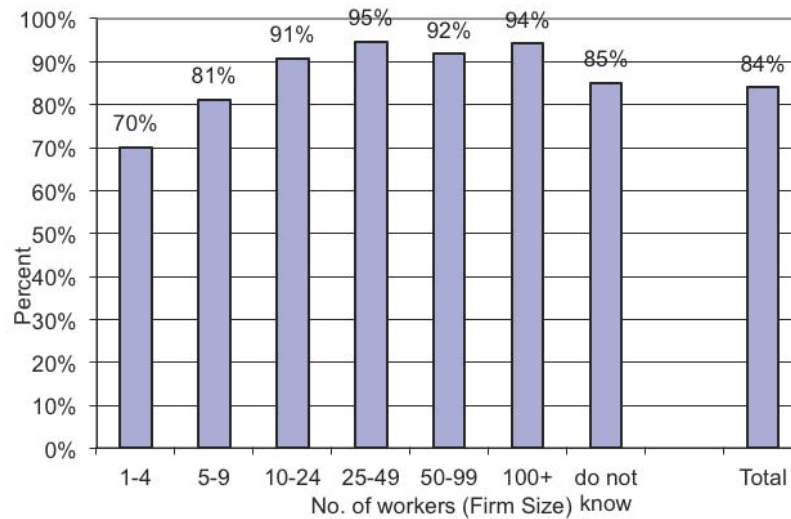
Source: JLMPS 2010 and EUS.

Figure 26. Proportion of Jordanian workers in private wage employment by type of employment, in 2010



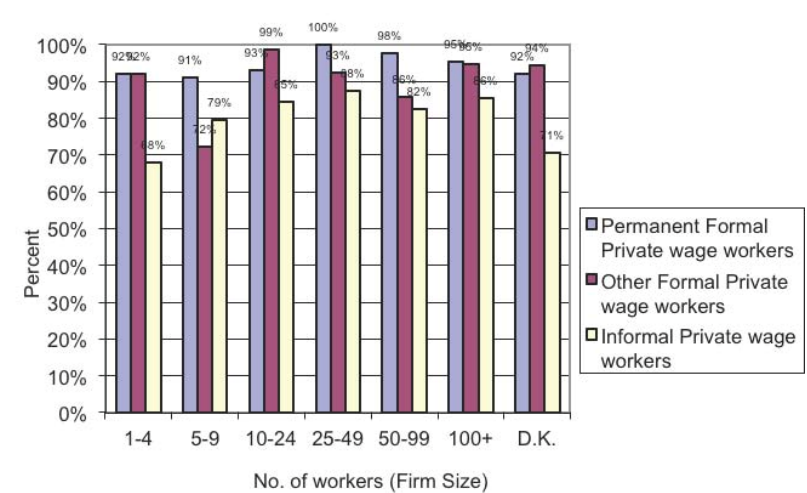
Source: JLMPS 2010.

Figure 27. Proportion of Jordanians in private wage employment by firm size, in 2010



Source: JLMPS 2010.

Figure 28. Proportion of Jordanians in private wage employment by firm size and type of employment



Source: JLMPS 2010.

Table 1. Employment growth in Jordan, 2005-2010

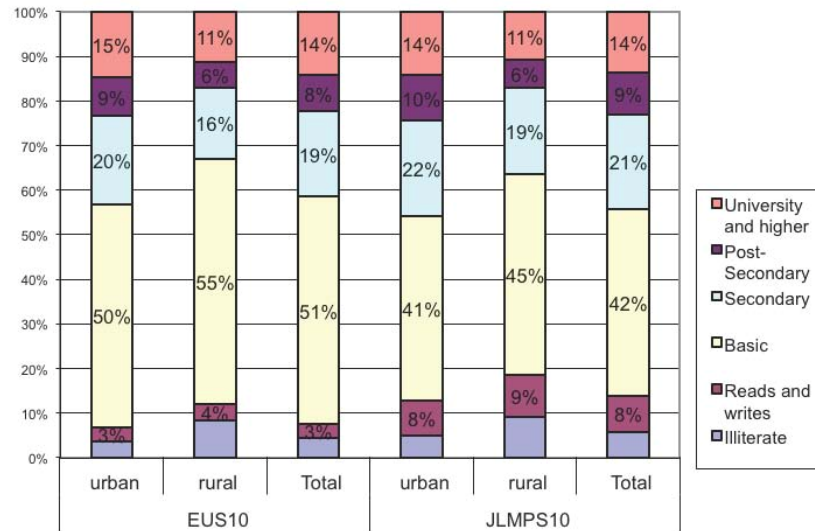
	All			Jordanians Only		
	Employment 000s	Emp. Growth from Prev. Year 000s	%	Employment 000s	Emp. Growth from Prev. Year 000s	%
2005	1158.5			1024.7		
2006	1190.9	32.4	2.8	1055.8	31.2	3.0
2007	1329.4	138.5	11.6	1140.4	84.6	8.0
2008	1373.1	43.7	3.3	1172.7	32.3	2.8
2009	1421.0	47.9	3.5	1220.5	47.8	4.1
2010	1437.6	16.6	1.2	1240.0	19.5	1.6

Source: EUS.

Appendix:

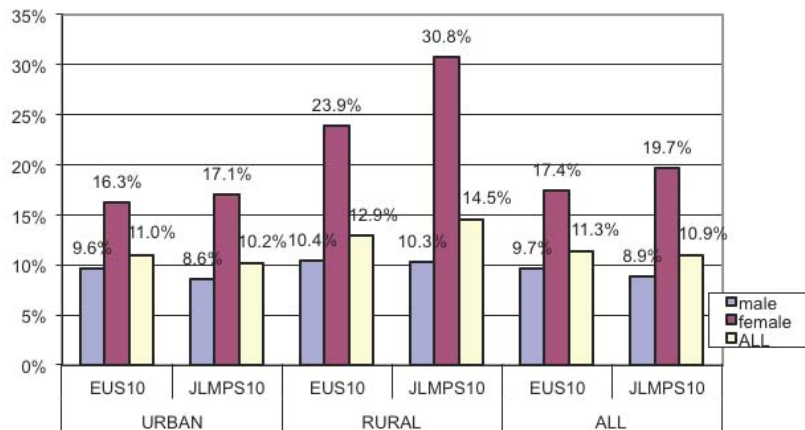
Comparison of JLMPS 2010 with EUS (Q1 and Q2 2010)

Figure 29. Distribution of the working age population (15-64) by educational attainment and urban/rural location, EUS/JLMPS2010



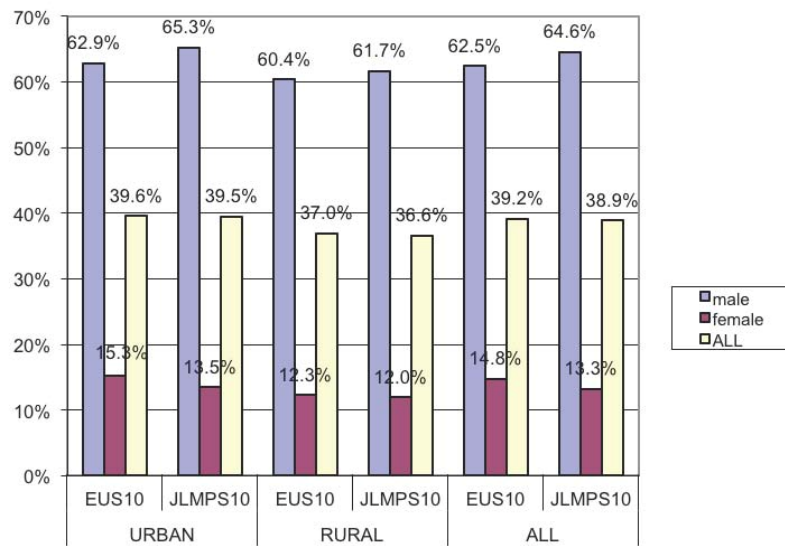
Source: JLMPS and EUS 2010.

Figure 30. Unemployment rate by gender and urban/rural location, ages 15-64, standard unemployment definition and market labor definition, EUS/JLMPS2010



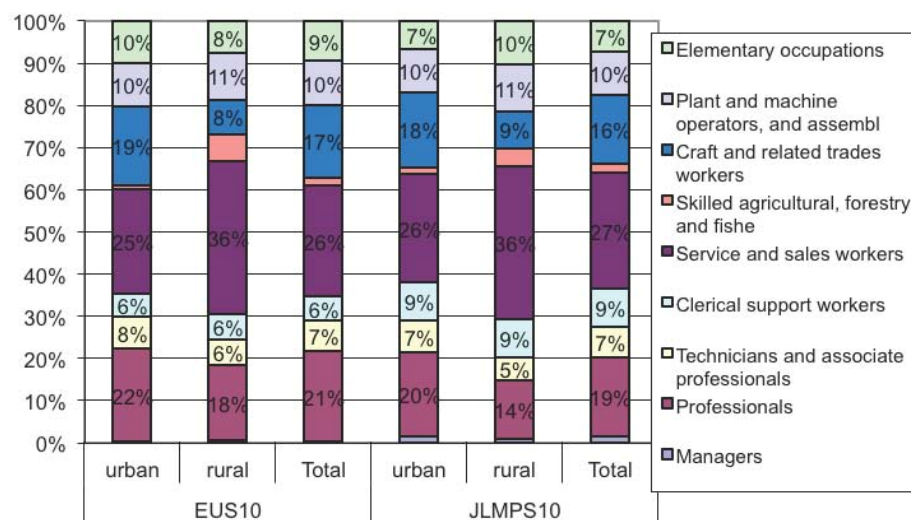
Source: JLMPS and EUS 2010.

Figure 31. Employment to population ratios by gender and urban/rural location, ages 15-64, market definition of economic activity, EUS/JLMPS2010



Source: JLMPS and EUS 2010.

Figure 32. Distribution of the employed population by occupation, ages 15-24, EUS/JLMPS2010



Source: JLMPS and EUS 2010.