

Chapter Four

Economic Activity

4. Economic Activity

4.1 Introduction

4.1.1 Why measure labour activity?

In Jordan, as in almost all other countries, labour activity is the most important source of household income. It is also more uniformly distributed than other income types. The economic importance of employment is particularly great because Jordan, although being a mid-income developing country, has relatively few universal public social welfare arrangements. When alternative sources of income are scarce, lack of employment represents a serious threat to the material welfare of households. In a living conditions and poverty perspective, particular attention must thus be given to the nature and manifestations of underemployment.

Labour activity is also an important social arena, and on-the-job training is an important complement to formal education. Skills learnt at work significantly increase workers' human capital, and hence improve their productivity. Workers are shaped as social beings by their work-life experiences. Their employment becomes part of their identity, and the social networks they acquire through their work may yield rich benefits in a range of other settings.

Employment is, of course, not only interesting from a perspective of micro-level living conditions, but also from a macro-economic perspective. In particular in Less Developed Countries, short of capital and technology, labour activity is a major determinant of the total economy's production of goods and services. Hence, the key indicators for the availability and input of labour with different characteristics into the economy are essential input factors in macro-economic planning models.

4.1.2 The ILO Labour Force Framework

How to measure labour activity?

For measurement of supply and utilization of labour in household surveys, the United Nations has, through the International Labour Organization (ILO), endorsed application of the so-called "labour force framework". This classification system uses standardized employment definitions to allow for consistent comparison of data across countries and time. A slightly adapted version of the labour force framework is used by the MPHS to fit specific living conditions requirements. Figure 4.1 gives an overview of the main categories used in the FAFO living conditions surveys.

Based on a person's activities in the so-called "determinant week" the labour force framework divides the population 15 years or older, into three exhaustive and mutually exclusive categories. The category "Employed" (box Ia, Ib and Ic below) comprises all persons who worked at least one hour in the reference week, or persons who were temporarily absent. Next, the "Unemployed" (box II below) comprises persons who did not work even one hour, but who at the same time *actively* sought, and were available for work.

Employed and unemployed persons together make up the "Currently Economically Active Population" or "labour force". Persons 15 years or older who are not "currently economic active" and persons outside the survey population together make up the residual, "not in the labour force" category (box III and IV below).

Figure 4.1 Labour Survey Definitions Used in the MPHS

Total population					
Working age population 15 years or older					Persons below 15 years
Persons included in the labour force				Adults not in the labour force	
Employed persons			Unemployed persons		Not employed, not unemployed. Did not seek work
Full time (≥35 hrs per week)	Part time (≤34 hrs per week)	Temporarily absent		Not employed. Sought, and available for work	
Ia	Ib	Ic	II	III	IV

In the international statistical standards, there is a close connection between the definitions of "work" and "production". The main guideline is that when labour input goes into "production" it is considered as "work". The reader should note that according to these definitions, the concept of "work" does not refer to *paid* work or work outside the home exclusively, as is commonly thought. Non-market activities, like unpaid work in family farms or business, and several types of home production, are also included. Unpaid housework, like childcare, cleaning, washing and cooking are, however, generally not considered as work, and, hence neither included in a country's GDP.

Although formally defined as "work", a range of economic activities that take place in, or near the home, and in particular those economic activities conducted by women,

children and old persons are still not sufficiently covered by most household surveys. The ILO definitions may be correctly criticized for a lack of attention given to the typical female tasks related to family care and household maintenance. However, a just as important challenge is to be able to adequately measure the labour activities actually covered by the ILO labour force framework definitions.

4.1.3 The Structure of the Economic Activity Chapter

The Economic Activity chapter has four main parts: In Section 4.2 we investigate labour force participation, which represents the supply side of the labour market. Section 4.3 deals with employment, which is one possible outcome of the matching of labour supply with the demand for labour. The matching between supply and demand for labour has, of course, another possible outcome, which is unemployment. Hence, in Section 4 we discuss unemployment, both as defined by the ILO, but also its other various manifestations at some length. Finally, section 4.5 attempts to encapsulate the main findings of the previous sections, and put them into a context relevant for Jordanian politics and planning.

Although the ILO labour force framework is defined on the basis of *individual activities*, it is reasonable to assume that most labour activities are determined by some kind of a *household* decision mechanism. We may rightly assume that most households optimise their welfare by allocating their members' time to activities where they have a comparative advantage. Therefore, in each section we have included a sub-section about labour force participation, employment, unemployment and inactivity in the *household* context. In a living conditions and poverty perspective, unemployment or inactivity, is also much more severe if *all* adult household members are affected.

4.2 Labour Force Participation (Labour Supply)

Every adult may join the labour force

Employed and unemployed persons together make up the "currently economic active population" or "labour force". In principle, anyone can enter the labour force if he wants to. Those not already working, must only seek work actively, and being available for a job if offered one, in order to be classified as "unemployed", and consequently to enter the labour force. Because everybody can choose to become unemployed, the size of labour force highlights the current *supply* of labour to the economy.

Why is the labour force participation is low in Jordan?

At 26 percent, the overall labour force participation in Jordan is low, as it is in the other Middle Eastern countries. This is due to three main factors: First due to high birth rates, Middle Eastern populations have a very young population structure. In Jordan close to 40 percent of the population are 15 years or below, and by definition, outside the (adult) labour force.

Second, socio-cultural factors play a decisive role in shaping labour force participation. In contrast to Western countries, Middle Eastern culture regards labour activity primarily as a household affair. There are relatively strong norms governing the places and types of work that can be considered "acceptable" according to sex, age and social status. This dimension is particularly important when explaining low prevalence of (formal) labour activity among women. Hence, there are large differences between the labour force participation rates of adult Jordanian men and adult Jordanian women, at 66 and 16 percent, respectively¹.

Third, as is the case in all surveys, *measurement methods and definitions* are likely to have a strong influence. As mentioned in the introduction, respondents tend to understand work as regular employment, which frequently leads to under-reporting of many kinds of labour activity typical of the Jordanian society. Casual work, unpaid work, and work rewarded in kind are often omitted, even when explicitly considered as "work" in line with the MPHS definitions. Under reporting of labour activity is usually higher for women than for men. Married women are customarily regarded as "housewives" in the Jordanian culture, and their labour activity is normally not considered as "employment".

In almost every context, gender is the most important factor in explaining individual labour market behaviour. Considerations of space and interviewing time in the MPHS did not allow for a separate questionnaire module on women's activities. This, together with the fundamental difference between the roles, and the activity of men and women have led us to conduct the analysis for men and women along two separate, but parallel lines.

The structure of the labour supply section

The labour supply section is divided into five sub-sections. The first section deals with the geographical distribution of Jordanian labour force participation. Section 4.2.2 investigates the relationship between labour force participation and individual characteristics such as age, education, marital status, and the family relation to the Household Head. In

¹ "Adult" is defined as being 15 years or older.

Section 4.2.3 we investigate the same *individual* relationship for variables describing the individuals' *households*, such as their household's income, its size and composition, and some other selected household features. Section 4.2.4 deals with labour force participation at the *household* level. We show how many households that have nobody, only one, two, or all members in the labour force. Moreover, we investigate how many persons who are the only person in the labour force in their households. Another topic is how many persons that live in households with *other* labour force members, (regardless of their own labour force status). Finally, we present the main results from a logistic regression about the complex issue of individual labour force participation in section 4.2.5.

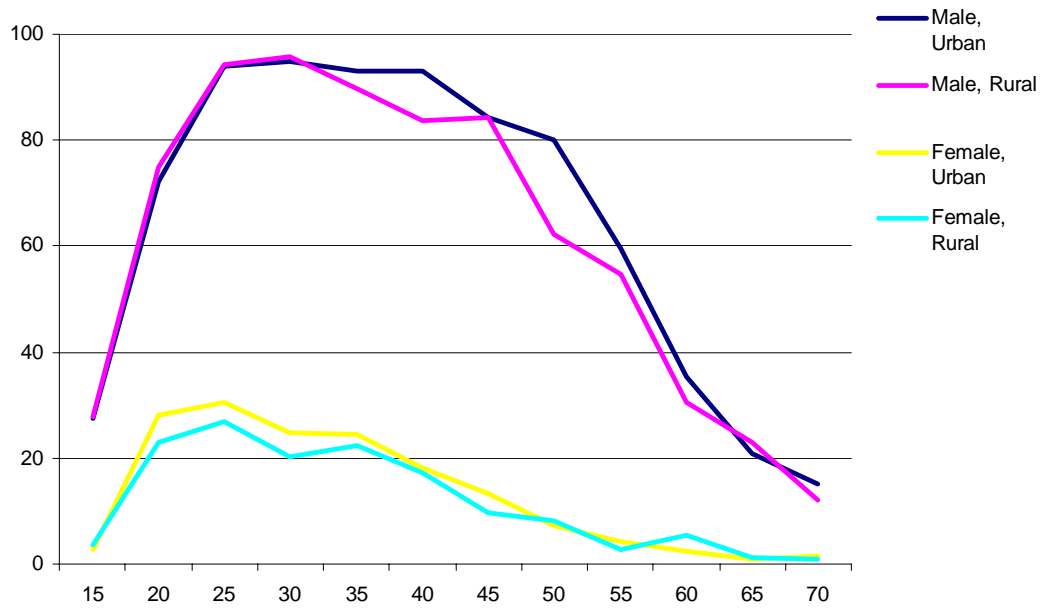
4.2.1 Labour supply and place of residence

Why are urban and rural participation virtually identical?

Somewhat surprising, we found very similar labour force participation rates in the urban and the rural communities. For males 15 years or older it was respectively 67 and 65 percent (66 percent nationally), and for women, 17 and 15 percent (16 percent nationally).

Different mechanisms are at work in urban and rural areas. With respect to *measurement* of labour activity, the ILO definitions are usually more applicable to urban labour activity than to rural types of employment, in particular for women's activities. On the other hand, there is usually a lower threshold for rural women to participate in agricultural activities outside their home, but in the vicinity of their village, than for urban women to work somewhere in a large city. Agricultural work is physically demanding, which frequently cause earlier retirement in rural areas. On the other hand, agricultural work requires less formal education, which leads to slightly earlier labour start. (We will comment on the general relation between age and labour force participation below).

Figure 4.2 Refined Economic Activity Rate, by Sex, Age and Residence



Regions are heterogeneous

The three multi-governorate regions are all internally heterogeneous, both with respect to male and female participation. Moreover, the patterns of urban-rural differences are neither the same. Hence, rather than focusing on regions, we present the participation for each governorate separately, for males in Figure 4.3, and for females in Figure 4.4.

Figure 4.3 Male Labour Force Participation, by Governorate

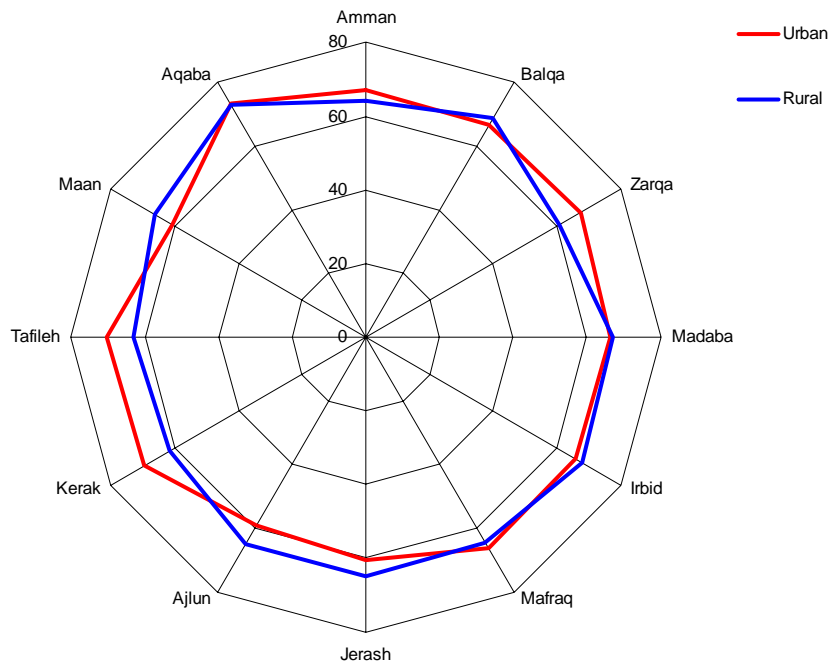
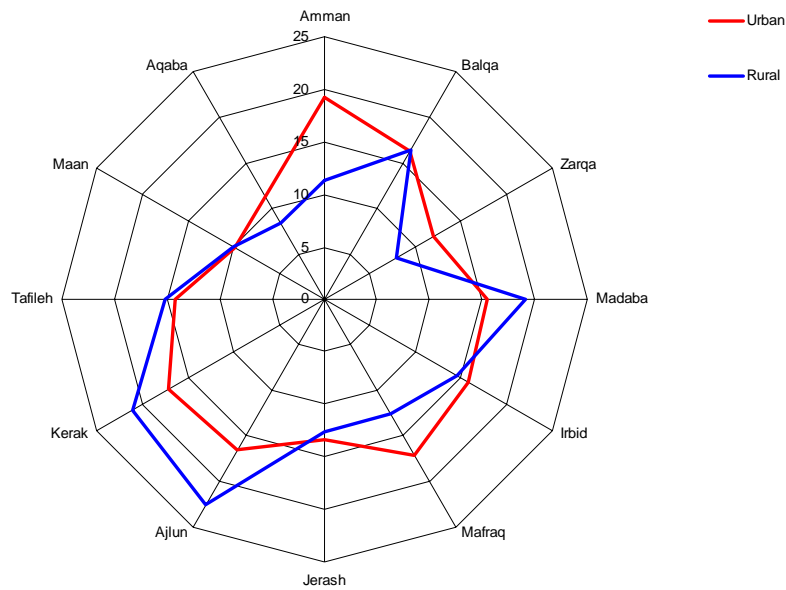


Figure 4.4 Female Labour Force Participation, by Governorate



The variation between governorates for male participation is small. The peak is reached in Aqaba governorate where 73 percent of the adult males are in the labour force. The governorate is known as a typical destination for domestic labour migration, both due to the port, and due to tourism.

For females, variations are higher. Participation is highest in Amman, which has the largest labour market for educated women, and probably also has the most liberal attitudes towards female labour force participation in Jordan. Else, it is difficult to explain the female participation pattern. Governorates that are situated close to each other, like Ma'an and Karak, are at each extremity of the range of female labour force participation.

Summing up on labour force participation and geography

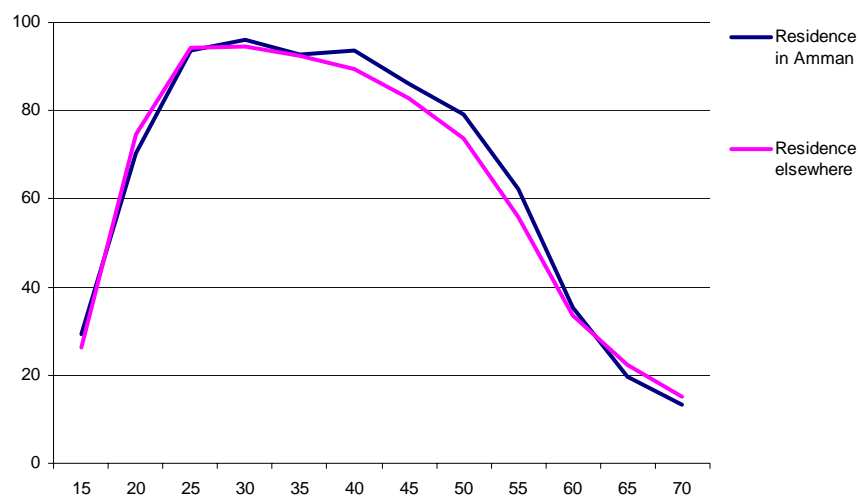
The relation between labour force participation and geography is not very strong. Male participation is high in all governorates, and highest in Aqaba. Rural-urban variations are not very strong, and their direction varies across governorates. Female participation varies more between governorates, although not as much between urban and rural localities. Female participation is highest in Amman.

4.2.2 Labour Supply and individual characteristics

Male participation varies strongly with age

The male labour force participation displays the same, typical “inverse-U” shape as is typical for almost every country (Figure 4.5). Male participation peaks at 95 percent in the 25 to 40 years age group, when most of them have finished their education, but physically demanding labour has not yet started to take its toll.

Figure 4.5 Male Labour Force Participation, by Age and Residence



From the age of 40, the male participation decreases at a more and more rapid rate. The 50 percent participation mark is reached at the age just below 60 years. Eventually the rate drops at a lower pace, at 80 years 7 percent are still active. The difference between Amman and the rest of the country is relatively small. The participation rate drops more slowly from 40 years in Amman, probably because the capital have relatively fewer physically demanding jobs.

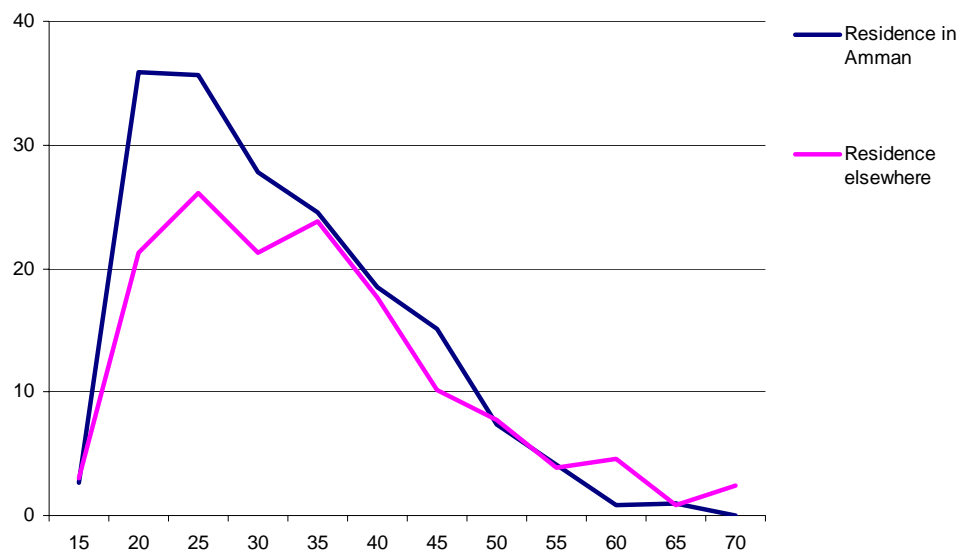
Why do women not return to the labour market when their children have grown up?

For women, the relation between participation and age is different (Figure 4.6). Fertility and family obligations are the main determinants for female labour activity. Hence, regional differences in fertility patterns tend to translate into regional differences in participation rates.

Above, we mentioned that Amman, has the largest labour market for educated women, and probably also has the most liberal attitudes towards female labour force participation in Jordan. However, from Figure 4.6 we also suspect that fertility patterns also differ between Amman and the rest of Jordan. In Amman, female labour force participation

has one peak, and drops sharply only after age 30 years, probably due to childbirth. To the contrary, in other parts of Jordan, the participation rate has two peaks, at 25 and 35 years, which leads us to believe that childbirths take place some years earlier than in Amman. A key question in how to attract more women into the labour force is why they in a society relatively well equipped with household appliances; do not return to the labour force when their children have grown up.

Figure 4.6 Female Labour Force Participation, by Age and Residence

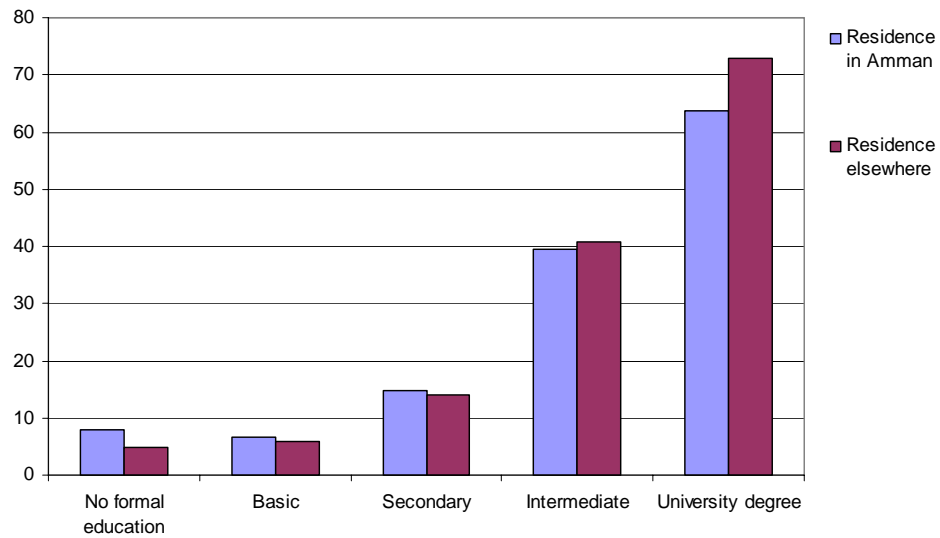


Higher education stimulates male participation, but is essential for women

Higher education stimulates male labour force participation, but is not essential². We would expect the labour market for highly educated males to be larger in Amman than elsewhere. Paradoxically, the effect of increasing education, to the contrary, seems higher for males living outside of Amman, than for those living inside the capital (Figure 4.7).

² The fact that higher education usually leads to much better paid jobs is not visible here, because the Labour Force Framework relates to *time* and *activity*, rather than to *income*.

Figure 4.7 Male Labour Force Participation, by Education and Residence

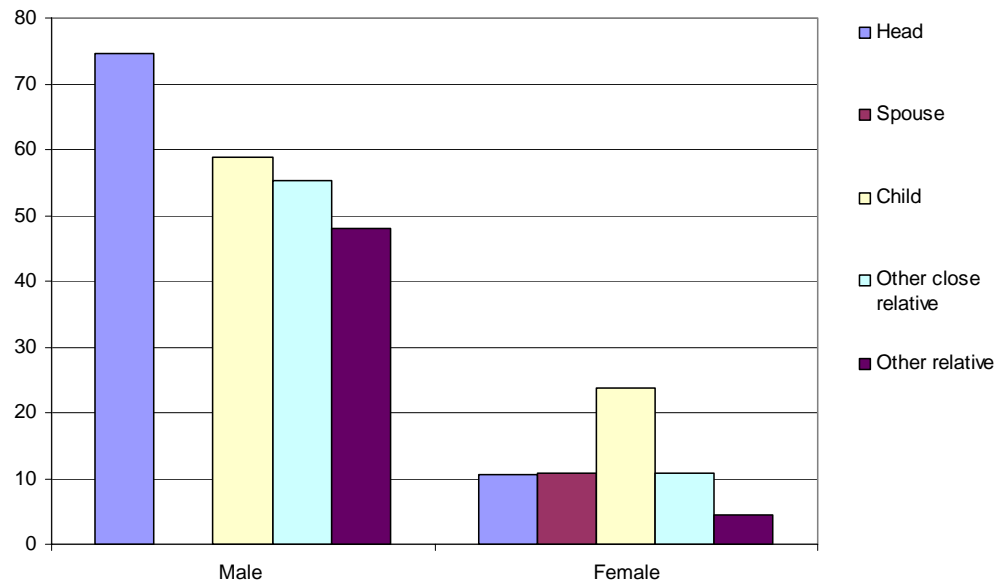


For women, higher education is decisive for participation. Men are socially expected to work and care economically for their households. Women primarily seem to join the labour force when their expected wage levels are so high, that the opportunity cost of losing these women's domestic work cannot compete. Also for women the effect of increasing education is less strong in Amman than elsewhere.

Marriage increases male participation, but decreases female participation

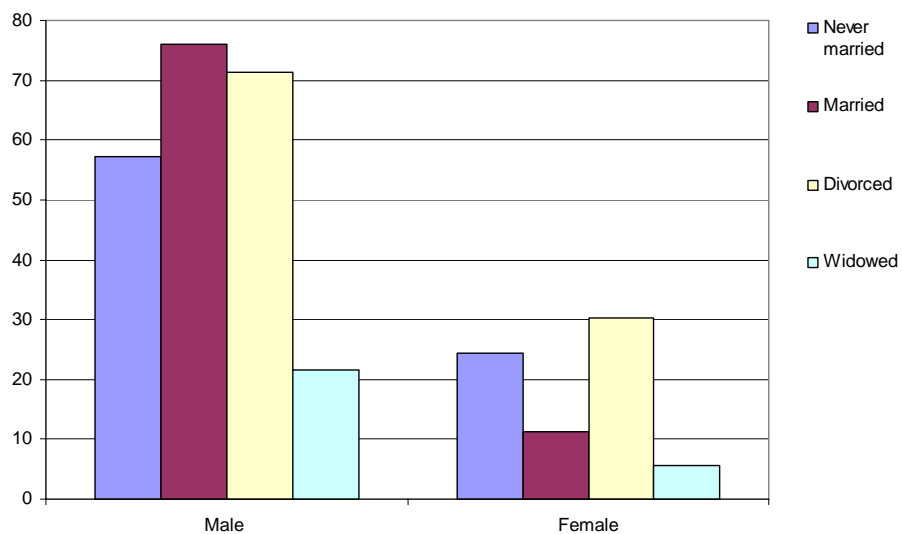
Labour force participation also strongly depends on marital status and the family relation to the Household Head. Male Household Heads have the highest participation. The relationship goes both ways: A male Head is expected to work and provide the material necessities for his household, but a younger male may also sometimes *become* the Household Head due to his ability to generate income.

Figure 4.8 Labour Force Participation, by the Relation to the Household Head and Sex



While virtually no male is the “spouse” of a female Household Head, many adult male children of the Head continues to live together with their fathers, even after they marry. Their participation is somewhat lower, primarily due to education, as this is a fairly young group, compared to the group of Heads. For males who are “Other close relative”, or “Other relative, participation is even lower. Most probably some of these persons, especially in the latter group, live in these households *because* they are not able to care for themselves economically, due to high age, sickness, disability or other reasons.

Figure 4.9 Labour Force Participation, by Marital Status and Sex



For females, participation is highest among daughters 15 years or older. Most of the daughters who live at home are relatively young, and still unmarried, as the Jordanian custom is that daughters move out when they marry, either to their parents-in-law, or to a separate household. We observe that marriage causes female participation rate to drop, the main reason being that marriage is subsequently followed by childbirth. The event of a divorce forces women to work, for reasons of emergency, and female labour force participation in this (small) group is as high as 30 percent.

Summing up on labour force participation and individual characteristics

Male participation is systematically correlated with age, with a peak at 95 percent from 25 to 40 years. Then the participation rate drops systematically. Women in Amman reach the peak participation rate at the age of 30, while the participation rate for women living elsewhere is two-peaked, at 25 and 35 years. The effect of higher education is strongest outside Amman. For men having higher education stimulates participation, but for women, it seems almost indispensable. Finally, marriage has a (statistically) positive effect on male labour force participation, but not on female participation. The reason for these differences is different norms and expectations governing the places and types of work that can be considered "acceptable" according to sex, age and social status.

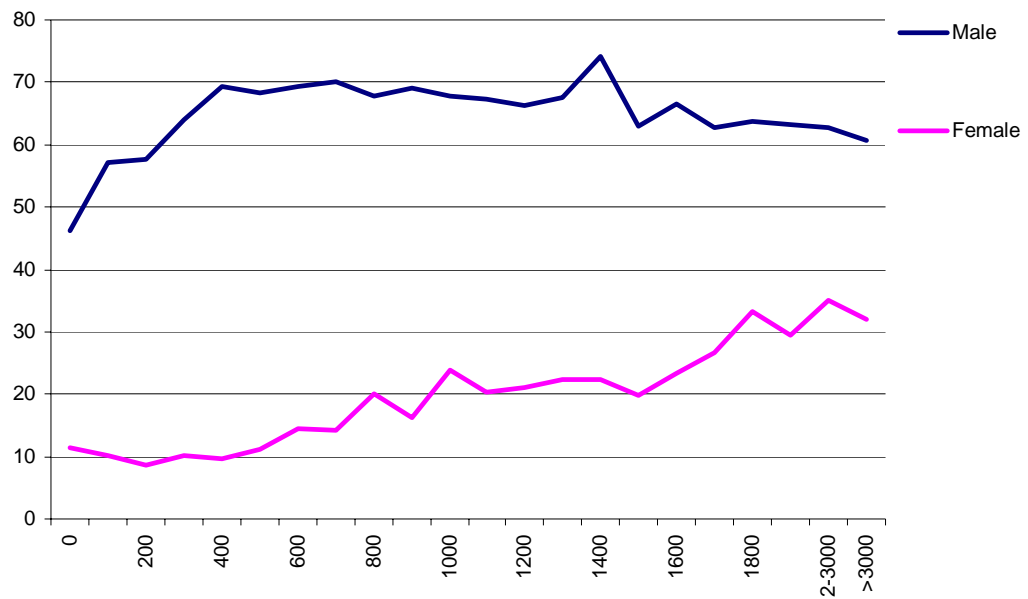
4.2.3 Labour Supply and Household Characteristics

Male participation is not strongly related to household per capita income

Male participation is not very strongly statistically knit to household per capita income (Figure 4.10). The reason is that men are expected to work anyhow, and that labour income is the main income for households in all per capita income ranges, except among the very poor (where the male participation rate drops below 50 percent). Those males who are not labour force members are generally not *able* to work.

Among women the pattern is different. There is a weak tendency of higher female participation in the lowest income groups, obviously due to an emergency situation. However, female participation is highest in the high-income groups. In contrast to the situation for men, the relationship between female participation and household income goes both ways for women: On the one side, female participation is usually associated with employment, and a corresponding higher per capita household income. On the other hand, attitudes to female employment is also often more liberal in the more well off households.

Figure 4.10 Labour Force Participation, by Per Capita Income



Female participation seems to depend more on their individual characteristics than those of the households in which they live

There were relatively small differences in both male and female participation with respect to the size and composition of the households. Both for men and women labour force participation peaks at the household size of 5-6 persons, although at very different levels (Figure 4.11). The household composition seems to matter, in the sense that the main difference is whether the household has children below 15 years or not (Figure 4.12). As could be expected, the occurrence of young children increases male participation (due to social obligations), but decreases female participation (due to child care).

Figure 4.11 Labour Force Participation, by Household Size and Sex

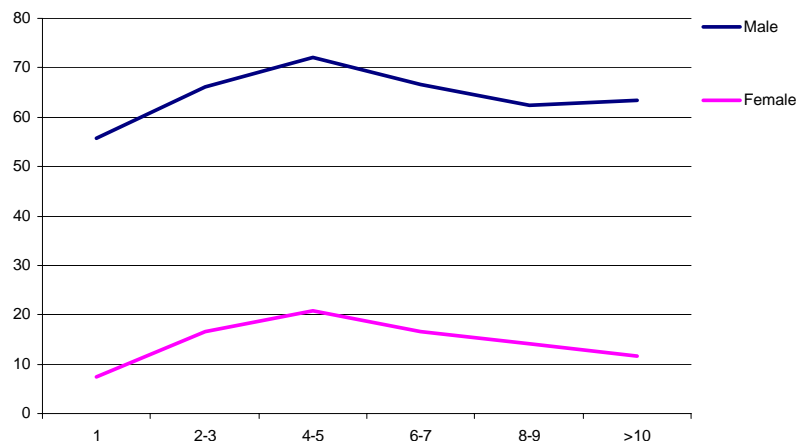
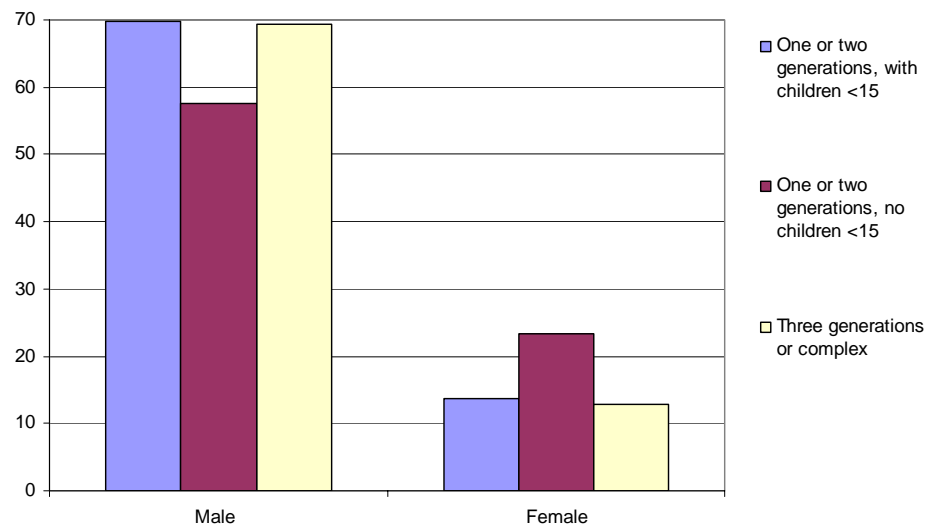


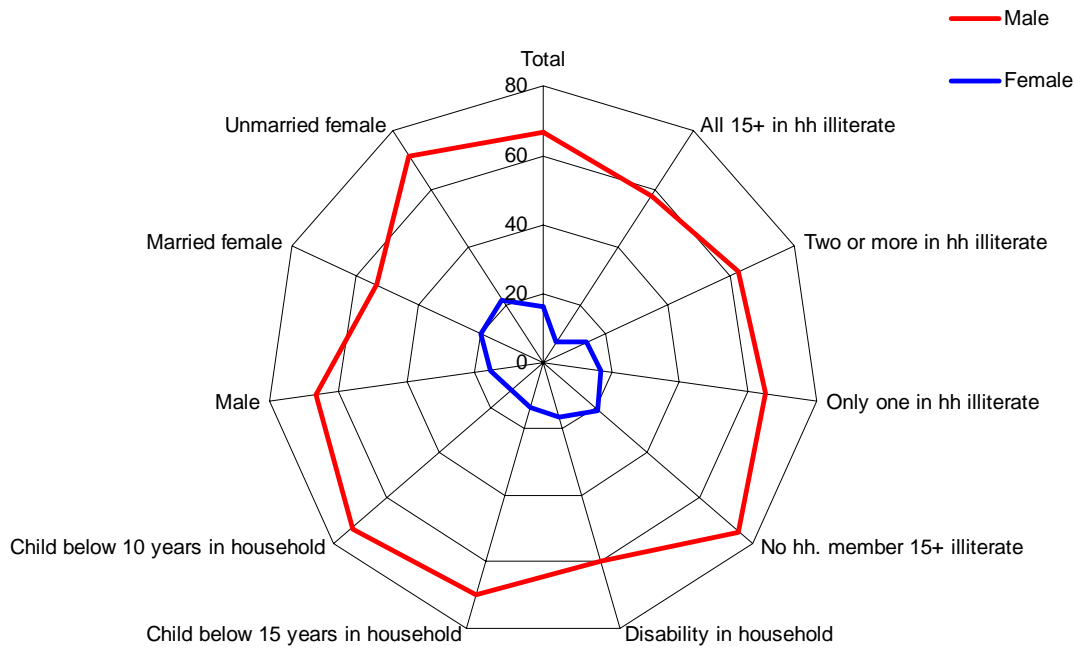
Figure 4.12 Labour Force Participation, by Household Type and Sex



Finally, we investigated male and female labour force participation in relation to selected household features that we suspected would influence participation rates (Figure 4.13). Both male and female participation increases systematically with decreasing illiteracy in the households. In households where all members are illiterate, female participation is down to 7 percent.

Households with a disabled member have slightly lower average male participation rates, which probably occur when the disabled person is male, and in particular when he happens to be the Household Head, or the only working age male in the household. For households with female Heads, it is essential to distinguish between married and unmarried female Heads. In the former group, where the usual Head is often working abroad, participation is relatively low for males, who are usually young. Among unmarried female Heads, the economic situation is usually more demanding, causing both the women and the men to join the labour force.

Figure 4.13 Labour Force Participation, by Selected Household Characteristics



Summing up on labour force participation and household characteristics

Household characteristics seem to be less important than individual characteristics in explaining both male and female labour force participation. The most important statistical relationship is between female participation and household per capita income, a relationship that probably goes both ways. The household literacy status and Female Headship are important. It is, however, important to distinguish between *married* and *unmarried* female Heads. In the latter type of households, both male and female members seem to *have* to join the labour force.

4.2.4 Labour Supply in the Household Context

Labour force participation is usually *measured* individually, but *determined* in the household context

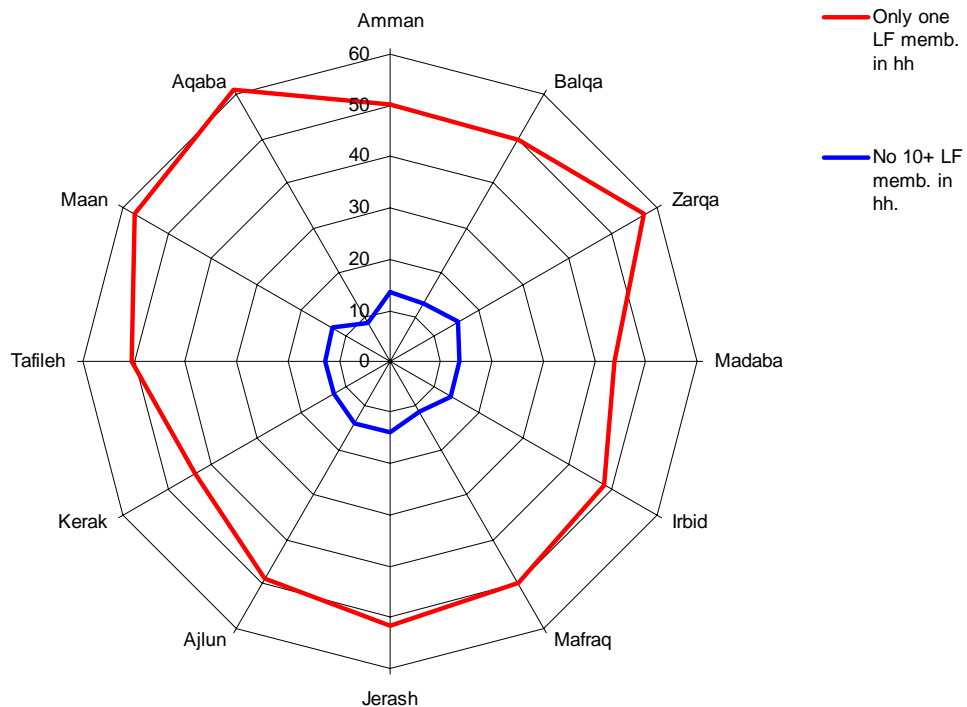
In the introduction we mentioned that although the ILO labour force framework is both defined and measured on the basis of *individual activities*, it is reasonable to assume that labour force participation is determined by a *household* decision mechanism. Sometimes, the labour force participation of one household member may be conditioned on

the non-participation of another member. In this section we will thus investigate labour force participation in the *household* context. We will also deal with this topic in the next section, when we present a multivariate analysis of individual labour force participation.

Two out of three households have one, or no member in the labour force

Roughly two out of three *households* have only one, or no labour force member (Figure 4.14). In Madaba governorate, 43 percent have two or more members in the labour force, while this is the situation for only 27 percent of the households in Zarqa governorate. Zarqa has both a high share of households with only one member, and a high share of households without any labour force member at all. To the contrary, Aqaba governorate has a high share of households with only one member, but the lowest share of households with no labour force members of all Jordanian governorates. The national level of 14 percent of households without labour force members is worrisome, because these households have no potential of acquiring labour income (not even having an unemployed member), although employment income is the main type of household income in Jordan.

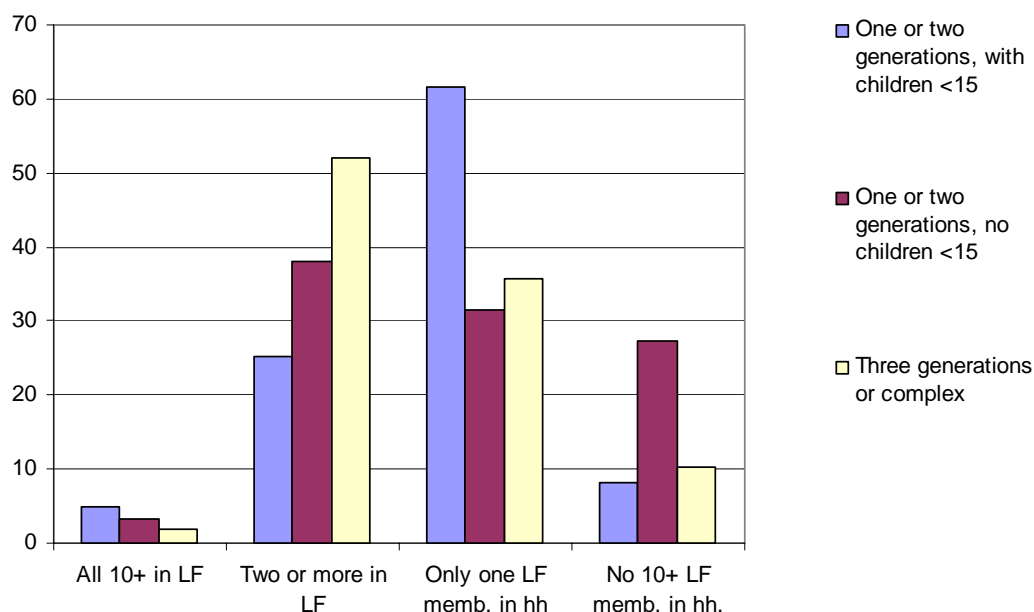
Figure 4.14 Household Level of Participation by Governorate



The share of households with two or more labour force members is, of course, highest in the “complex” household type. Nuclear households with children, “one or two

generations with children less than 15 years”, typically tend to have only one (male) labour force member, (with the spouse performing domestic tasks at home). However, the share of households with zero members is highest in the “one or two generations with no children”. Many of these households comprise only one or two old persons.

Figure 4.15 Household level of Participation by Household Type



One in four males is the only labour force member in their households

Households that have only one member in the labour force are vulnerable to a situation where something happens to this person. The share of males who are the only labour force member in their household is 27 percent, and varies from 20 percent in Karak to respectively 33 and 37 percent in Zarqa and Aqaba (Figure 4.16).

Figure 4.17 shows the share of persons who lives in households where at least one *other* member is in the labour force³. This figure is, of course, closely related to the number of persons being the only labour force member in their households. While men dominate the latter group, i.e. less than 2 percent of the women are the household’s *only* labour force member, women dominate the former group (85 to 90 percent for the women, versus 58 to 74 percent for the men). Variations are much larger for men because the large majority of

³ I.e. persons living in households where at least one *other* member is in the labour force, regardless of their *own* labour force status.

single person households are male. Aqaba and Zarqa governorates have the lowest share of adult men living in households with no other labour force members.

Figure 4.16 Share of Males Who are the Only Person in LF in Their Households

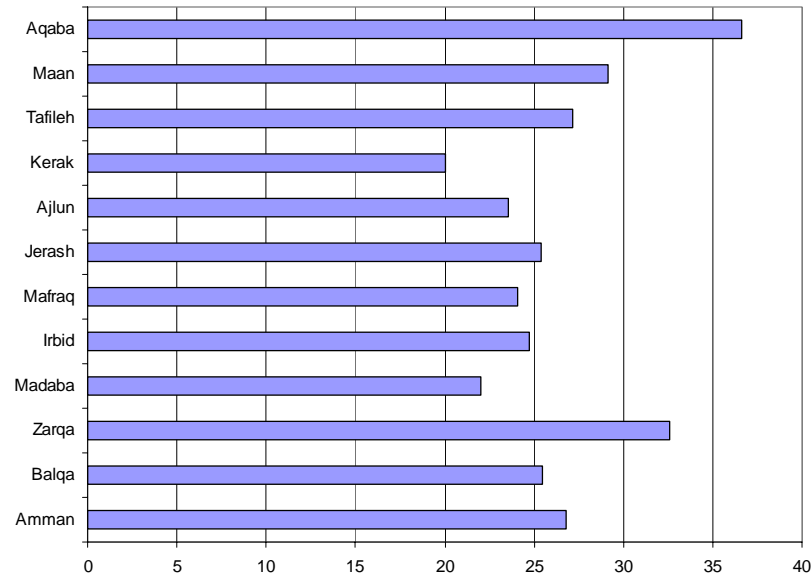
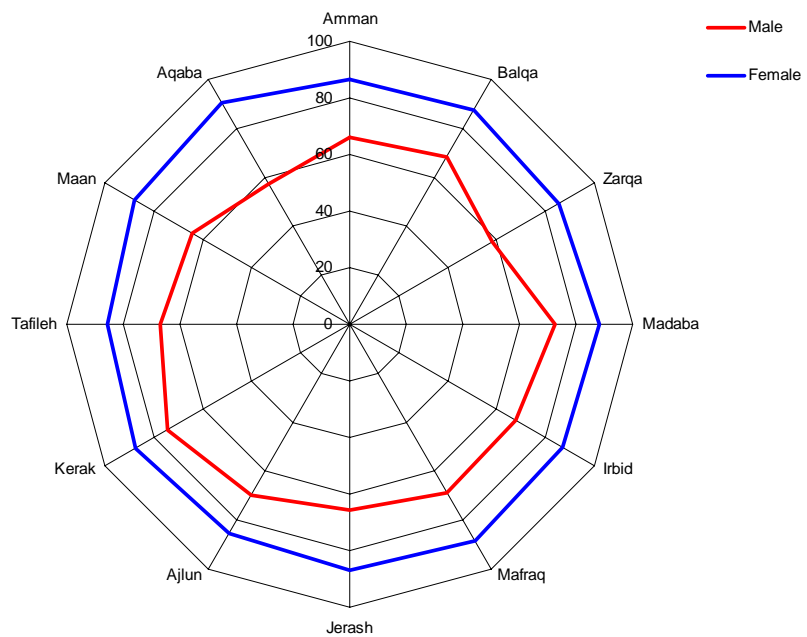


Figure 4.17 Share of Persons Who Live in Households with Other in LF, by Governorate



Summing up on labour force participation at the *household* level

Two out of three households have nobody or only one person in the labour force. The households with only one member in the labour force are vulnerable if something happens to this person. The households without any labour force member have no current *potential* for labour income, because they do not even have an *unemployed* member, (who may obtain employment).

The share of households with nobody, or only one person in the labour force is highest in Zarqa governorate. Aqaba has a high share of households with only one member in the labour force, but the lowest share of households with nobody in the labour force. 27 percent of the men are the only labour force members in their households. The corresponding figure for women is only 2 percent. Closely related, as many as 87 percent of the women live in a household with at least one *other* labour force member, in contrast to 66 percent of the men.

4.2.5 Multivariate Analysis of factors influencing Labour Supply

Need to estimate one model for males, and one for females

In this section we will present two logistic regression models in order to identify factors that are associated with labour force participation in Jordan. Logistic regression is a multivariate statistical technique that allows us to isolate the effects of several independent variables on one dependent variable. While the dependent variable in our case is *individual* labour force participation, both *individual* and *household* level variables were used as independent, explanatory variables.

Our first regression equation is estimated across *all* individuals in the sample who were 15 years or older. However, as elsewhere in the chapter, we have to relate to the fundamental difference between male and female labour force participation. This difference is not simply one of differing male and female participation *levels*. The whole mechanism associated with labour force participation seem to be different for men and for women, partially generating opposite effects when we make separate equations for each gender. For example, while marriage has a positive effect on male participation, the effect is the opposite for women. Hence, the second regression equation is estimated separately on a male, and on a female samples. Our comments below will relate to this model if not otherwise stated. The models are described in some detail in the appendix at the end of the chapter.

An odds ratio of 1 means neutral effect relative to the reference group, above 1 implies positive effect on participation, and vice versa

Below we present our results in terms of *odds ratios*. By *odds*, we here mean the estimated probability of being in the labour force vs. not being in the labour force for an individual belonging to some particular category, e.g. living in a given region of Jordan. By *odds ratio* we mean the *ratio* of these odds between two categories – e.g. our given region, and a prior chosen reference region. An odds ratio of 1 implies equal participation propensities between two categories (regions). An odds ratio above 1 implies a higher participation propensity in the given, than in the reference region, and vice versa for an odds ratio below 1.

The *first* education for all adults clearly shows the fundamental effect of gender on labour force participation. The ratio of the odds of being a labour force member, versus being outside the labour force was 12 times as high for males as for females. Due to this large effect, together with the expectation that gender would also influence the effect of *other* explanatory variables, we thus turn to the second, gender specific model for labour force participation (of course removing gender from the independent variable list).

“Age” is associated with a range of other factors

Except for gender, *age* is the “classical” independent variable in the sense that it cannot be affected by our dependent variable. It is common to use both age, and squared age as dependent variables. For males, the effect of age is slightly negative, while for women, it is positive. Squared age gives an insignificant coefficient for males, and a neutral coefficient for women. These results may seem somewhat surprising given the clear, systematic *bivariate* relationship between age and labour force participation, in particular for males. However, these figures may be deceiving because the bivariate relationship between age and labour force participation is “polluted” by the strong correlation between age and *other* explanatory variables, such as education, marital status and family relation to the household Head.

Another important factor is the systematic difference in the size of the age cohorts. Although male labour force participation drops sharply above 45 years, the fact that the vast majority of the adult males are relatively young reduces the effect of the participation behaviour of older males relative to that of the young⁴. The “differing cohort size” argument also applies to women. Labour force participation is increasing with age in the younger (and large) age cohorts.

⁴ Constant, high fertility rates and low mortality rates, makes the 15-30 year cohort almost twice as large as the 30-45 year cohort, which again is almost twice the size of the 45-60 year cohort, and so on.

The values of the “independent” variables may also be affected by labour force participation

For other individual as well as household “independent” variables one should keep in mind that the dependent variable, labour force participation, at least in principle, may affect the independent variables. For example, having a job gives income, which again may allow a son to marry, move out from his father’s family, and to create his own household. In this case, both the relation to the Head, the marital status, and most of the household variables will be affected.

Urbanization increases male participation and reduces female participation

While the geographical location determines the labour market opportunities, some families also migrate *in order to* improve their labour market opportunities. Urbanization increases male participation, but *decreases* female participation. Relative to Amman, both male and female participation is higher in the North and the South, but lower in the “Middle” governorates. Being a foreigner raises the male participation rate. Being a refugee increases the male participation rate, but decreases the female participation rate. With respect to foreign nationals, it should be remembered that many probably move to Jordan *in order to* work.

Marriage increases male participation and decreases female participation

The effects of relation to the household Head on labour force participation are measured relative to being a head. The odds ratio for sons of the Head is above 2, while it is only 0.2 for “other male relatives” (than the direct family line). The former result is probably caused by the “sons” being not only above 15, but also to a large extent also being middle-aged sons (of retired male heads). The latter result is probably because “other male relatives” are included with the household exactly *because* they are not able to care for themselves economically. The same argument applies to sick or disabled men, but not to the same extent to sick/-disabled women. As expected, being a (female) spouse, and implicitly being provided for economically by the male Head lowers the participation prevalence relative to being a female head.

As could be expected, marriage has dramatically opposite effects on male and female labour force participation. For women, the married-unmarried odds ratio is 0.55, for males it is 3.60. In the Jordanian society, marriage implies that the male *must* work to provide for his family. His wife may, in most families, expect to be cared for economically by her husband. The same general effect is also documented in the effect of having children below 10 years in the household: Male participation increases, while it decreases for women.

Both male and female participation decreases with household size. For women it also decreases with the (usually more traditional) “extended”, family type, while it increases for

males. While we deemed *current* household income to be too closely *caused* by the dependent variable, we found a nearly neutral effect of (accumulated, past) income, measured by the asset index. Female Headship is associated with low male participation. Obviously, female headship is also associated with the absence of able-bodied males in the household. For female participation, an interesting difference appears between married and non-married female Heads. While the former group of female Heads in most cases have a husband working somewhere else, women in the latter group are also the *real* Heads, and their odds ratio, relative women in male-headed households, is above 2.

Education increases male participation and decreases female participation

Finally, we investigate the effect of *education* on male and female labour force participation. First, we observe that effect of *own* education, relative to being illiterate, is slightly positive for men, but *very* high for women. This confirms our previous finding that higher education seems to enable women to cross a kind of an entry threshold to the labour market. We also investigated the effect of the (usually male) Head's and the (female) spouse's education on respectively male and female participation. For males, there is no strong effect of the Head's and the spouse's education on participation. However, for females, there seem to be a systematic positive effect of the spouse's education, but not of the Head's education. We may interpret this as partially being due to a "role model" effect. Highly educated mothers are conducive for younger women's participation. However, most highly educated women, may also be married to men who in general are more positive towards female labour force participation, including their daughters. In general, the existence of *another* labour force member in the household is conducive both on male and female participation.

Summing up on multivariate analysis of labour force participation

The multivariate analysis of factors associated with labour force participation has generally confirmed our previous findings in bivariate tables and graphs. The major "new" finding is that the effect of "age" seems to be a complex composite effect where "age" in effect also incorporates a range of other dependent variables highly *correlated* with age, such as e.g. education, marital status and relationship to the Head. However, a problem also with the multivariate analysis is that the large size of the younger age cohorts relative to the older cohorts may also "crowd out" real, substantial age effects that occur in the age groups above 30-40 years.

4.3 Employment and Work Conditions

The employed are those labour force members who were accepted by an employer, or who created their own employment

The topic of this section is the employment and work conditions of Jordanian workers. While our previous analysis of labour force participation highlighted the *supply* of labour to the Jordanian economy, our current investigation of employment patterns also involves the *demand* side in the country's labour market. In order to be employed, a person must not only supply work, but must also be accepted by an employer. Alternatively, the person can become self-employed by establishing his own "enterprise".

In a living conditions perspective, the main importance of employment is that it yields income to households. However, employment also brings about on-the-job training, and participation in the work life contributes to shaping the workers' identity, and expanding their social networks. On the aggregate level, labour activity is, of course, a major determinant of the *national* and *regional* production of goods and services.

A person's employment may be characterized by the legal arrangement, the work conditions, the occupation and industry

A person's employment may be characterized in numerous ways. First, the worker works under a certain *legal arrangement*, among which three are three main types: *Employees*, *self-employed* and *employers*. The employees may further work for the private, or for the government sector. The latter distinction is important not only from the workers' perspective of working conditions, but also because the government, at least in principle, has direct control over the size of the government sector. Hence, changes in the number of, composition and work conditions of the government sector employees are important tools for public labour market policy. Finally, a particular group of employees is the "unpaid workers", whose labour activity to an even larger extent than among workers in other sectors stands out as the result of a *household* decision.

Employment is also associated with certain *work conditions*. Working conditions like hourly wage and work time are of course of essential importance to the workers, but are also important input in macro-economic planning models, in order to evaluate the economic performance of the various sectors, industries and occupations.

Working conditions are systematically linked with *occupation* and *industry*, but depend in particular on the main employment sector. We may for example assume that both *employers* and *self-employed* are relatively free to decide upon their own work hours. To the

contrary, employees, and in particular *government* employees usually have to accept more regulated conditions both with respect to work hours, payment scales and other rights and benefits associated with their jobs.

The structure of the employment section

The employment section is divided into seven sub-sections. The first section deals with the distribution of the employed across the main economic sectors mentioned above, and the distribution of employment in these sectors according to selected geographical, individual and household characteristics. Section 3.2 presents the workers' distribution across industries and occupations in a similar manner. The next three sections all deal with the worker's two key conditions in their work, namely their hourly wages and their weekly work hours. In section 3.3 we show how these factors are distributed across geography. Section 3.4 investigates their relationship to the workers' industry, occupation and sector of employment, while section 3.5, investigates their relationship to a range of other individual and household characteristics. Section 3.6 deals with auxiliary issues, like secondary employment and temporarily absence. Finally, we present the main results from a logistic regression about main employment sectors in section 3.7.

4.3.1 Employment by Main Economic Sector

In principle, the government directly controls employment in the government sector

As mentioned above, an employed usually fits into one of the three main types of employment arrangements, namely *employee*, *self-employed* or *employer*. It is further useful to distinguish whether those who are employees work for the private, or for the government sector, because, in principle, the government has direct control over the latter. The "unpaid workers" is another group that deserves particular attention, not least because their employment usually takes place under non-market conditions in the household context.

The government sector absorbs relatively more women, and is most important in rural areas and in the South

Somewhat surprisingly the government sector is relatively larger in the rural than in the urban areas (Figure 4.18). It is also *relatively* most important for female employment. The latter finding is probably due to the fact that many highly educated women are employed in government educational and health facilities as teachers and nurses. More men than women work in the formal private sector, and almost all employers are male. On the other hand, almost all unpaid workers are female, and live particularly in rural areas.

Figure 4.18 Main Sectors of Employment by Sex and Urban-Rural Residence

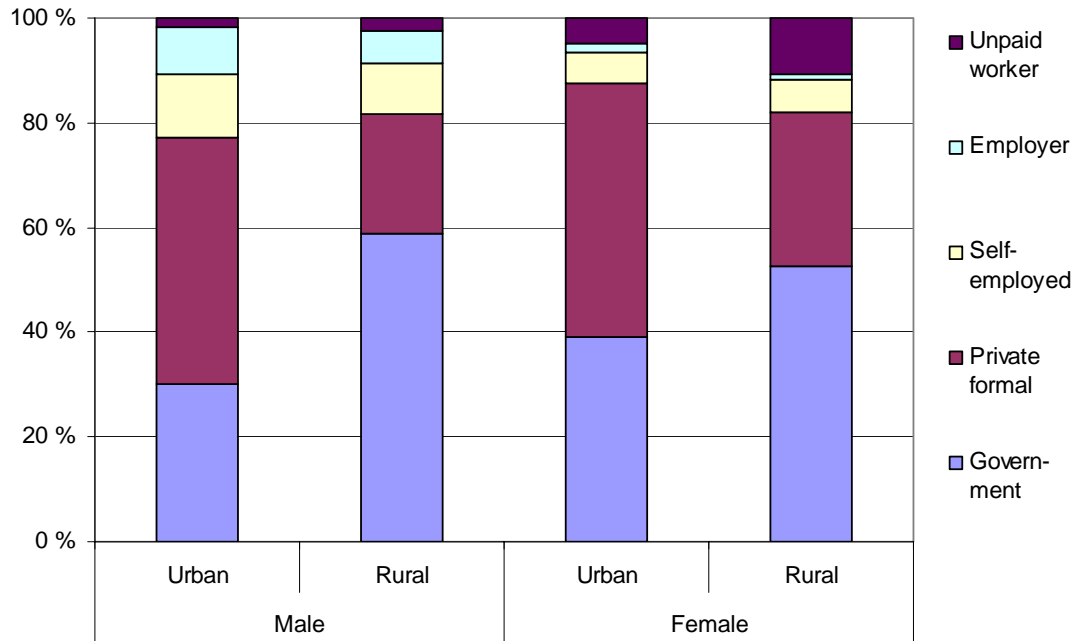
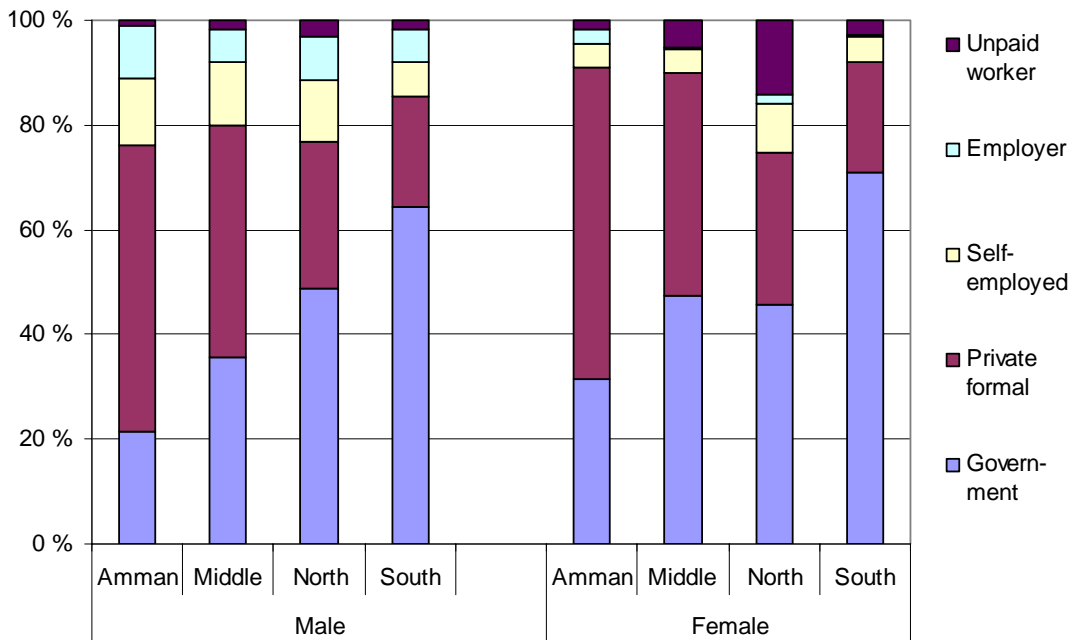


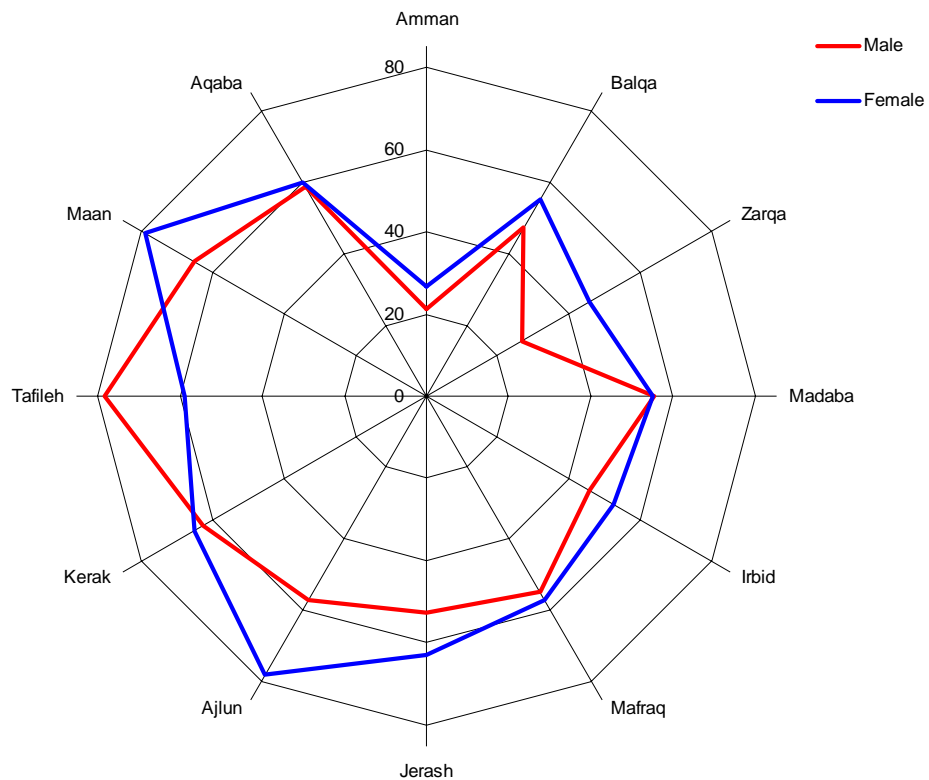
Figure 4.19 Main Sectors of Employment by Sex and Region



A regional, gender specific breakdown of the main sectors of employment shows Amman and the Southern governorates to be at the extreme ends (Figure 4.19). In Amman the private formal sector dominates employment for both genders, while only one in four

employees are employed in the government sector, in spite of Amman being the capital city. To the contrary, two out of three workers of both genders in the Southern governorates have governmental employment. Unpaid work is concentrated among women in the Northern governorates, where as many as 15 percent of the employed women belong in this category.

Figure 4.20 Share of Employees in the Government Sector, by Sex and Governorate

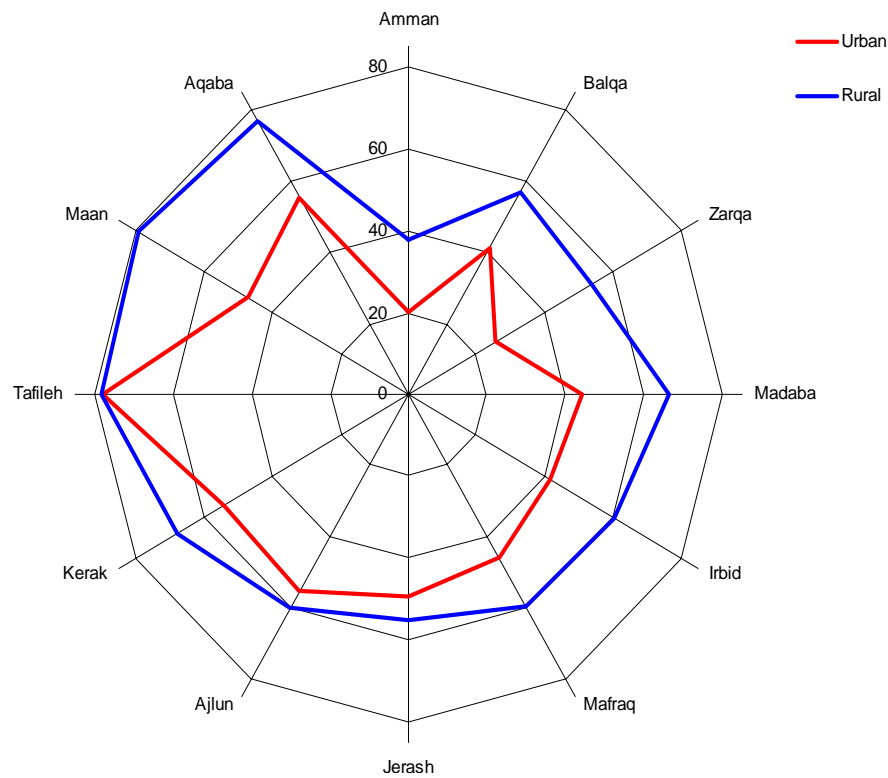


The high female relative share of government employment is found in all governorates except Tafleeh, although the male-female government employment shares both vary more *across* governments, than within most governorates (Figure 4.20). Among employed males, a higher share is employed with the government in rural than in urban areas in all governorates, regardless of region and degree of urbanization (Figure 4.21)⁵. Given the geographical pattern of current government employment in Jordan, we may conclude that a general, non-discriminatory reduction of the government sector will affect women relatively more than men, rural localities more than urban areas, and in particularly negatively affect the Southern region. An interesting question is whether government employment crowds out the private formal sector through superior work conditions like

⁵ The number of employed females was too small to be distributed across both employment sectors and governorates.

hourly wages and weekly work hours, or whether the government sector compensates for a weakly developed private sector economy in some areas.

Figure 4.21 Share of Male Employees in Government Sector, by Governorate and Urban-Rural Residence



At the flip of the coin, the employment pattern of the private formal sector seems to be the opposite of the government sector: The private formal sector is virtually non-existent for both genders in some Southern governorates (Figure 4.22). While gender differences are relatively small, and changing across governorates, there is a very clear urban-rural difference among employed males in almost all governorates (Figure 4.23).

Figure 4.22 Share of Employees in the Private Formal Sector, by Sex and Governorate

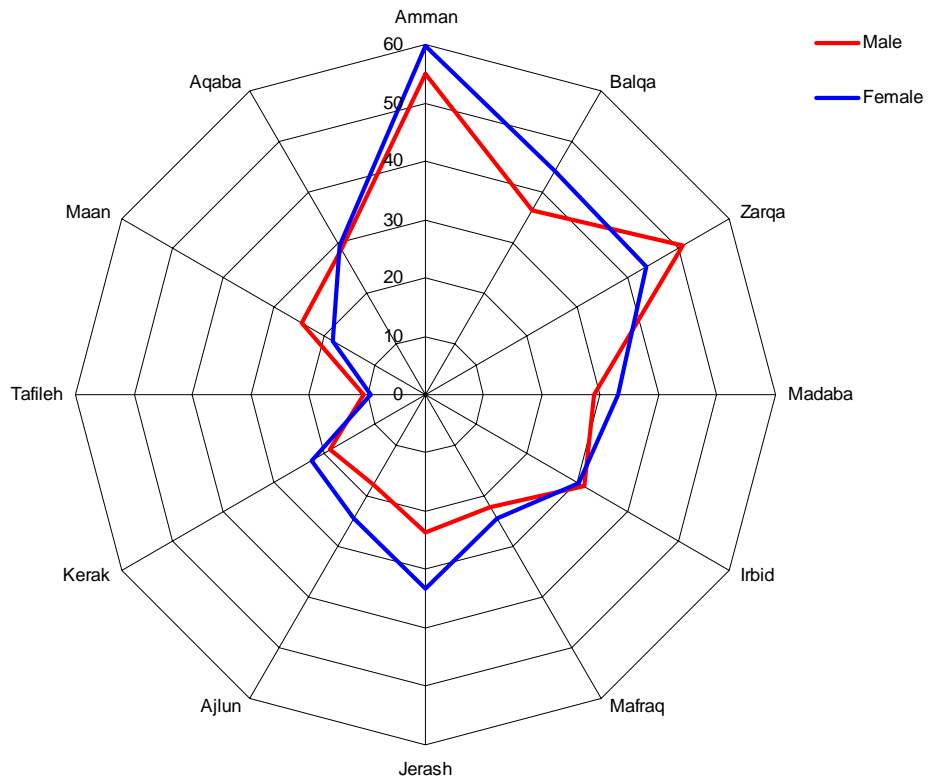
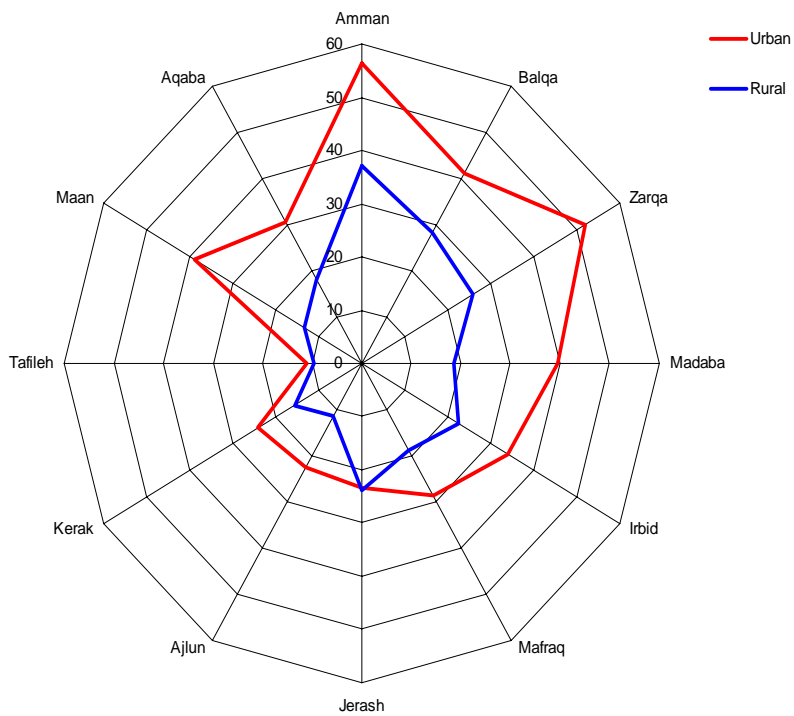


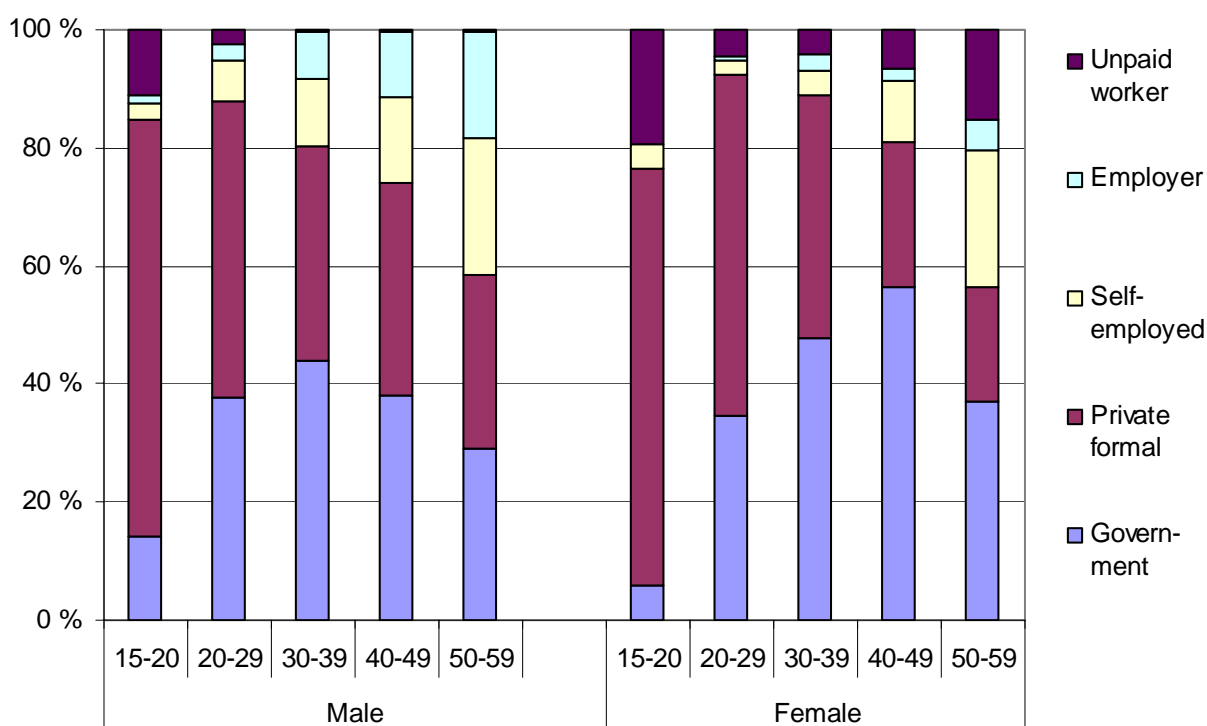
Figure 4.23 Share of Male Employees in the Private Formal Sector, by Governorate and Urban-Rural Residence



The government sector employs the middle-aged. The formal private sector employs the very young

The main age pattern for sector of employment is that the formal private sector absorbs most young men and women, while the government sector employment share increases sharply among those who are old enough to have finished higher education (Figure 4.24). Government sector employment peaks at 30-40 years for males, and 40-50 years for females. For both genders, the formal private sector becomes less and less important with increasing age. More and more men become employers, or self-employed, while more and more women become self-employed or unpaid workers.

Figure 4.24 Main Sectors of Employment by Sex and Age

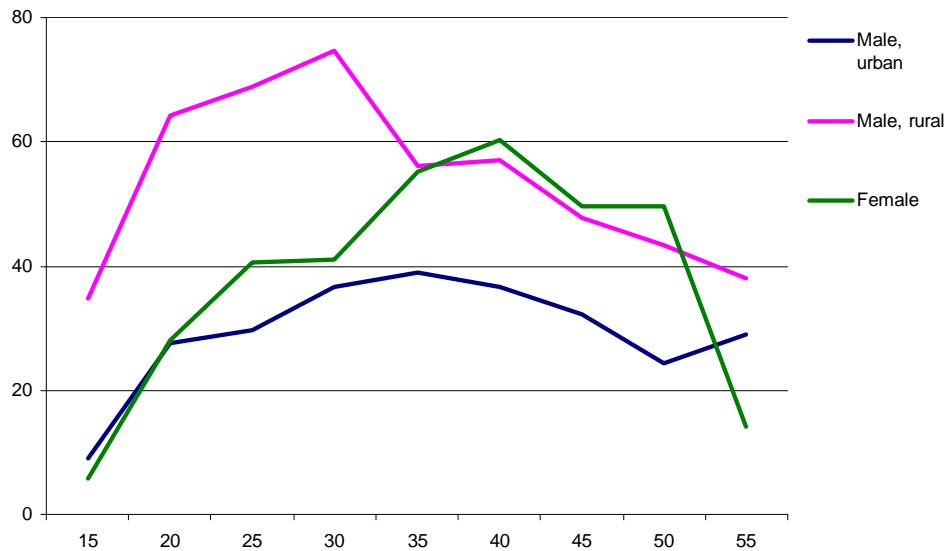


Government sector employment is more important for young rural men than for young urban men

However, if we break up the male government employment shares by urban and rural residence, we observe a distinctively different pattern by age in urban and rural areas (Figure 4.25). In rural areas the male government employment share peaks at 20-30 years, and then decreases until 60 years. However, in the urban areas, which dominates the total results, the

male government employment share peaks at 30-40 years, more close to the age profile among female employees.

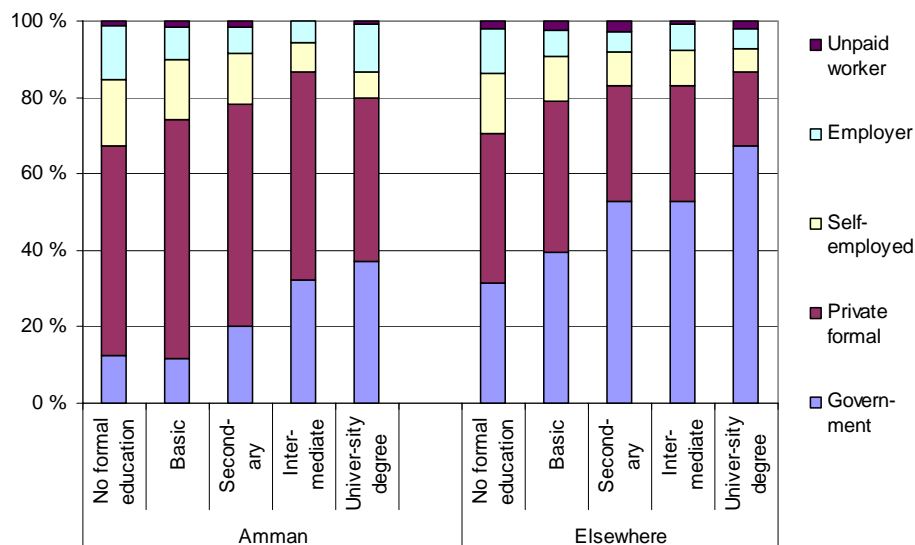
Figure 4.25 Share of Government Employment, by Sex, Age and Rural-Urban Residence



Higher education is associated with government sector employment, in particular for women

For males, government sector employment is systematically positively correlated with higher education, but at a moderate level. The positive relationship between government employment and higher education exists both in Amman, and outside the capital, but the share of government employment is higher outside the capital at all education levels (Figure 4.26).

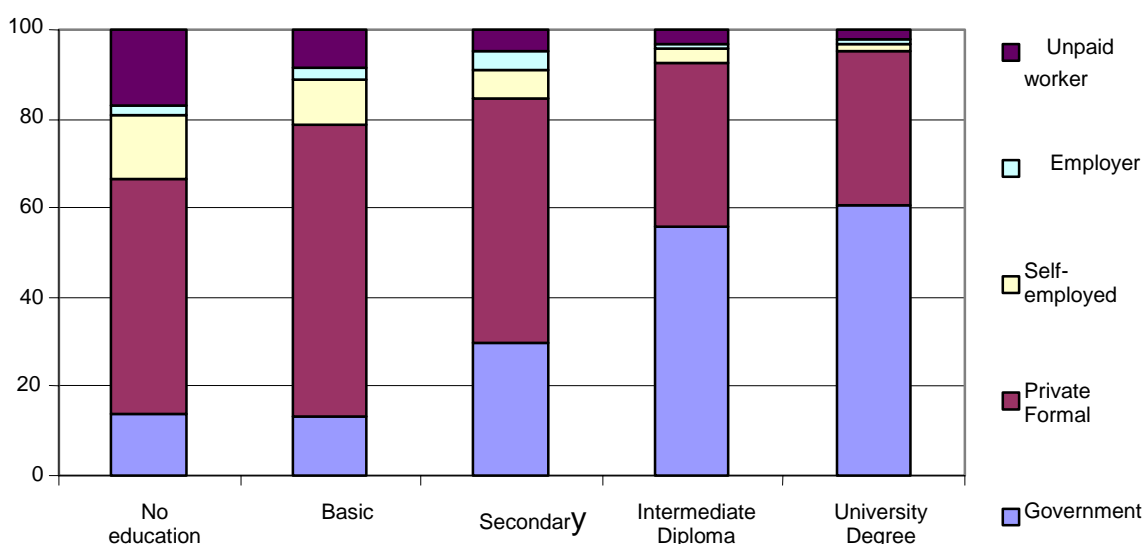
Figure 4.26 Main Male Sector of Employment by Education and Residence in Amman



For women, the relationship between government employment and higher education is much stronger than for men (Figure 4.27). Unpaid female workers tend to be illiterate, or have only basic education. Above the intermediate education level the formal private sector is replaced by the government sector as the main employer of females.

An interesting question is why the formal private sector seems less able to attract highly educated women than the government sector. One hypothesis is that the government sector offers better conditions for women who have to combine work outside the home with domestic tasks. As we will see below, the government sector is characterized by shorter and more regulated work hours than e.g. the formal private sector.

Figure 4.27 Main Female Sectors of Employment by Education



Government sector employment is more important for young rural men than for your urban men

Among males, there are relatively little correlation between the main sector of *individual* employment and *household* income (Figure 4.28). Somewhat more males from affluent households are employers. Else, government employment seems to be a little more important among men from mid-income households, than at the extremities.

Among women, the relationship between the main sector of *individual* employment and *household* income is more systematic (Figure 4.29). As could be expected, the highest share of unpaid female workers is found among poor households. As for males, government

employment is more important among females from mid-income households, than at the extremities, but this pattern is much clearer for women than for men.

Figure 4.28 Main Male Sectors of Employment by Household Per Capita Income and Residence in Amman

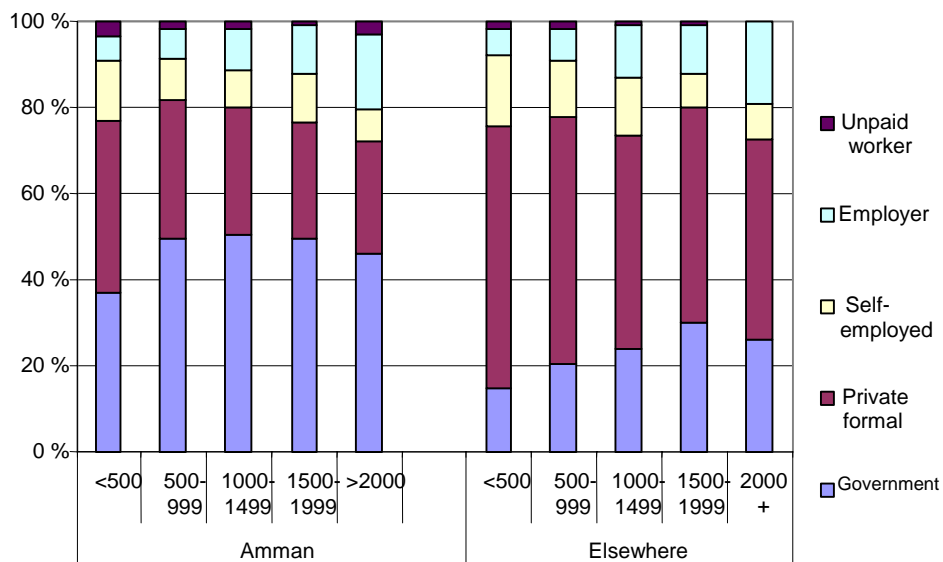
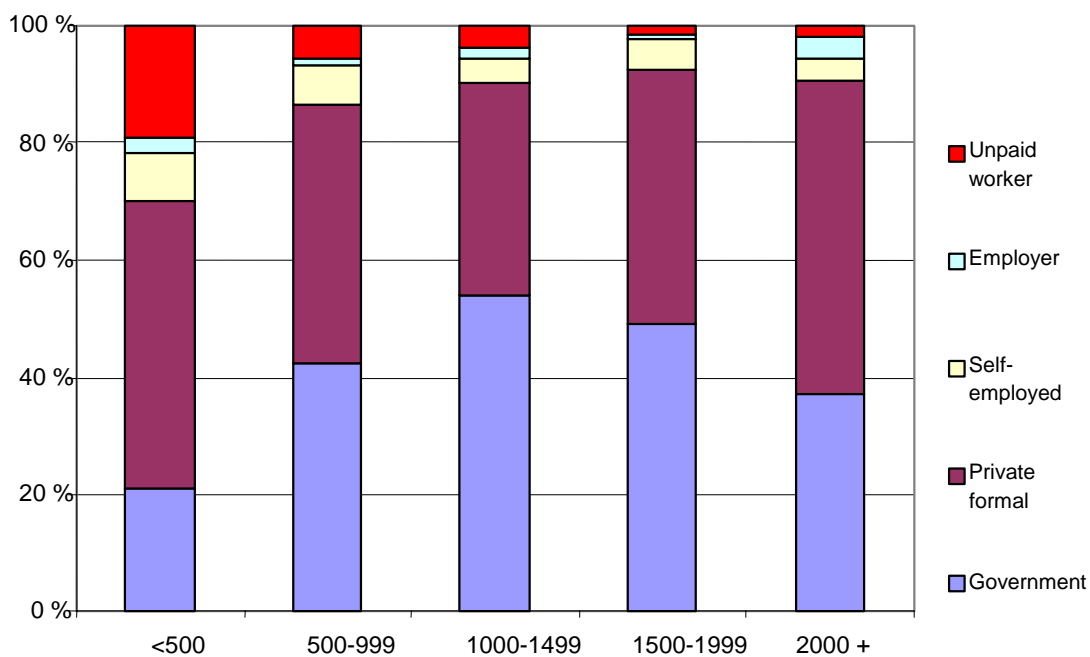


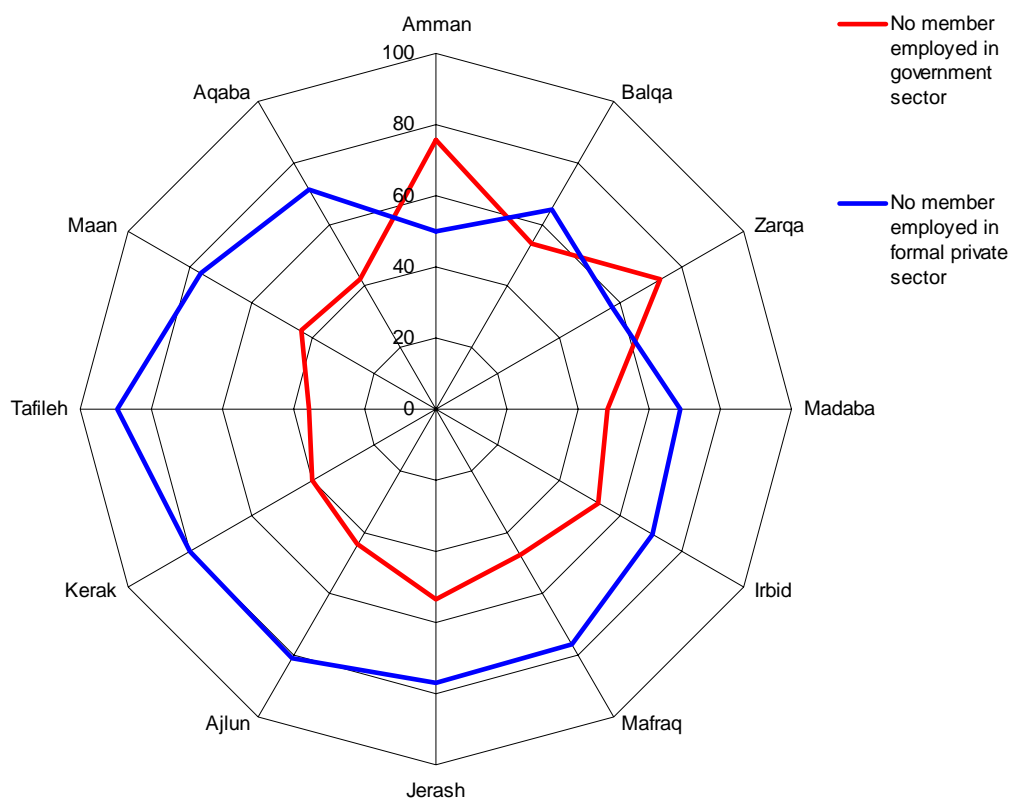
Figure 4.29 Main Female Sectors of Employment by Household Per Capita Income



In the South, two of three households have members employed in the government sector, the corresponding figure in Amman is one in two households

Finally, we investigate the variation in the share of *households* with no members employed in respectively the government, and the formal private sector (Figure 4.30). The figure reveals a clear difference between the Northern and Southern governorates at the one hand, and the Middle governorates, including Amman, on the other. In Amman, almost 80 percent of the households have no member who is employed by the government. In the Southern governorates, this applies to only 40 percent of the households. To the contrary, 90 percent of the households in the Southern governorates have no member employed in the formal private sector, while the corresponding figure in Amman is 50 percent.

Figure 4.30 Share of Households without Any Employed Member in Government and Private Formal Sector



Summing up on employment by main economic sector

In principle, the government directly controls employment in the government sector. Hence, the government employment patterns may be expected to reflect government needs and priorities. The government sector absorbs relatively more women, and is most important

in rural areas and in the South. While the government sector employees are middle-aged, the formal private sector employees tend to be younger. Higher education is associated with government sector employment, in particular for women. In the South, two of three households have members employed in the government sector. The corresponding figure in Amman is one in two households. It may seem as a paradox that government employment is less important in the national capital than in the remote governorates.

4.3.2 Work Hours and Wage per Hour in Main Job by Geography

Work hours and the wages are usually *jointly* determined by the employer and the employees

The subject of this section is to present the geographical distribution of work hours, and the hourly wage in the main job. It is reasonable to assume that the two phenomena are closely related. On the one hand, the higher the hourly wage, the more profitable it is to work. On the other hand, the higher the wage, the less a person *needs* to work, in order to reach a given income level⁶. We will come back to this discussion below.

The issues of work hours and wages constitute a key difference between the main types of employment in the Jordanian labour market. First, we assume that both *employers* and *self-employed* are relatively free to decide upon their own work hours. Their wage is in few cases fixed or regulated, but is determined by their sales, productivity and work efforts.

For the group of *employees*, the employer and the employee jointly determine both the work hours and the wages. Some worker *wants* work long hours, some wants to work short hours. Some employers want their workers to work long hours, and some wants them to work short hours. In the absence of trade unions, these outcomes are determined by individual bargaining. The workers may “vote with their feet” and find other jobs. Likewise, employers may dismiss their employees and hire others. In the long term, it is reasonable to assume that a gradual adaptation takes place, where employees find employers and types of employment that fit their desired number of work hours, wages and other work conditions, and vice versa.

In the case of “mismatch” on these issues, some “workers” also choose to change their employment type, or leave or not enter the labour market altogether. Their choice may also depend on business cycles. If business prospects are good, more workers want to start their own enterprise. When business prospects are bleak, many formerly self-employed or

⁶ These two effects are well known from economic theory. The first effect is called the “substitution effect”; i.e. the implicit *relative* price of leisure goes up. The second effect is called the “income” effect. The worker can afford to “buy” more leisure.

employers enter the market for regular employment. Another important factor is gender. Due to pregnancies, births and family obligations, many women prefer to hold more regulated work.

A particular type of employer is the *government*, which usually offer more regulated conditions both with respect to work hours, payment scales and other rights and benefits, such as some protection against dismissal and beneficial retirement pensions. It seems reasonable to assume that these regulations make government employment attractive to many workers. However, some workers decline government employment because they prefer to be independent and run their own affairs. One group that may find government employment particularly beneficial is women, because employment under regulated work conditions are easier to combine with family obligations, and because the government sector usually provides women with better protection against discrimination in the labour market.

The situation for the last main employment type, namely the *unpaid workers*, is more difficult to entangle. Frequently, this group represents a pool of reserve labour that are called into work when special events occur, such as e.g. harvest in the rural areas. Workers in this group are usually less educated women and it is unclear to what extent they are able to freely decide upon the duration of their work. Moreover, it is also unclear why they, contrary to most workers, accept to work without payment. It is reasonable that the “exit option” is less relevant for this group. Usually, the non-remunerated work takes place in the household context, and refraining from this kind of work amounts to a divorce or break with the household.

How to present data for work hours and wage per hour across?

Similarly to income distributions, both the distributions for work hours and wages per hour tend to have a *skewed* shape. For *wages per hour*, the majority of workers are clustered together at the left hand side, with a long right “tail”, which reflects that some workers earn very high wages⁷. For *work hours*, the distribution is usually more symmetric. The majority work “regular hours”, i.e. somewhere between 35 and 50 weekly hours. However, while some persons, in particular women, work shorter hours, some tend to work *very* long hours, although human biology do not allow for the same extreme differences in work hours as in wages per hour.

Due to the skewness of the distributions, and the large spread of in particular workers’ wages per hour, we sometimes prefer also to show the full distributions, in addition

⁷ In these distributions the mean wage per hour will typically be higher than the median wage per hour (which divides the population of workers into two equal parts). Taking the natural logarithm of the wage per hour will usually generate a close-to-normal shaped distribution.

to simple summary measures, such as the mean or the median. However, the best remunerated have so high wages that it is virtually impossible to present their wage levels along an axis with “true”, equal wage intervals. As a compromise we have made figures with equal distance *hourly wage* intervals along the axis, *except for the last interval*. Hence, the peak to the very right on the wage figures below is artificial, because of the much larger intervals used here. To the contrary, any other peaks at the left, or in the middle of the figures represent “true” clusters of observations of workers’ hourly wage. With respect to the number of *weekly work hours*, both the first and the last interval used are of the type “greater/ smaller than”, which in some cases yield “artificial” peaks in the graphs, usually at the right end of the distributions.

Before we start commenting on the results in the section we also want to remind the reader about some useful facts for the interpretation of the results. First, the employed women represent a group that is quite different from the majority of adult women. Second, both work hours and hourly wages tend to vary with the season of the year, in particular in rural areas and for less regulated types of employment. Both measures are *current*, i.e. they refer to the week before the interview took place, and hence, do not necessarily reflect the workers’ *usual* work situation during the rest of the year⁸.

The measure “weekly work hours” refers to the sum of direct questions about last week’s work hours in *all* jobs. We have deliberately chosen to define “weekly work hours” as the *total* weekly work hours for *all* jobs, in order to document the workers’ total supply of labour. To the contrary, the workers’ hourly wages refer to the *main job only*. The reason is that we want to be able to compare the wages offered by the main types of employers, industries and occupations. Involving multiple jobs in the calculations, where supplementary jobs often are of a very different nature than the main job, may disturb this enterprise. Moreover, the reference period for the wage income was one *month*⁹. Hence, the wages have then scaled down to match with the one-week reference period, *assuming that the workers’ work patterns last month was the same as the last week*¹⁰.

⁸ Some of the interviewing also took place during Ramadan 2003, which may have somewhat biased the results in some areas (Except the Southern governorates?)

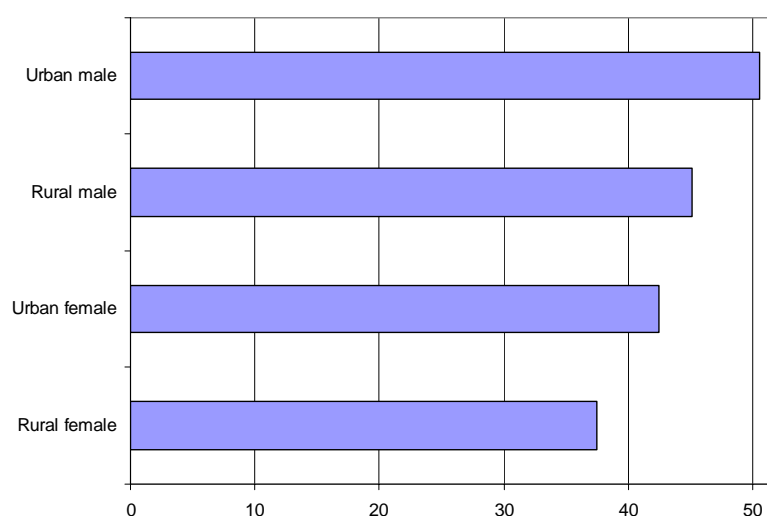
⁹It is common that many self-employed tend to report about their monthly *sales* rather than their monthly *profit* to household surveys. We have not investigated this issue further.

¹⁰ For the *temporarily absent workers* (absent due to illness, holiday etc.), this assumption about consistency between the previous *week* and the previous *month* obviously do not hold, and this, hopefully mostly random group of employees, have consequently been taken out of the analysis.

Urban males earn more per hour, and work more weekly hours

First, we find it useful to remind the readers that four out of five Jordanian households live in “urban” areas¹¹. In most developing countries, rural areas display a less sharp distinction between work and leisure than urban areas¹². This may explain the results shown in Figure 4.31, where those living in urban areas work more than those living in rural areas, regardless of gender. However, the higher hourly wage level in the rural areas for may also explain the difference in work hours.

Figure 4.31 Mean Weekly Work Hours in All Jobs, by Sex and Urban-Rural Residence



Preferences for leisure relative to income seems to change when the hourly wage for males reach JD 1

Above, we raised the discussion about the relationship between work hours and the hourly wage in the main job, and described the two theoretical effects of higher hourly wage on the total amount of work hours: On the one hand, the higher the hourly wage, the more profitable it is to work. On the other hand, the higher the wage, the less a person *needs* to work, in order to reach a given income level. Figure 4.32 apparently confirms our expectation that the second effect is most important in low-paid employment, because low-salaried workers seem to compensate for low hourly remuneration with long work hours. To the contrary, for those with hourly wages above JD 1, it is apparently more attractive to scarify at least some potential income in favour of more leisure, and there is no longer an

¹¹ An “urban” area is defined as a locality with 5000 and more inhabitants. However, this may not always adequately represent the distinction between “urban” and “rural” economies.

¹² In accordance with its common use in literature about household economics “leisure” simply signifies “non-work” in ILO-terms, of course, not ruling out that the “leisure” is used for domestic tasks.

increase in work hours when the hourly wage increases¹³. The same pattern is found among women, although the increase in work hours for women stops for hourly wages above JD 2 (Figure 4.33).

Figure 4.32 Grouped Hourly Wages for Males in Their Main Job, by Grouped Work Hours in All Jobs

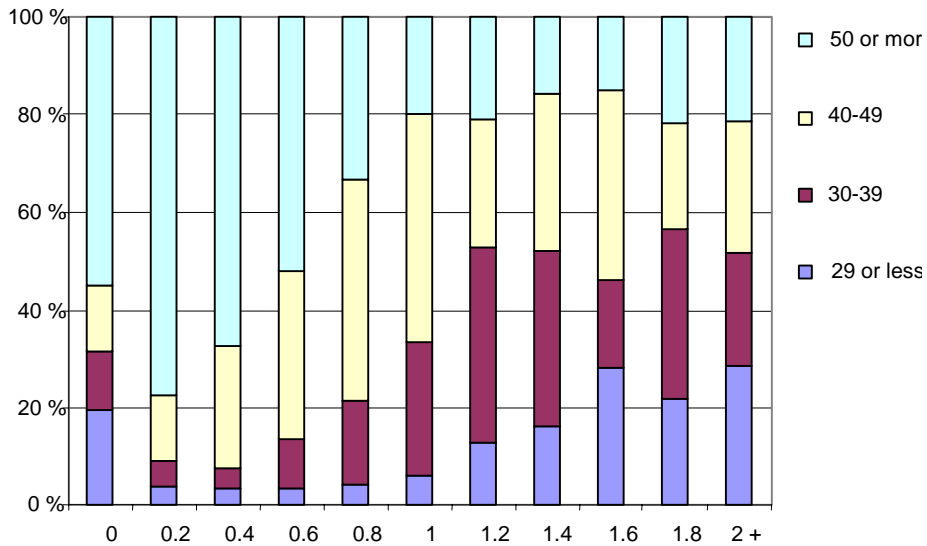
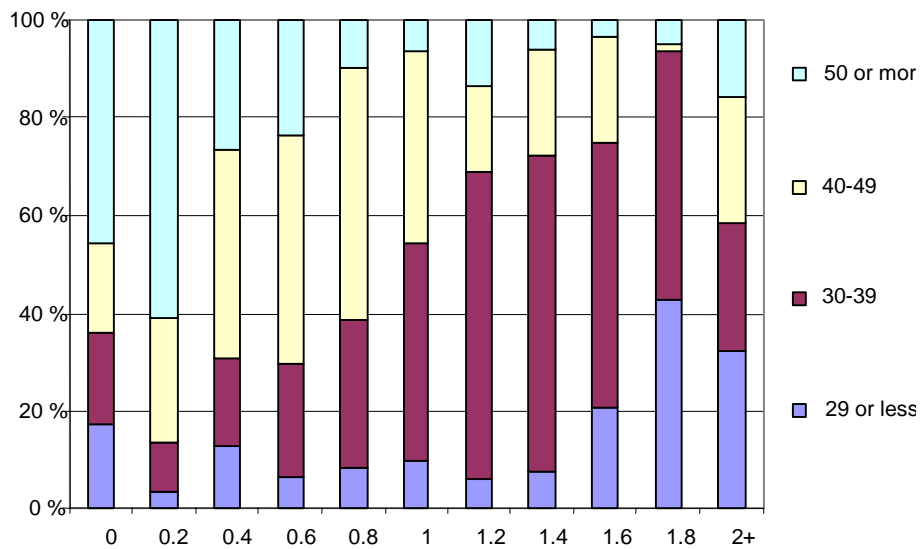


Figure 4.33 Grouped Hourly Wages for Females in Their Main Job, by Grouped Work Hours in All Jobs



¹³ This is a nice example of the commonly known “backward bending” labour supply curve.

Many more women than men work for very low payment, or without payment at all

Women work less, and earn less than men both in rural and urban areas. The reason for lower work hours (84 percent of the male hours) is partially due to the need for most women to combine employment and domestic tasks. The difference in wages per hour (85 percent of male wages) may be caused by different types of employment, differences in skills, and, as in most countries, by outright discrimination of female workers.

Figure 4.34 Grouped Hourly Wages (JD) in Main Job, by Sex

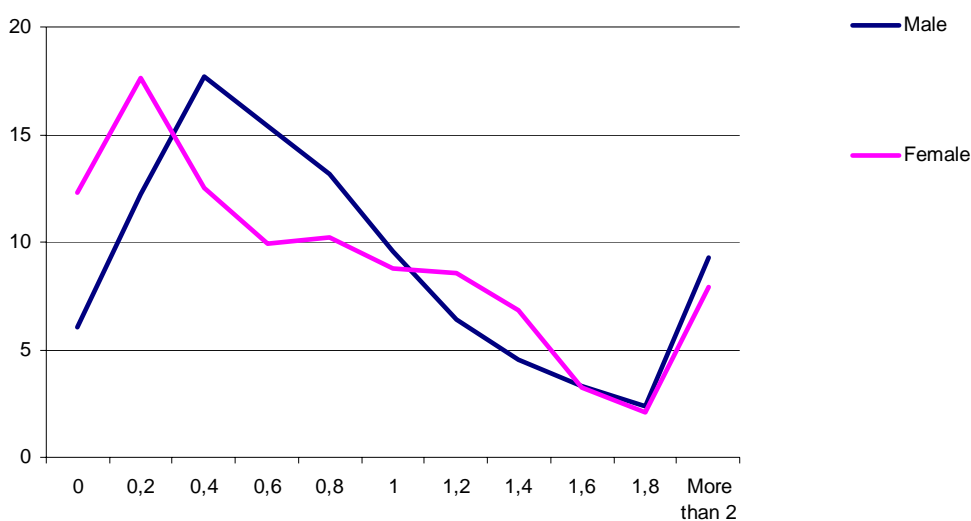
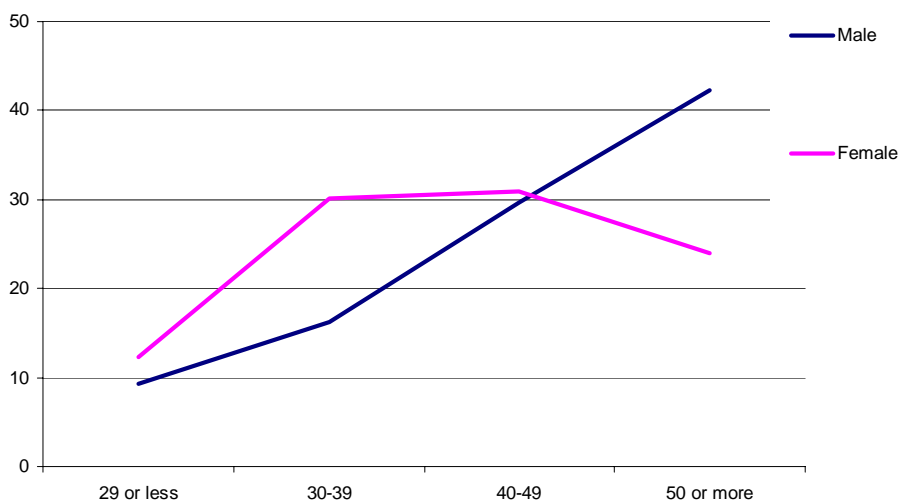


Figure 4.35 Grouped Work Hours in All Jobs, by Sex



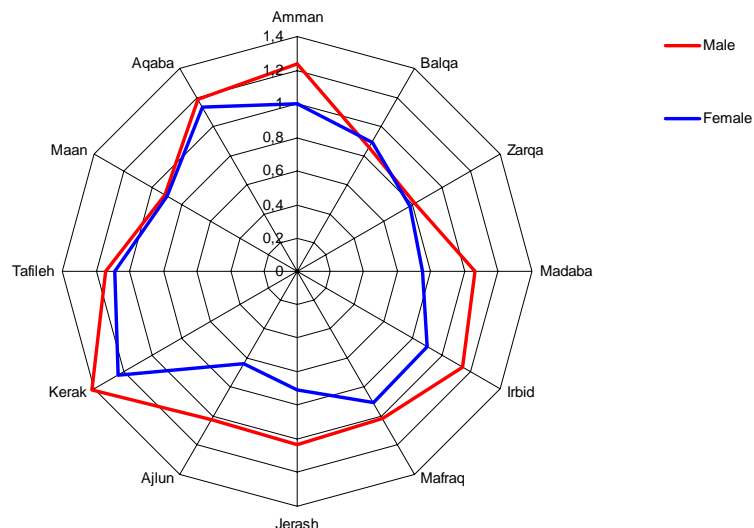
The *full distribution* of workers’ wage per hour gives a clearer picture of the male-female wage gap (Figure 4.34). The gender wage-gap seems to be caused primarily at the lower end of the wage scale. Many more women than men are employed either at low wages, or without any remuneration at all. To the contrary, the share of employed women earning above JD 1 per hour, is the same as the corresponding share among male employees. This fits well into our previously described picture of a dual employment pattern among women. On the one side, there are the women living in poor households that *have* to work due to economic emergency. On the other, there are well-educated women in relatively well-off households that *would like to work*, and who can afford to choose their type of employment more carefully.

Likewise, the full distribution of workers’ *weekly work hours* gives a clearer picture of the male-female work time difference (Figure 4.35). Although 15 percent of the women work less than 30 hours per week, most women work “regular” hours (30-50 hours). The greatest difference from males is that many fewer women have *very* long work hours (above 50 per week). Working more than 50 hours per week is obviously not very compatible with most women’s pivotal role in childcare and other domestic work.

Mean wages vary more across governorates for men than for women

The mean hourly wages are higher for men than for women in all governorates, except in Balqa (Figure 4.36). The variations between governorates in the mean hourly wages are also higher for men than for women. Zarqa has the lowest mean hourly wage for men with only JD 0.8 per hour. For women, Madaba is lowest with JD 0.75 per hour. Somewhat surprisingly, the rural dominated Karak governorate has the highest mean hourly wage, both for men and for women.

Figure 4.36 Mean Wages per Hour (JD) in Main Job, by Sex and Governorate



Complex regional pattern for male hourly wages: Northern region has less spread than others

Our next step is to investigate the *full distribution* for the hourly wages. However, the number of employed women is so small so we present the results for men only. The full distributions for *male* hourly wages vary substantially between the four regions (Figure 4.37). The Middle region has most workers with low hourly wage and few workers in the interval above JD 1 per hour. Amman has the highest share paid more than JD 2 per hour, but also a substantial number of low-paid workers. The Southern region has the lowest share of workers who are paid below JD 0.5 per hour, and a relatively high share above JD 2 per hour. Finally, the Northern region has a high share of *unpaid* male workers, but a much lower share around 0.5 JD per hour than the other regions.

Figure 4.37 Grouped Hourly Wage (JD) in Main Job for Males, by Region

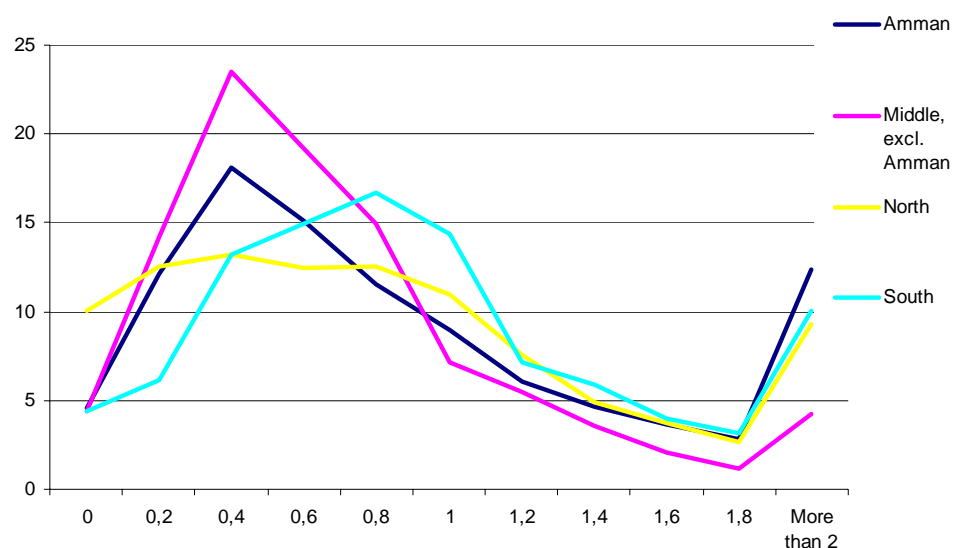
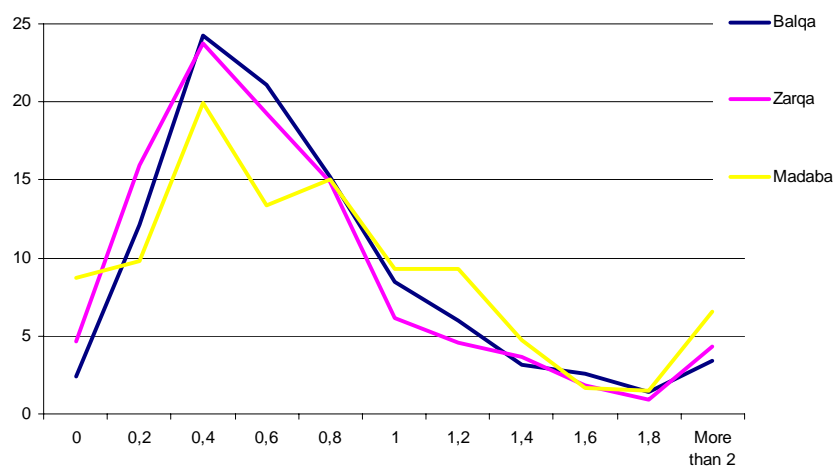


Figure 4.38 Grouped Hourly Wages (JD) in Main Job for Males in the Middle Region, by Governorate



In Figures 4.38-40, we break the three multi-governorate regions down at the government level. The governorates in the Middle region (Figure 4.38) are relatively homogenous, although Madaba has relatively more unpaid male workers, and relatively less low-paid workers than Zarqa and Balqa. The Northern governorates are also relatively homogenous, but with particularly many unpaid male workers in Ajlun (Figure 4.39). In the Southern region, Ma'an is clearly worst off, while Tafiela and Karak are better off than the other governorates (Figure 4.40).

Figure 4.39 Grouped Hourly Wages (JD) in Main Job for Males in the North Region, by Governorate

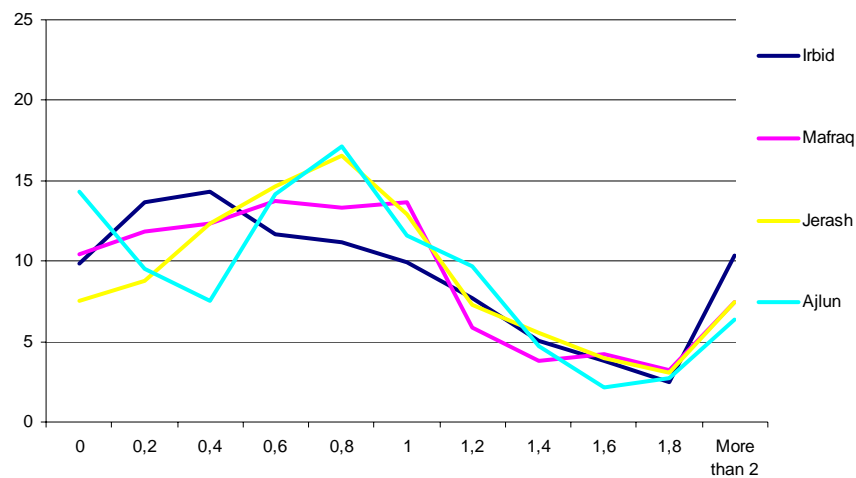
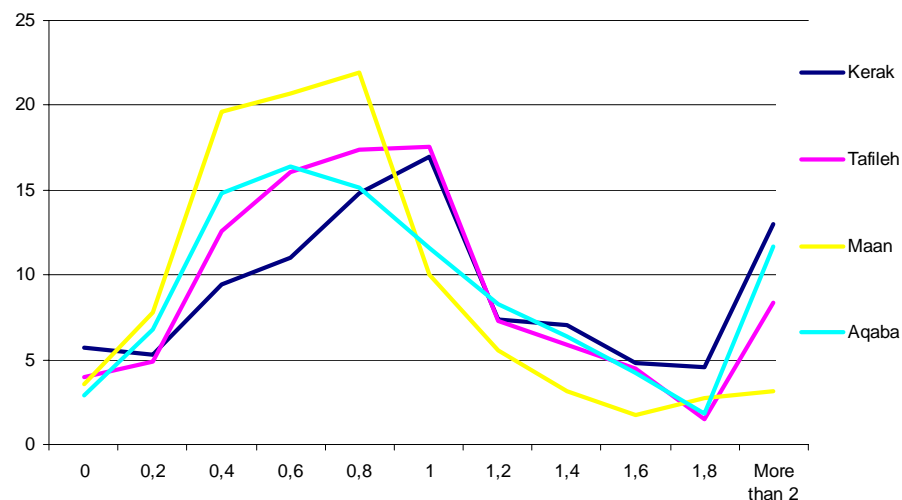


Figure 4.40 Grouped Hourly Wages (JD) in Main Job for Males in the South Region, by Governorate



Men work longer hours, and in particular many men work long hours in the Middle region and in Amman

Also the mean weekly work hour is higher for men than for women in all governorates (Figure 4.41). The difference between male and female weekly work hours varies across the governorates, from 16 hours in Aqaba, to 3 hours in Ajlun. There are large variations in the full distribution of male work hours between, on the one hand Amman and the Middle region, and the Northern and the Southern regions on the other (Figure 4.42). In Amman and the Middle region, few work very few hours, and very many work very long hours. In the Northern and Southern regions more persons work short hours and fewer work long hours. In particular the Southern region has many males working “regular” hours.

Figure 4.41 Mean Total Weekly Work Hours, by Sex and Governorate

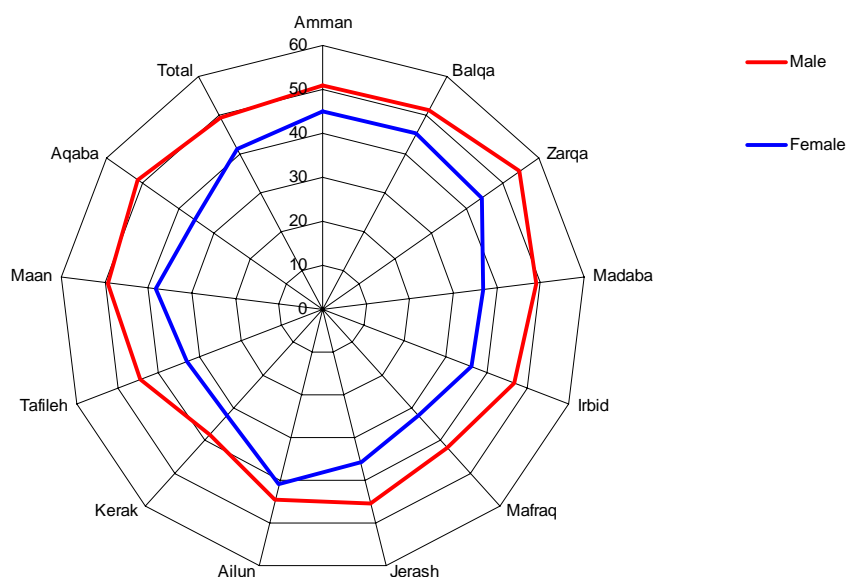
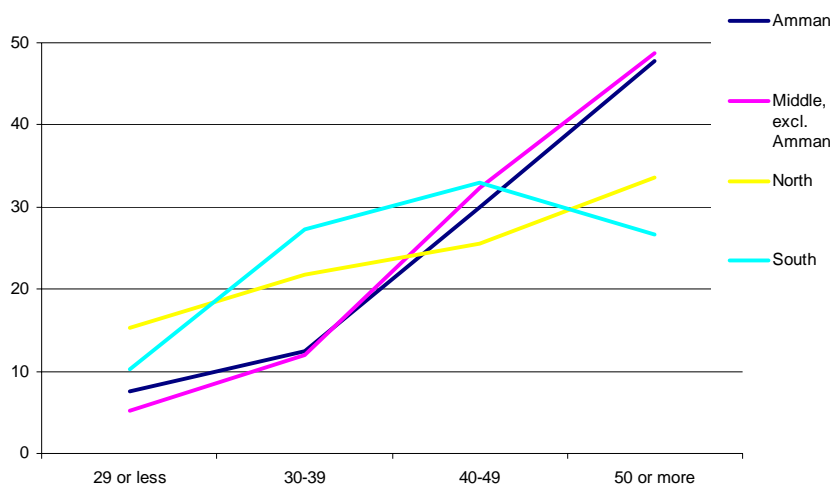


Figure 4.42 Grouped Work Hours in All Jobs for Males, by Region



Breaking the full weekly work hours distributions for men down at the governmental level reveals that the governorates in the Northern region are relatively homogenous, but that the Middle and the Southern regions are heterogeneous. In the Middle region, Madaba has more persons working “regular hours”, while Balqa and Zarqa have very many working very long hours (Figures 4.43 and 4.44). In Balqa, 50 percent of the employed males work more than 50 hours per week.

Figure 4.43 Grouped Total Weekly Work Hours for Males in the Middle Region, by Governorate

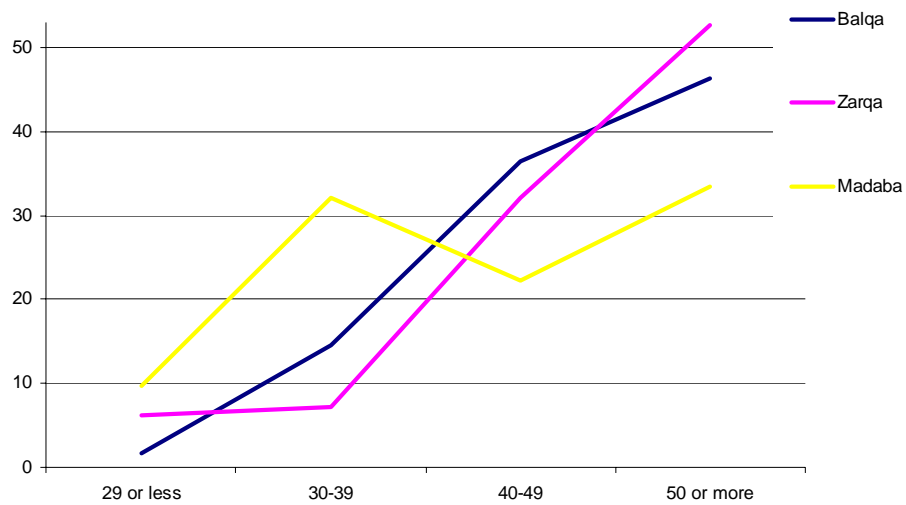
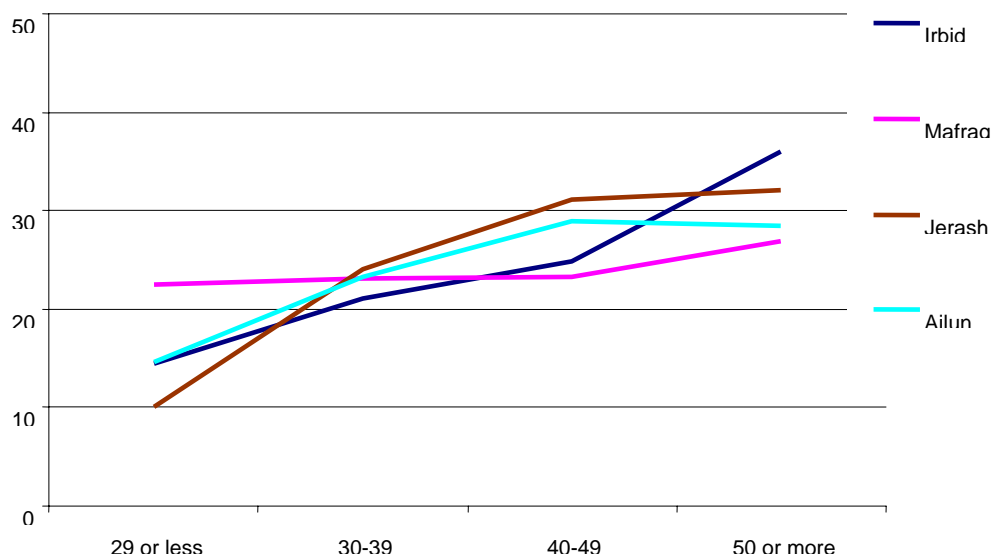
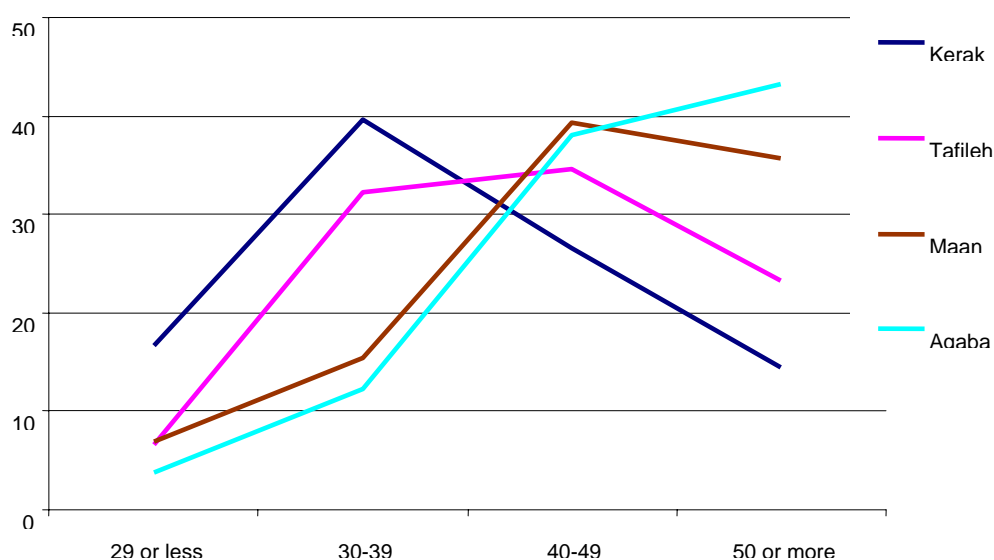


Figure 4.44 Grouped Total Weekly Work Hours for Males in the North Region, by Governorate



The Southern region is the most heterogeneous region with respect to male weekly working hours, where Aqaba resembles Amman, but where Tafiela and Karak have much fewer employed males working more than “regular” hours (Figure 4.45).

Figure 4.45 Grouped total weekly work hours for males in the South region, by governorate



Summing up on geographical differences in work hours and wage per hour

The system for determining phenomena like weekly work hours and hourly wages varies strongly between the major economic sectors. While these features are relatively regulated in the government sector, there are usually few work hours regulations for employers and self-employed. In the formal private sector, the employer and the employees usually determine work hours and hourly wages *jointly*, through individual bargaining. Finally, the unpaid workers represent a group of somewhat marginal workers dominated by rural women with little education, working in a family enterprise.

It is useful to present results for the weekly work hours and the hourly wages in the main job both by their means, and by presenting their full distributions in graphs. Urban males earn more per hour, and work more weekly hours than rural men. The same goes for women. Men work longer hours, and in particular many men work long hours in the Middle region and in Amman. Many more women than men work for very low payment, or without payment at all, but the mean wages vary more across governorates for men than for women. More men seem to work longer hours when there is a higher hourly wage, but only until the

hourly wage reach approximately JD 1. Above that, men seem to prefer to maintain their leisure time. For women, the corresponding cut-off point in hourly wages is JD 2.

4.3.3 Work Hours and Wage per Hour in Main Job by Main Economic Sector, Industry and Occupation

The private formal sector offers much less attractive work conditions than the government sector, in particular for women

Above, we stated that the system for determination of workers' hours and wages constitute a key difference between the main sectors of employment in the Jordanian labour market¹⁴. If the employer and the employees determine work hours and hourly wages *jointly*, through individual bargaining in the formal private sector, this does not seem to give the workers attractive conditions.

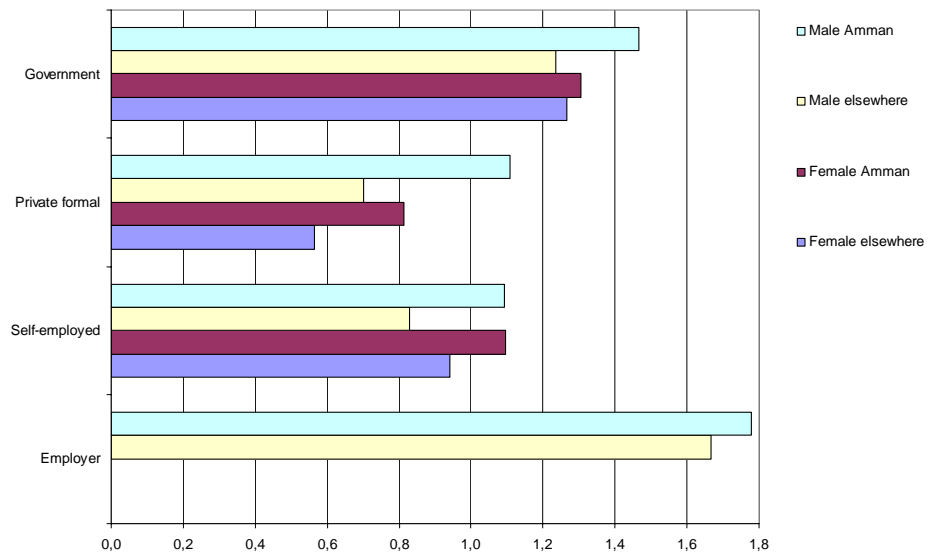
Figure 4.46 clearly shows that the formal private sector lags behind all other sectors, both in the capital and elsewhere, and both for men and women. However, both for men and women, the difference between the government sector and the private formal sector is lower in Amman than elsewhere. Self-employment seems surprisingly attractive relative to the formal private sector, in particular for women. However, self-employment may bring about large variations in profits, and the additional risk involved probably prevents more persons from entering this sector¹⁵. The group of "employers" represents in most cases a sub-sample of the most successful self-employed, whose businesses are so profitable that they can afford to hire additional manpower outside the family¹⁶. All in all the government sector is clearly the most attractive sector, although some of the wage gap compared to the formal private sector is due to higher average educational levels among government workers.

¹⁴ For obvious reasons we do not report on the sector of "unpaid workers" here.

¹⁵ As mentioned above, there may also be particular reporting problems for this group, e.g. by respondents reporting about their hourly *sales*, rather than their hourly *profits*.

¹⁶ There were too few female employers to calculate reliable figures.

Figure 4.46 Mean wage per hour (JD) in main job, by sex and main economic sector



The full distributions of hourly wages that are revealed in Figure 4.47 (males) and Figure 4.48 (females) show a large wage clustering around 0.3 – 0.4 JD per work hour for males employed in the private formal sector, and a less salient one at the same level for self-employed males. For males working in the government sector the peak prevalence is reached at around 0.8 – 1 JD per work hour, while virtually nobody earns less than JD 0.3 per hour. The distribution for the group of male employers is most spread out. The pattern for women is the same as for men, but while the peak in hourly wage levels occurs at the *same* level as for men in the government sector, it is only around 0.2 JD per work hour for females employed in the private formal sector and for self-employed women.

Figure 4.47 Grouped wage per hour (JD) in main job for males, by main economic sector

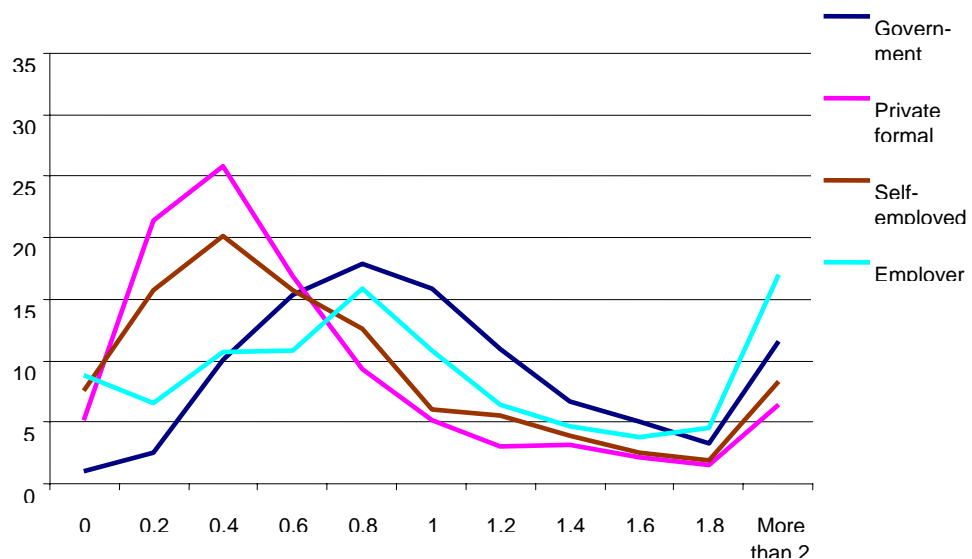
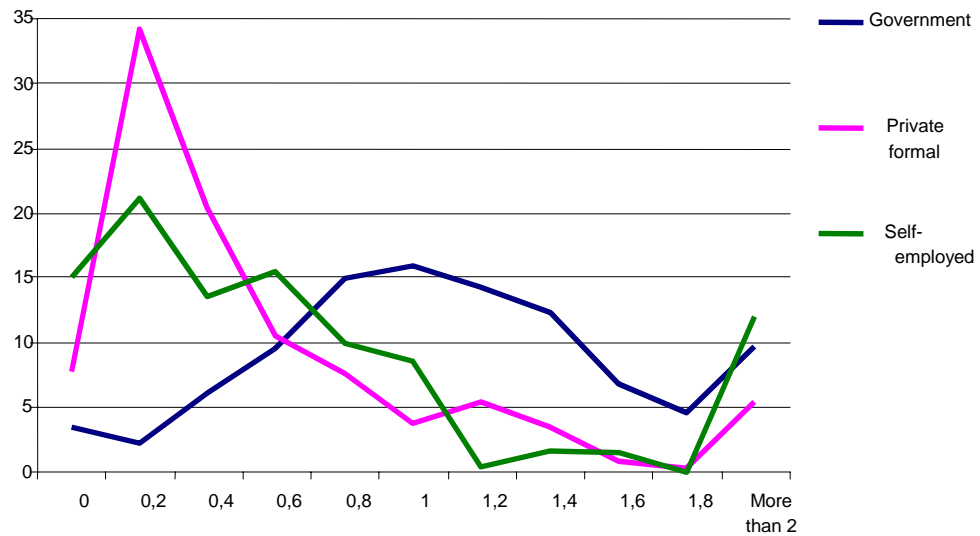


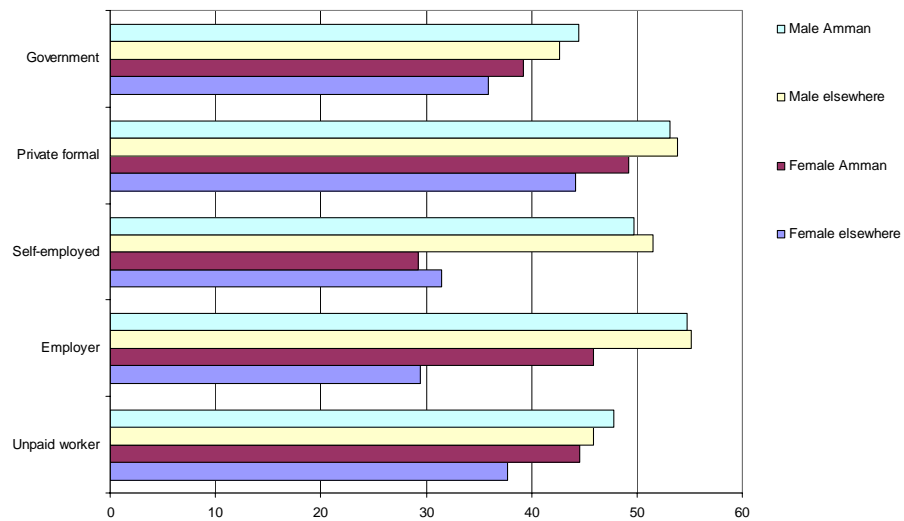
Figure 4.48 Grouped wage per hour (JD) in main job for females, by main economic sector



Workers in the private formal sector have longer work hours than in the government sector

For males, work hours are longer both among the formal private sector workers, the self-employed and the employers than in the government sector (Figure 4.49). Gender differences are most salient among the self-employed. This is probably because many women have deliberately *chosen* to be self-employed in order to have more time for family obligations, while a similar flexibility is not available to female employees in the formal private sector. Interestingly, the work hours are longer for female unpaid workers than for the self-employed women. The difference in the mean weekly work hours between Amman and other governorates is smaller than the difference in hourly wages.

Figure 4.49 Mean weekly work hours in all jobs, by sex and main economic sector



The full distributions of total weekly work hours for males (Figure 4.50) display an even larger difference between the government and the other main sectors than the means. In the government sector the majority work “regular hours”, around 40-50 hours per week. Only 20 percent works 50 hours or more (probably including supplementary jobs for some). However, among the male formal private sector workers, the male self-employed and the male employers, more than 50 percent work more than 50 hours per week. Very few males in these sectors work below 40 hours per week.

Among women the pattern is more mixed. The weekly work hour distribution in the government sector resembles that of men, although the female peak is at 30-39 weekly work hours, while it is at 40-49 weekly work hours for men. Among the self-employed women, almost 40 percent work *less* than 30 hours, and only 15 percent work more than 50 hours. In the group of *unpaid* female workers, more than twice as many work more than 50 hours. The highest share of women working 50 weekly hours or more is found in the private formal sector (40 percent). The marked difference in work hours between self-employed women, and women employed in the private formal sector may indicate that it is difficult for many women to adapt to the apparent requirement for long work days in the private formal sector, and that being able to have shorter work hours is an important factor for women deciding to become self-employed.

Figure 4.50 Grouped Weekly Work Hours in All Jobs for Males, by Main Economic Sector

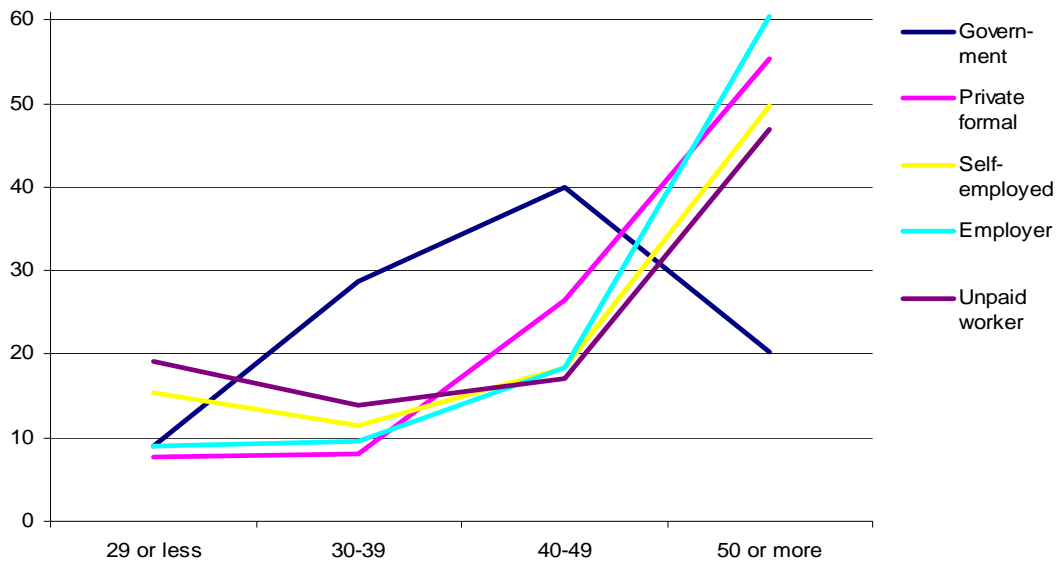
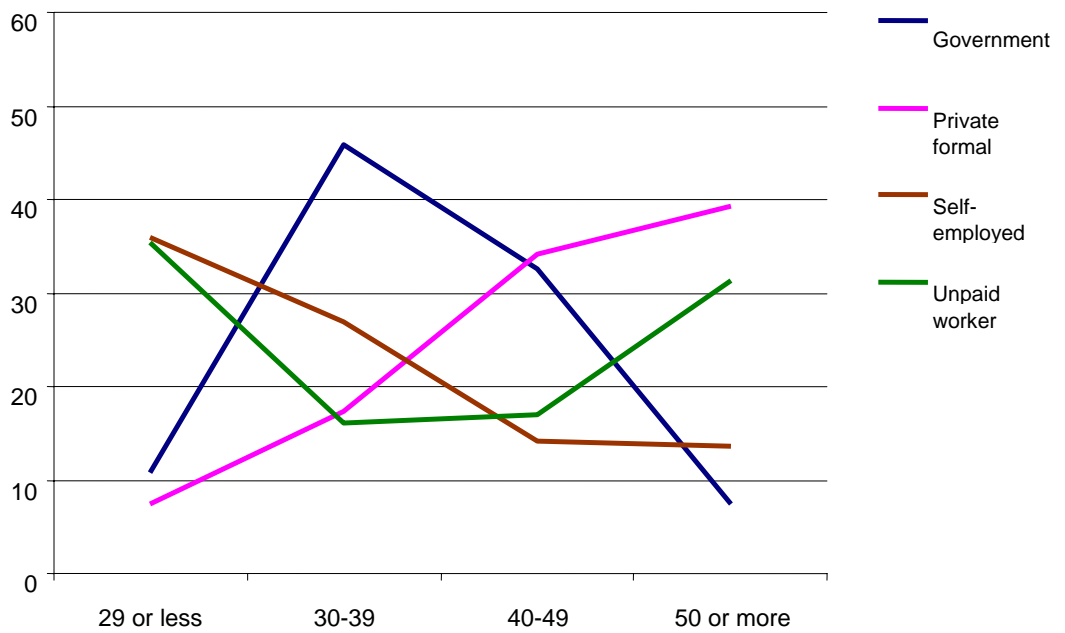


Figure 4.51 Grouped weekly work hours in all jobs for females, by main economic sector



Summing up on labour force participation at the *household* level

Our investigation shows that the *government* sector seems to offer the best overall employment conditions. Its hourly wages lag behind only employers' wages, and are much higher than in the formal private sector. Moreover, most government employees work "regular" hours, and this sector has the lowest share of workers working 50 weekly hours or more. However, the education requirements in the government sector are higher than elsewhere. The private formal sector work conditions are at pair with those for the self-employed, and the gender wage gap is much higher here than for the government sector.

Many workers in the private formal sector have much longer work hours than in the government sector. For men there is not much difference between the work hours in the private formal sector, and the work hours of the self-employed. However, it seems that the formal private sector working time requirements are too high for many women, and that they turn into self-employment for increased flexibility, and the opportunity for part-time work.

4.3.4 Work Hours and Wage per Hour in Main Job by Individual and Household Characteristics

Hourly wages increase systematically with age, and weekly work hours decrease slightly with age

Hourly wages increase steadily with age both for men and women. However, for men the peak is reached at 50-60 years, while the peak for women is 10 years lower (Figure 4.52). The wage increases by age follows naturally by workers becoming more experienced, and filling more and more senior positions in the work life. The average *work hours* per week for each age cohort is almost constant for men from 20 to 50 years, and then decreases slightly (Figure 4.53). For women there is a slight decrease of approximately weekly 5-10 hours in the same age group. However, one should keep in mind that many women drop out of the labour market altogether when they marry.

Figure 4.52 Mean Wage Per Hour (JD) in Main Job, by Sex and Age

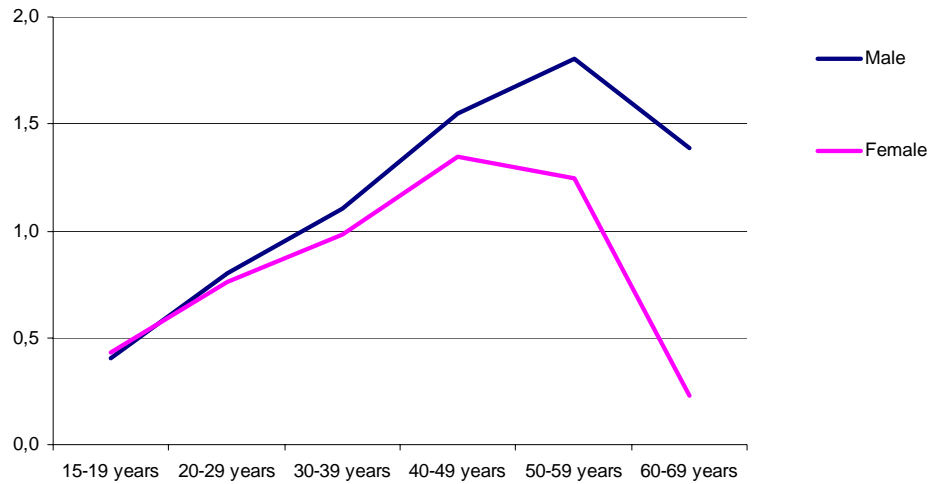
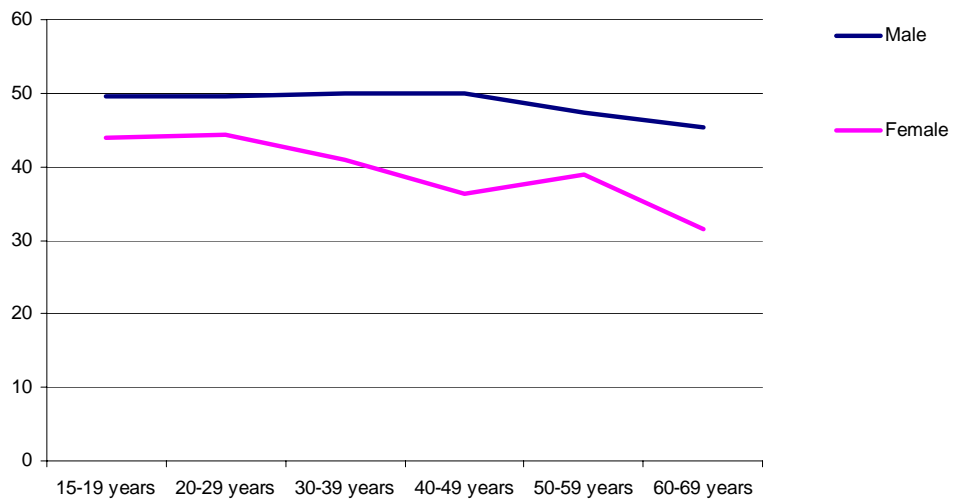


Figure 4.53 Mean Weekly Work Hours in All Jobs, by Sex and Age

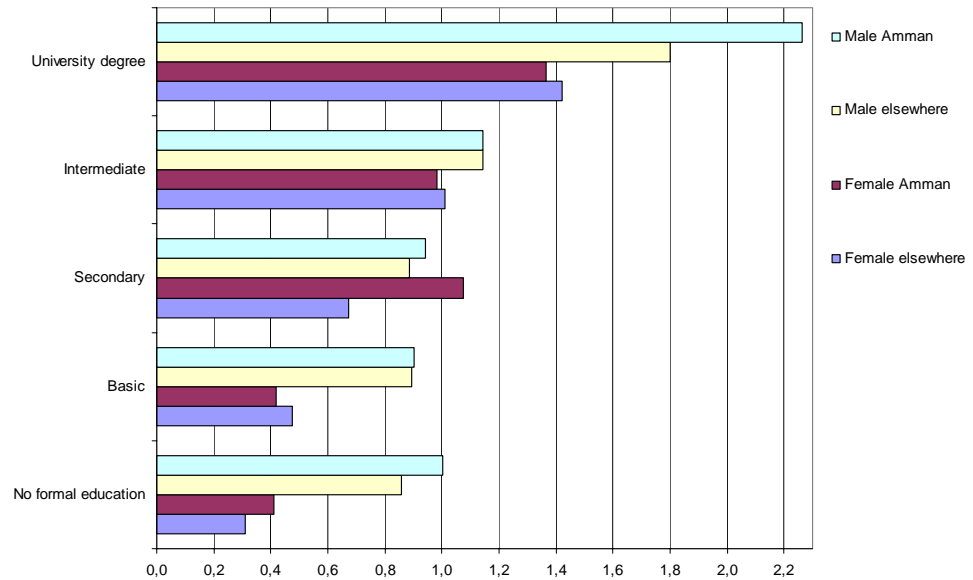


Wage take-of for intermediate or higher education

The average hourly wage for males starts to rise with intermediate level education, but is much higher among those with university education. There is little difference between Amman and other governorates at all education levels below university degree. Hence, there are few *wage* incentives for the low-educated men. The gender wage gap appears to be lowest for the intermediate education level. While the absolute gender wage gap is highest

for those with university education living in Amman, it is *relatively* largest among those with basic education or less.

Figure 4.54 Mean Wage Per Hour (JD) in Main Job, by Sex and Education



Our full-distribution results for the relationship between education and hourly wage levels also show that there is very little wage difference for males up to secondary education, while secondary education seems to matter somewhat for women’s hourly wages (Figures 4.55 and 4.56) . Only for the intermediate education level, the frequency peak seems to move upwards from JD 0.8 for men and 0.4 for women. However, the big difference occurs with university education, where as many as one third of the men earn JD 2 or higher, while the median hourly wage for women is about JD 1.2. Uneducated men can be still well paid. For males without any formal education at all, more than 20 percent still earns above JD 1 per hour. For uneducated women, the corresponding figure is only 3 percent, which partially explains the large gender gap in average wages for those with low education.

Figure 4.55 Grouped wage per hour (JD) in main job for males, by education

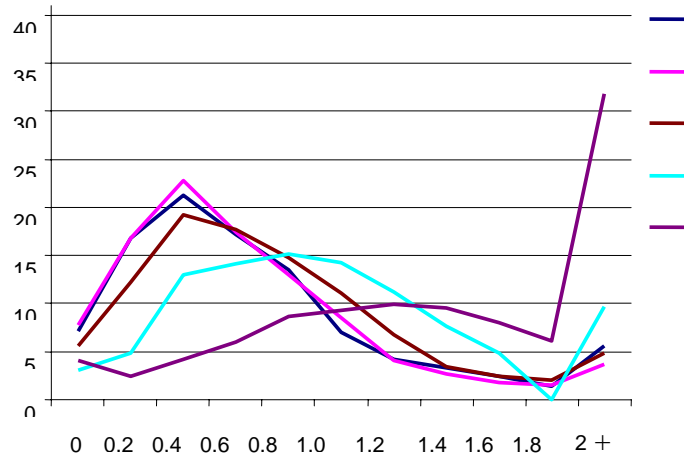
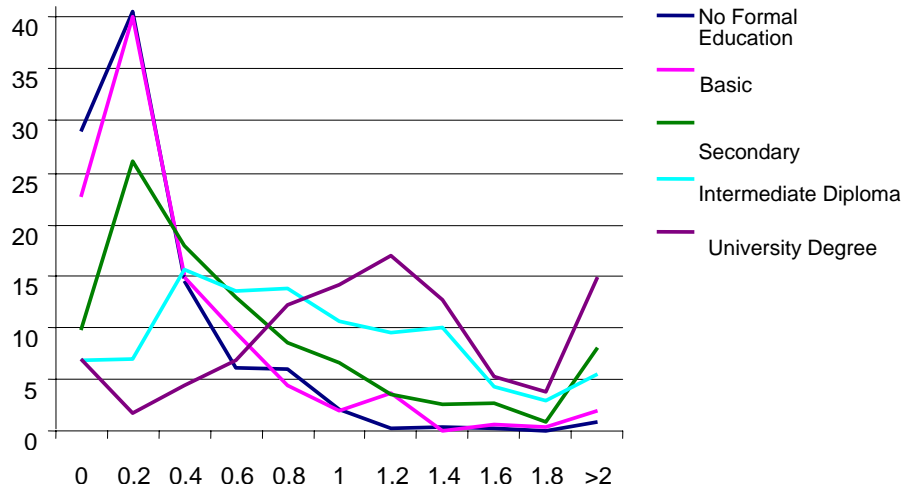


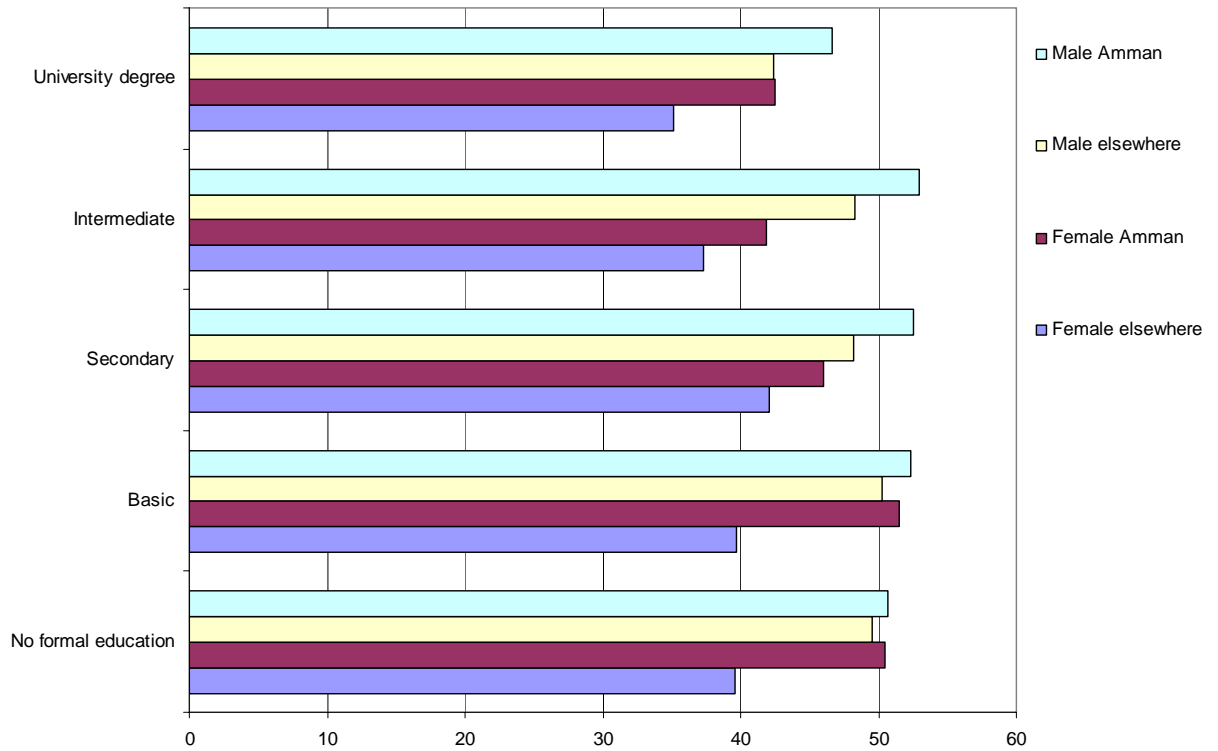
Figure 4.56 Grouped wage per hour (JD) in main job for females, by education



Weekly work hours somewhat higher in Amman, but relatively constant across education

In contrast to hourly wages, the weekly work hours vary little across the educational groups, both for men and for women. There is a slight tendency of a lower mean for those with university education. Both genders work more in Amman than elsewhere. The difference is larger for women than for men. Women outside the capital on the average work 5-10 weekly hours less, regardless of their education level (Table 4.57).

Figure 4.57 Mean Weekly Work Hours in All Jobs, by Sex and Education



The full-distributions for the relation between the weekly work hours and education levels reveal that *males* with university degree tend to work “regular” hours, while for all other education levels, 40-50 percent work more than 50 hours per week (Figure 4.58). This result is partially because the government sector, which is dominated by regular work hours, absorbs many of those with university education compared to other educational levels.

For *women* there is not much difference in the work time pattern between those with university education, and those with intermediate education (Figure 4.59). Both groups have a high share employed in the government sector. Among employed women without education, or with only basic education, 40 percent work 50 or more weekly hours. The corresponding share for women with secondary education is 30 percent.

Figure 4.58 Grouped Weekly Work Hours in All Jobs for Males, by Education

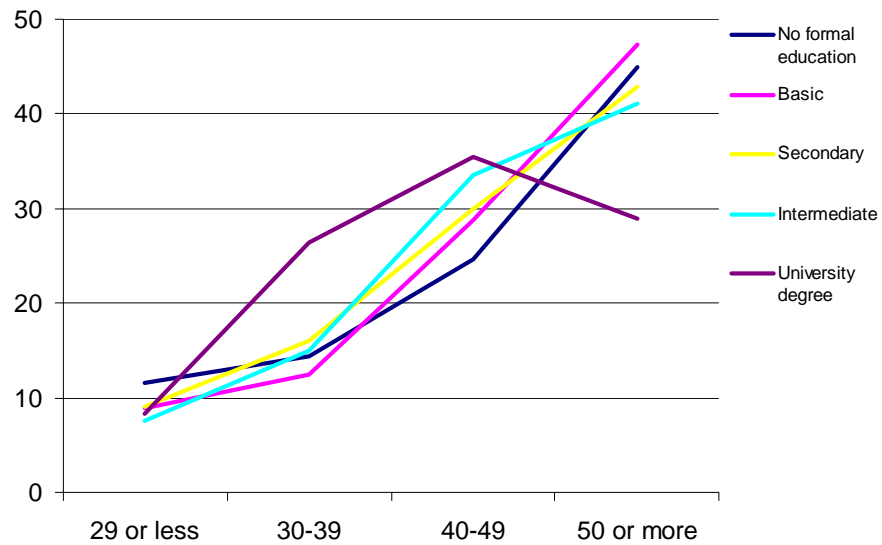
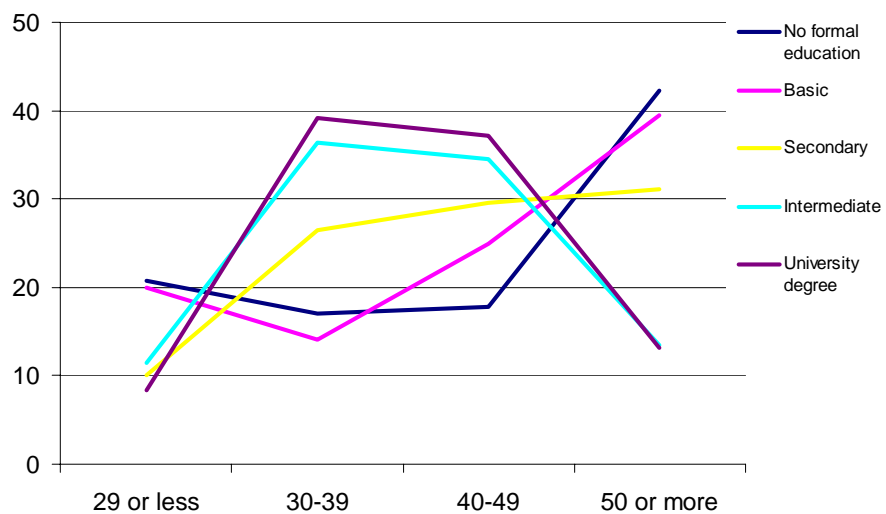


Figure 4.59 Grouped Weekly Work Hours in All Jobs for Females, by Education



Male Heads work same hours as other males, but earn more

Male Heads have much higher average wages than their sons (Figure 4.60). This follows by the difference in age and experience. For the same reasons, spouses also earn more per hour than their daughters. For each sex, the average number of weekly hours does not seem to vary much with relation to the household Head (Figure 4.61). However, many spouses drop out of the labour market altogether when they acquire children.

Figure 4.60 Mean Wages Per Hour (JD) in Main Job, by Sex and Relation to Head

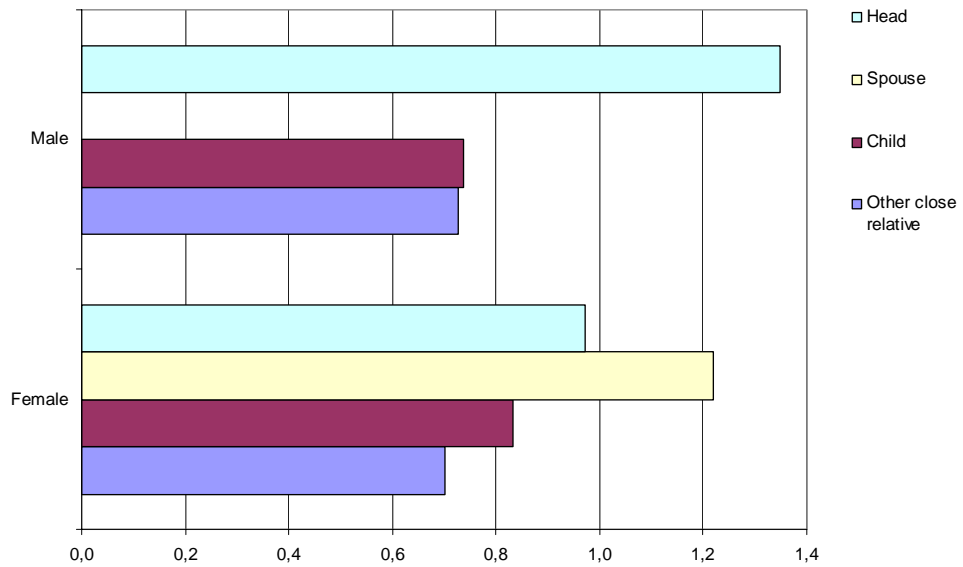
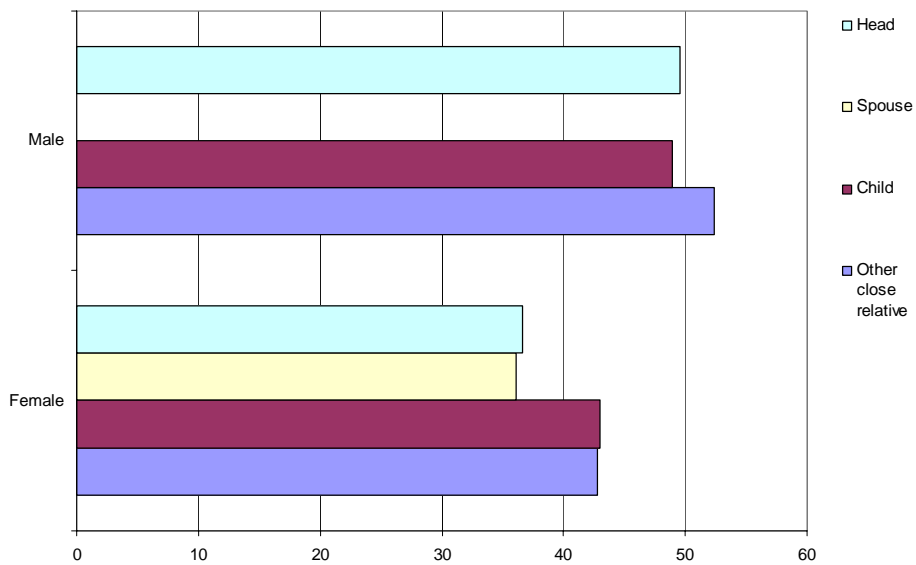


Figure 4.61 Mean Weekly Work Hours in All Jobs, by Sex and Relation to Head



Married earns more than unmarried due to higher average age

Marital status is highly correlated with age, and this most likely explains why the married have higher hourly wages than the (younger) unmarried. The highest average age is found in the group of widowed, but here the age is so high that average wage levels have started to decrease again. The small group of divorced females have the lowest average

hourly wage, probably because they have to take any type of work for reasons of economic emergency. As with most variables, except for hourly wage, there is little variation between the weekly work hours and marital status (Figures 4.62 and 4.63).

Figure 4.62 Mean Wages per Hour (JD) in Main Job, by Sex and Marital Status

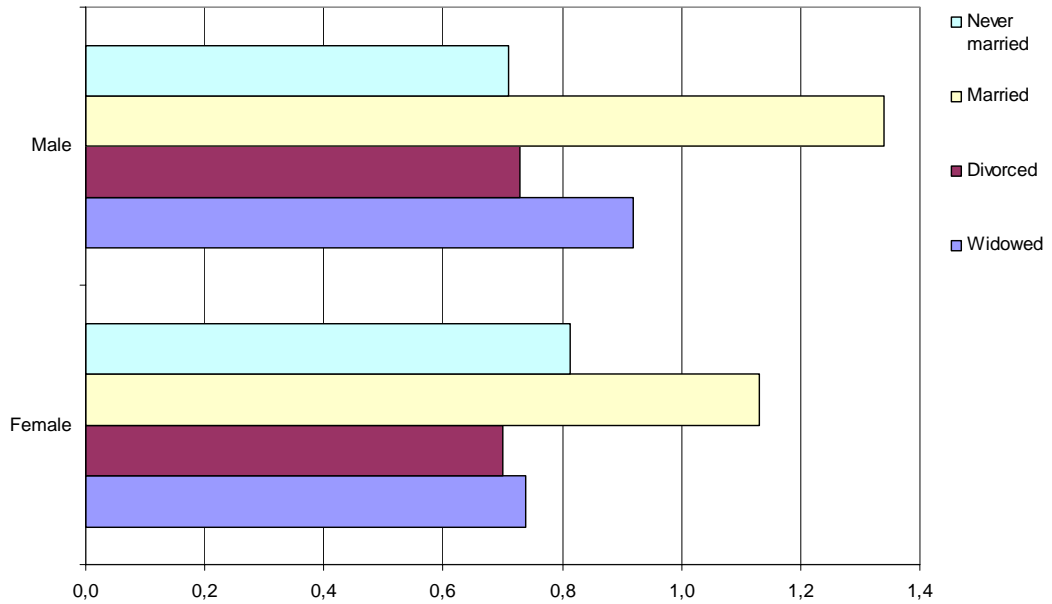
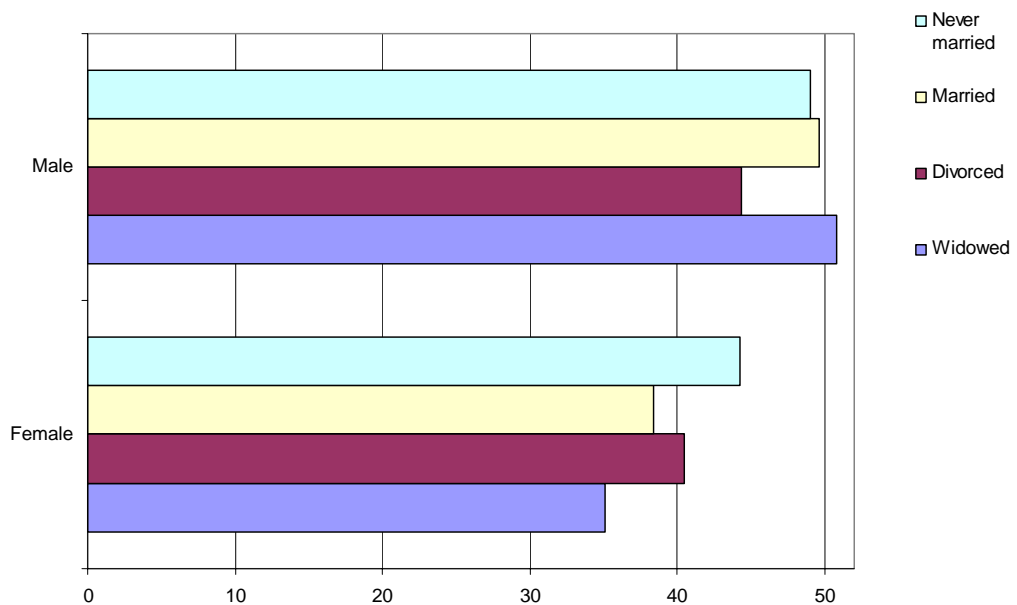


Figure 4.63 Mean Weekly Work Hours in All Jobs, by Sex and Marital Status



Mean hourly wages naturally increase with the household income, while the work hours are virtually unchanged

It follows almost by definitions that the average hourly wages increase systematically with household income, although the former is defined at the *individual* level, while the latter is a *household* level variable (Figure 4.64). A more surprising observation is that the number of average weekly work hours is virtually identical across all per capita *household* income brackets (Figure 4.65). We have earlier observed that work hours tend to increase with *individual* hourly wage levels, at least until JD 1 per hour. If the labour income share is relatively constant across income brackets, the two observations may fit together if more persons are employed in the households that are best off.

Figure 4.64 Mean Wages per Hour (JD) in Main Job, by Sex and Per Capita Household Income

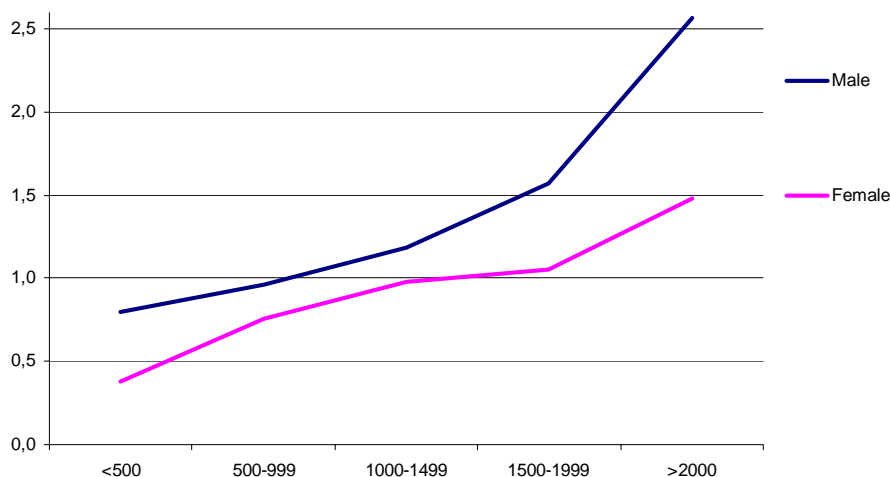
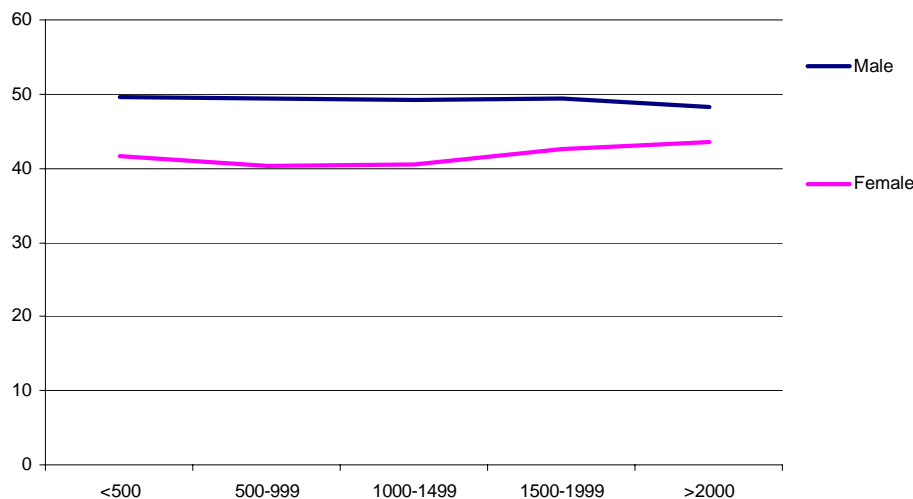


Figure 4.65 Mean Weekly Work Hours in All Jobs, by Sex and Per Capita Household Income



Summing up on work hours and wage per hour in the main job by individual and household characteristics

Except gender, there are few individual and household background variables that cause large variations in weekly work hours among Jordanian workers. To the contrary hourly wages increase strongly with age and education. Observed variations in hourly wages by position in the household and marital status are mainly caused by their correlation with age. Highly educated men seem to benefit from living in Amman. For other groups, there is little reason to expect that hourly wages represent an important pull factor into the capital.

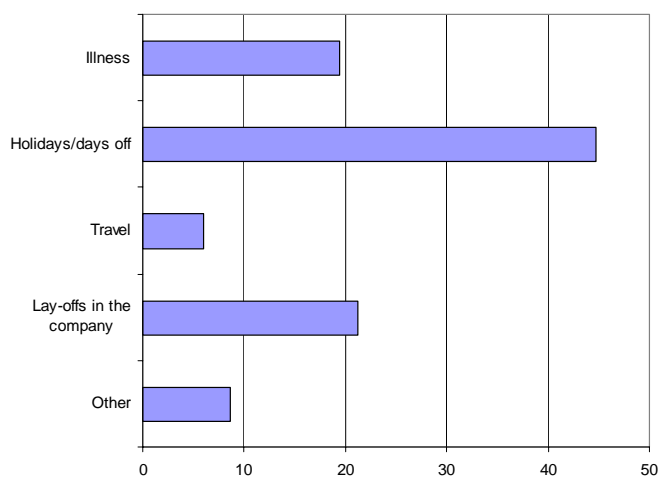
4.3.5 Temporary Absence and Secondary Employment

Holiday is the main reasons for temporarily absence

The “*temporarily absent*” persons are a small group included among the employed, although they did not work for even one hour in the determinant week. The reason to include them among the employed is that they have a “strong work attachment”. It is very likely that their inactivity is temporarily, and that they will start working in a short while.

In Jordan, the temporarily absent persons represent less than 3 percent of the employed. The by far most important reason for absence is regular vacations of different kind (Figure 4.66). Second comes illness and (temporarily) lay-offs in the company. While holidays usually have a fixed end, it may sometimes be more difficult to know the exact duration of an illness or a lay-off. In some of these cases the absent person is not likely to return to the same job, or even return to the work life at all.

Figure 4.66 Reasons for Temporarily Absence of Work



Few reported cases of secondary employment, the true number may be higher

In many countries secondary employment is very widespread, in particular among underpaid workers in the government sector. In the MPHS only one percent of the employed persons reported working in another job than the main one. For women the share among the employed that had other job(s) was merely 0.2 percent. For males it was 1.4 percent.

Although there are reasons to believe that secondary employment is not particularly common in Jordan, the true rate may be higher than reported for a range of reasons. *First*, supplementary employment is sometimes conducted within the frame of the main job, e.g. by using the main job's tools and equipment for private purposes, and/ or conducting other employment activities during the regular work hours of the main job. *Second*, many workers, in particular women, may not think of a secondary job as a regular job, because it is of a supplementary nature. *Third*, some persons, again mostly women, may not want to reveal to other household members that they are involved in supplementary income generating activities because the incomes from these activities are used for special purposes not being prioritised in the ordinary household budget.

4.3.6 Multivariate Analysis of Factors Influencing Main Sector of Employment

Estimate gender specific models for main sector of employment among the employed persons

In this section we will present two gender specific *multiple* logistic regression models in order to identify the factors that are associated with the choice of main sector of employment in Jordan. As mentioned in section 4.2.5, logistic regression is a multivariate statistical technique that allows us to isolate the effects of several independent variables on one dependent variable.

However, in contrast to section 4.2.5, where the dependent variable only had *two* values, our individual level dependent variable in this section originally had five values. The five values of the dependent variable are the government sector, the formal private sector, the self-employed, the employers and the unpaid workers. For models using binary dependent variables, the “other” value, e.g. *not* being in the labour force, was implicitly the reference for the analysis of e.g. labour force participation. Here, we have to choose one sector as the “reference” sector. Since the reference sector should not be too small, or too “particular”, we have chosen the formal private sector as the reference sector.

The two gender specific models are virtually identical with some few exceptions. For males, we omitted the “unpaid worker” category on the dependent variables since so few

males belonged here. For the same reason, we omitted the “employer” category on the dependent variable in the female equation. Hence, the dependent variable in both the male and the female model has four categories, of which one is the “reference” category. In both models the same *individual* and *household* level variables are used as independent explanatory variables, with the exception for “other unpaid worker in the household” that had to be taken out from the female equation.

The regression equation for labour force participation in section 4.2.5 was based on *all* individuals in the sample who were 15 years or older. However, for investigating employment, we find it best to use *only the employed* as the population basis. The reason is that we want to focus on the factors that determine the *sector of employment*, rather than *who* is employed among the adult population.

The question about who joins the labour force is dealt with in section 2.5, while the question about who in the labour force that obtains employment will be discussed in section 4.5. Since a labour force member is either employed or unemployed, the question about who in the labour force that become *unemployed* directly mirrors who becomes *employed*. Hence, there is no reason to duplicate this analysis, and it is more interesting to investigate in *which sector* those who are employed choose to work. In particular for women, one should keep in mind that the group of employees is a strongly selected group of women with particular characteristics. First, only one in six adult women is a member of the labour force. Second, only three out of four women in the labour force have obtained employment.

Male government sector employment is associated with middle age, higher education, rural residency, and living in the Southern region

Let us first start with the *male* equation, and analyse which factors that are associated with work in the government sector, or being self-employed or employer, rather than being employed in the “reference category”, the formal private sector: First, male employment in the *government* sector is associated with *not* being young, with being a Jordanian citizen and a non-refugee. The likelihood of being employed in the government sector increases strongly with education, and is also higher if somebody *else* in the household also holds a government job. Relative to the formal private sector, the chance of being employed in the government sector is higher in rural than in urban areas, and higher among those living outside the Amman Governorate, in particular among those who live in the South region.

Male self-employment and being employer is associated with lower education, rural residency, and having other household members employed outside the formal labour market

Male *self-employment* is associated with being *not* being young, being child of the Household Head, being a refugee, and having low education. The chance of self-employment increases when somebody else is self-employed, and decreases when somebody is employed in the formal private sector. Geographically, the likelihood of male self-employment is in rural areas and in the Northern region.

Relative to formal private sector employment, being an *employer* is associated with the same factors as the self-employed, with exception for the employment pattern of *other* household members. Having other employers in the household, and not least having one or more unpaid workers in the household is strongly associated with being an employer, indicating that most “employers” are in charge of family enterprises. Finally, the discussion above has implicitly pictured *formal private sector* employment among males as associated with young age, middle education, urban residence, in particular in Amman. The formal private sector seems to be most attractive to foreign citizens and refugees.

The factors associated with the various female employment sectors are roughly the same as for men. However, education plays a bigger role for government sector employment, and the unpaid female workers is a deprived group

Let us then turn to the *female* equation, and analyse which factors that are associated with employment in the government sector, or being self-employed or an unpaid worker, rather than being employed in the “reference category”, the formal private sector: First, female employment in the *government* sector is associated with the same factors as for men, but with a much stronger effect of higher education for females than for males. Rural residence seems to have no independent effect for government employment of females, relative to employment in the formal private sector.

Female self-employment is associated with being a spouse, a refugee, having low education, living outside Amman and being a married female Head. Female *unpaid labour* is associated with being young, being illiterate, living in large rural households, being disabled, living in the Middle region and having household members who are employers or self-employed. Together, these factors seem to delineate a deprived group in the Jordanian labour market.

Summing up on multivariate analysis

The multivariate analysis of factors associated with different sectors of employment confirms the bivariate pattern shown above. *Male* government sector employment is

associated with middle age, higher education, rural residency, and living in the Southern region, while male self-employment and being employer is associated with lower education, rural residency, and having other household members employed outside the formal labour market. The factors associated with the various *female* employment sectors are roughly the same as for men, but education plays an even more important role for female government sector employment. Finally, the unpaid female workers is a particularly deprived group.

4.4 Unemployment and under utilization of labour

Welfare problems are knit to *involuntarily* inactivity

For macro-economic needs, focus is naturally placed on the composition of the labour force and the employment pattern of the employed. A multi-topic *living conditions survey*, however, should be as much concerned with persons *not* working. Because involuntary inactivity represents a serious welfare problem, in particular when several household members are affected, the possible reasons for a person's inactivity must be investigated.

The nature and evolution of *unemployment* and *under utilization of labour* do not lend themselves to easy description. Clearly, an exact measurement of the occurrence of these phenomena at a given point in time is bound to be difficult. For such reasons, we have deemed it necessary to discuss the theoretical and conceptual aspects of under-utilization of labour at some length.

First, it is worth noting that unemployment and under utilization of labour here always refer to *involuntary* lack of work. Many persons, for example housewives, students and sick or elderly people, may not want, or seek, full-time or even part-time work. Voluntary lack of labour activity should not be considered to be a welfare loss. Thus, it is important to investigate whether or not a person's lack of labour activity is of an involuntary nature¹⁷.

Why do *unemployment* rates tend to be *lower* in poorer countries?

Low recorded levels of unemployment are a feature observed in many developing countries. Commonly, the unemployment rate, as measured according to the labour force

¹⁷ Drawing a sharp line between the possible voluntary or involuntary nature of lack of labour activity is hardly possible. These perceptions are closely tied to cultural norms governing about the relation between a person's sex, age and social status, and which places and types of work that can be considered "acceptable".

framework, tends to *increase* when a country moves towards industrialization. While there is general consensus that overall under utilization of labour probably is the greatest in very poor countries, labour force surveys in these countries often yield lower unemployment rates than for prosperous countries. It is thus likely that a national, ILO defined unemployment rate of 16.5 percent for Jordan represents an under-estimation of the true extent of the labour market problems facing the Jordanian population.

The labour force framework described in the first part of the chapter was originally developed to record *any* labour activity, as opposed to complete inactivity, in keeping with macro-economic statistical needs. Use of such labour force definitions in a *living conditions* context, however, can easily be misleading. It should be stressed that the concept of "unemployment" in the labour force framework means *total* lack of work. This explains why unemployment rates tend to be lower in poorer countries: In these countries very few can afford to be completely without work, but have to engage in *some* kind of income-generating activity.

ILO: An “unemployed” is not working at all, is actively seeking work, and is available if offered a job

A person classified, as "*unemployed*" according to the labour force framework must meet three criteria simultaneously. 1) He must be without work, (i.e. must not have worked even for one hour the previous week); 2) he must be seeking work; and 3) he must be available for work, if he is offered a job. Hence, a person classified as "employed" does *not* necessarily carry out a sufficient amount of labour activity to cover his own, let alone his household's economic needs. A major aim of this outline is thus to show how under-utilization of labour can be found not only among the unemployed, but also in all three main groups in the labour force framework. As a reference for the discussion, gives a schematic overview of different types of under utilization of labour, based on the classifications in Figure 4.67 (Cells above the solid line).

Figure 4.67 Types of labour under utilization

II Unemployed (ILO def.)	III Not in the labour force (ILO def.)	I a, b, c Employed (ILO def.)	
Unemployment		Underemployment	
Visible	Invisible	Visible	Invisible
ILO def. of unemployment	Discouraged workers	Seeking <i>additional</i> work	Low productivity Difficult to measure

1	2	3	4
---	---	---	---

The "classical" ILO defined unemployment rate, (box 1 in Figure 4.67) may well increase with formal education. Well- educated persons from urban, wealthy households, and in particular well-educated women, tend to be more selective as to types and places of work. Instead of accepting any low status jobs that may be available to them, these individuals may prefer to stay unemployed for some period of time while looking for an "acceptable" job.

The first effect (which resembles mechanisms that will be described in the discussion of "discouraged workers" below) may be pinpointed as the "unemployment of convenience" phenomenon. Very poor persons, on the contrary, cannot afford to be unemployed. In societies without regular unemployment insurance arrangements, as is the case in the occupied territories, such persons must accept almost any kind of work offered to them in order to survive.

To be classified as "unemployed" in the labour force framework, a person must not only have had no labour activity during the determinant week, but also actively have sought work. Originally developed for Western labour market conditions, application of the "seeking work" criteria is less straightforward in developing countries. A few general observations should be sufficient to illustrate this point:

“Discouraged workers”

The absence of good and timely information on available jobs, the seasonal nature of much work and the high proportion of self-employment all complicate the meaning of "seeking work" in the context of developing economies. Many unpaid family workers do not seek work outside the family enterprise, even though they would like to work more. "Seeking work" is often understood as seeking paid employment only. It may also be difficult to draw the line between seeking work as self-employed and the activity of actually being self-employed. To cope with these objections, ILO recommends a less strict "seeking work" criterion¹⁸. Persons not seeking work for reasons of lack of hope or similar may be classified separately as "discouraged workers" in the "not in labour force" category (box 2 in Figure 4.68).

Visible and invisible underemployment

"Underemployment" is, following ILO terminology, a phenomenon that refers to the employed category only. By contrast to the extreme situation defined as "unemployment", "underemployment" refers to situations of partial lack of work. Citing ILO,

¹⁸ The "relaxed" seeking work criterion in ILO terminology.

"underemployment exists when a person's employment is inadequate, in relation to specified norms or alternative employment, taking into account the occupational skills of the person"¹⁹. ILO distinguishes between two main types of underemployment, visible and invisible underemployment, corresponding to boxes 3 and 4 in Figure 4.68 respectively. Visible underemployment refers to insufficiency in the volume of employment. Invisible underemployment refers to misallocation of labour resources, e.g. in the form of low productivity and under-utilization of a worker's skills.

When lack of full-time work is a result of structural factors outside the control of the individual, it may be deemed *visible under-employment*. The involuntary character of part-time work may thus validate claims that it represents a deprivation of welfare and living conditions. Statistical measurement of visible underemployment is sometimes challenging in developing countries. A visibly underemployed person must both be working less than normal duration, and seeking and being available for additional work. Both normal weekly working hours in a person's usual type of activity, as well as the time actually worked during the week, have to be estimated. Self-employed and unpaid family workers tend to structure their work by tasks at hand rather than by fixed work hours, makes the concept of "normal working hours" ambiguous. The many possible reasons for working less than normal hours also make it difficult to assess the possible involuntary nature of such labour activity.

Measuring *invisible underemployment* is even more challenging. Invisible underemployment characterized by low productivity, is probably the most typical form of labour under-utilization found in many Middle Eastern countries. Measurement requires, however, information on the economic productivity of individual economic units. Further, such data must be augmented by information on the characteristics of individual workers. Thresholds below which income is considered abnormally low, skills under-utilized, or productivity insufficient, must be established. This is generally so demanding that statisticians, even after several years of experimentation, have been forced to give up their efforts.

Use of low income as criterion for invisible underemployment is problematic because low income may reflect the institutional set-up rather than low labour productivity. This problem is perhaps most clearly exemplified by unpaid family labour among women and children. In family enterprises, it may be particularly difficult to trace the individual income components required to measure invisible underemployment.

¹⁹ See Surveys of economically active population, employment, unemployment and underemployment, ILO Geneva 1990, p. 121.

The “under utilization rate” serves as a proxy measure for the “true” unemployment level

Let us now introduce the concept of “*under utilization rate*”, en pair with the concept “unemployment rate”. While the *unemployment rate* is the share of the labour force (i.e. the unemployed and the employed) that are unemployed, we define the “under utilization rate” as the share of the population 15 years or older, who are under-utilised, relative to those who are either in the labour force, or under utilized, or both.

The reason we cannot simply use the labour force as the percentage basis is that the group of under-utilised also comprises the “discouraged workers”, that by the formal definitions are outside the labour force. Hence, by using as the percentage basis those who are either in the labour force, or under-utilised, or both, we include the group of “discouraged workers”, both in the nominator and in the denominator. Of course, we also include the regularly unemployed among the under-utilised.

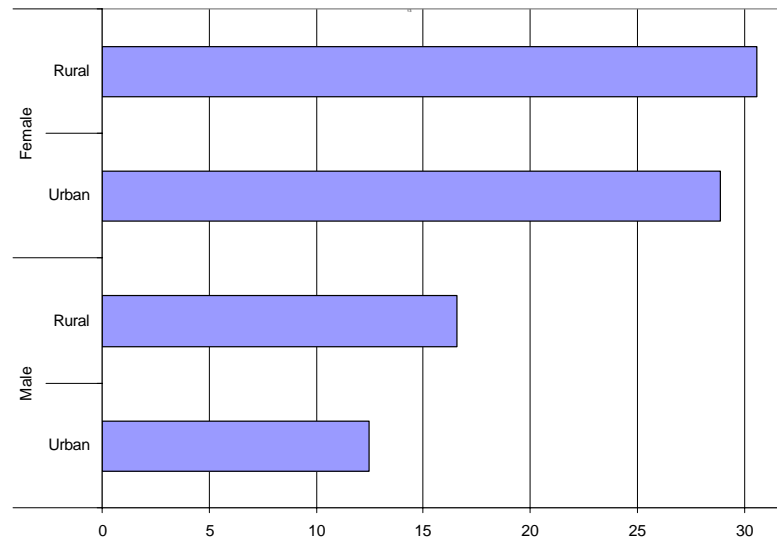
Our key assumption is then that although the ILO defined unemployment rate correctly states the unemployment situation in Jordan, the “under utilization rate” is closer to the popular concept of “true unemployment”. There are three reasons for this: First, many under-utilised workers are not able to provide economically for themselves and their families, in spite of formally being classified as “employed”. Second, being under-utilised implies that one’s labour resources are not adequately used in the economy. Third, and most important, while it is generally accepted that many among the unemployed are socially frustrated, we assume that this also applies to the group of under-utilised.

4.4.1 Unemployment and under utilization by place of residence

Unemployment rates: Female higher than male, rural higher than urban

The overall ILO defined unemployment in Jordan is 16.5 percent. Contrary to what many may have expected, the unemployment rate is *not* highest among urban men. Conversely, at 30 percent for women, it is higher than the 13 percent for men, and for both genders, it is somewhat higher in the rural than in the urban areas (Figure 4.68). The reason for the gender difference is probably due to the previously mentioned norms governing the places and types of work that can be considered "acceptable" according to sex, age and social status.

Figure 4.68 Unemployment Rate by Sex and Urban-Rural



If we look at the “under utilization rate” for men, it is more than twice as high as the ILO defined unemployment rate (Figure 4.69). In Figure 4.70, we show the composition of the group of under-utilised, by gender and urban-rural residence. Because adult men are expected to care for their families economically, under utilization manifests itself as invisible underemployment. In other words, rather than being unemployed and hence completely out of work, under-utilised men are formally classified as employed, but their work is not adequate according to their skills and competence. To the contrary, under-utilised women are rarely invisibly underemployed. They rather stay inactive than taking up unacceptable types of employment, i.e. they appear as “discouraged workers” who have given up finding (acceptable) employment, or say they would take a job if offered one, but are not themselves actively seeking work.

Figure 4.69 Underutilization Rate by Sex and Urban-Rural

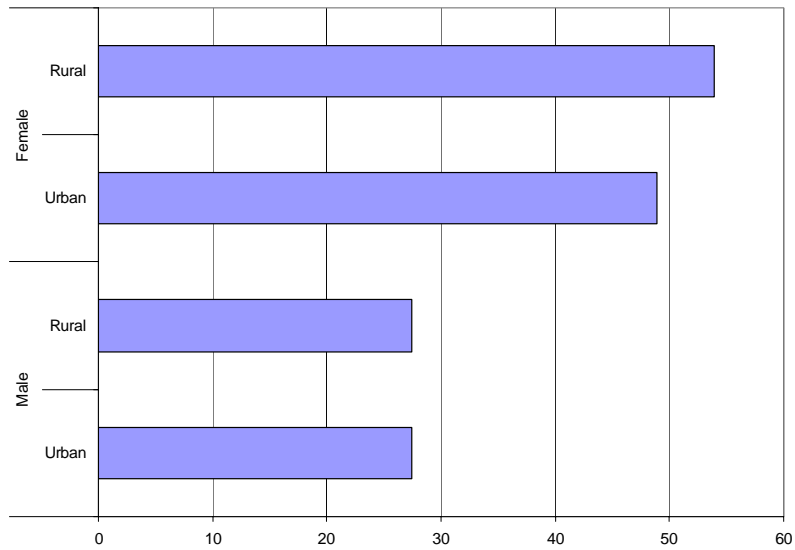
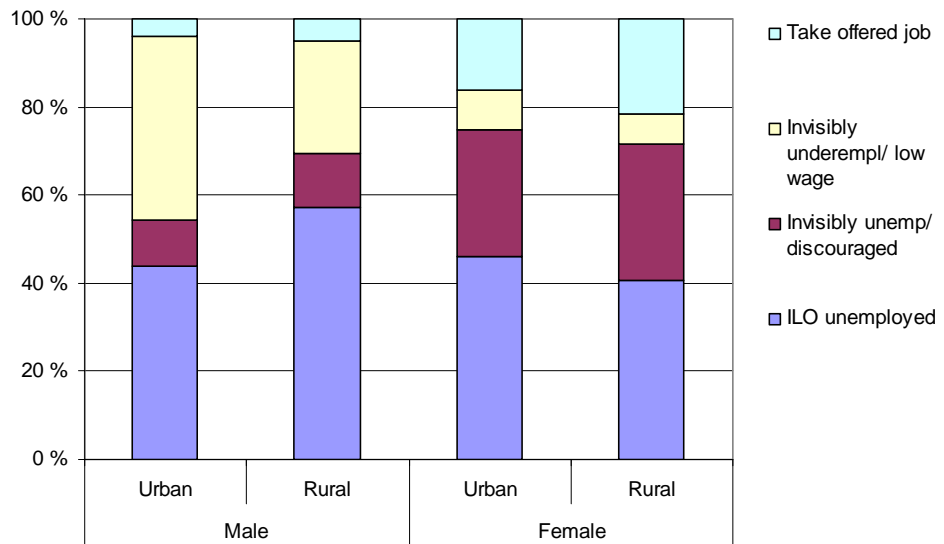


Figure 4.70 Types of under utilization by Sex and Urban-Rural



ILO-defined unemployment highest in the South

The formal, ILO-defined unemployment rate is highest for both sexes in the south, except for Aqaba governorate, which has the lowest unemployment rate in the Kingdom (Figure 4.71). The under utilization rate is 50 percent higher, with some variations (Figure 4.72).

Figure 4.71 Unemployment Rate by Sex and Governorate

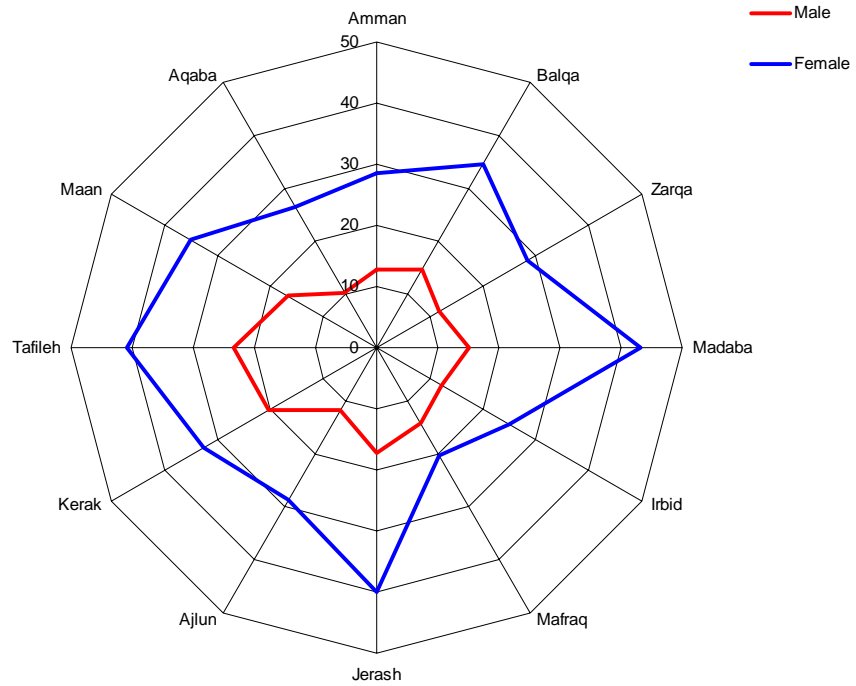
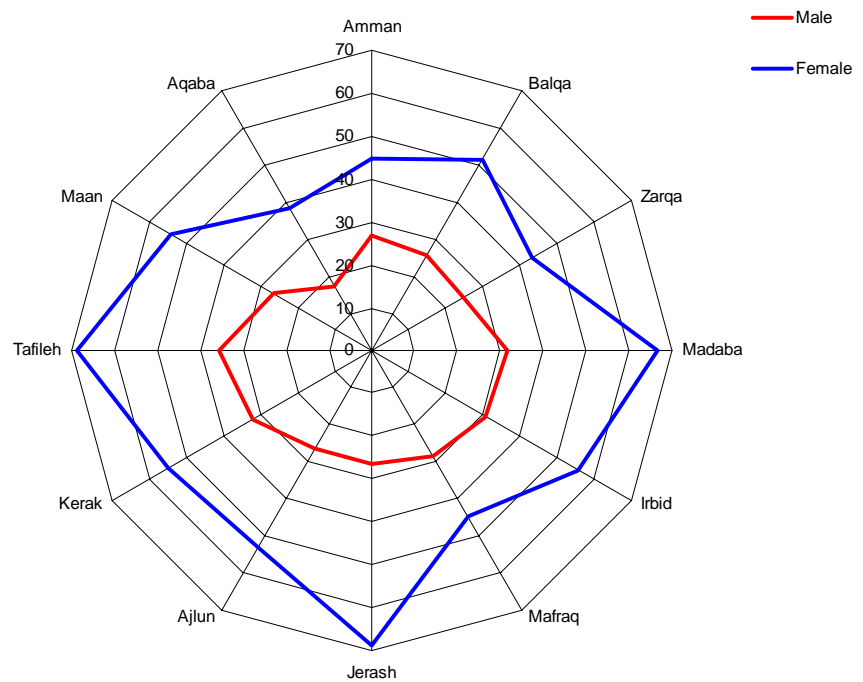


Figure 4.72 Underutilization by Sex and Governorate



Comparing the two figures, it seems that for some reasons, male under utilization of labour in the Southern governorates other than Aqaba, manifests itself as regular

unemployment to a larger extent than in the northern and middle governorates, including Amman. The share of unemployed among the under-utilised males is above 60 percent in the south, but less than 50 percent in the rest of the country. For women, it is closer to 60 percent, as already indicated by Figure 4.73 above.

Summing up on unemployment and under utilization by gender and geography

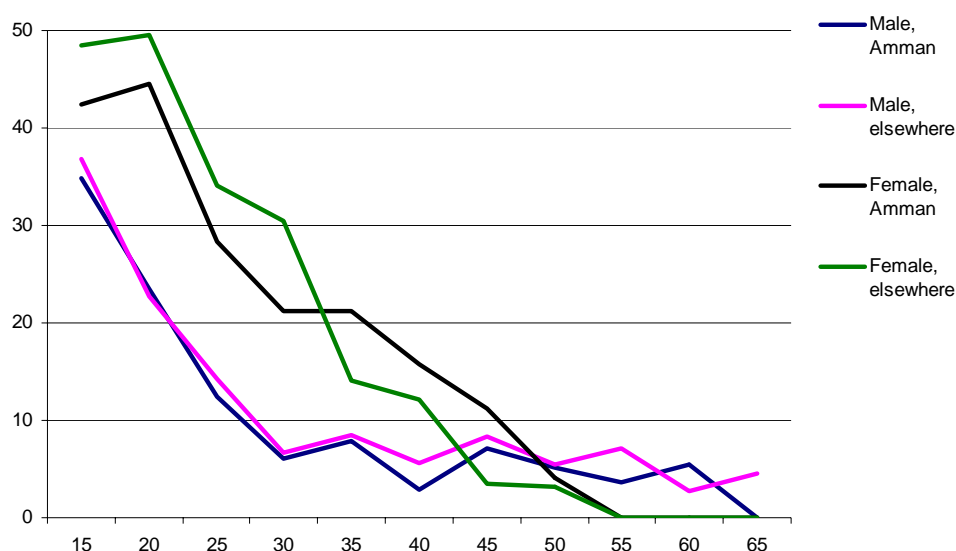
Both regular unemployment and under utilization of labour are higher among women than men, and higher in rural than urban areas. Male under utilization of labour to a larger extent manifests itself as invisible underemployment, while the female under-utilised are usually classified as “inactive”. However many of these women are in effect “discouraged workers”, or would accept a job if offered one, although they for some reason do not actively seek work.

4.4.2 Unemployment and under utilization by individual characteristics

Both the unemployed and the under-utilised are young

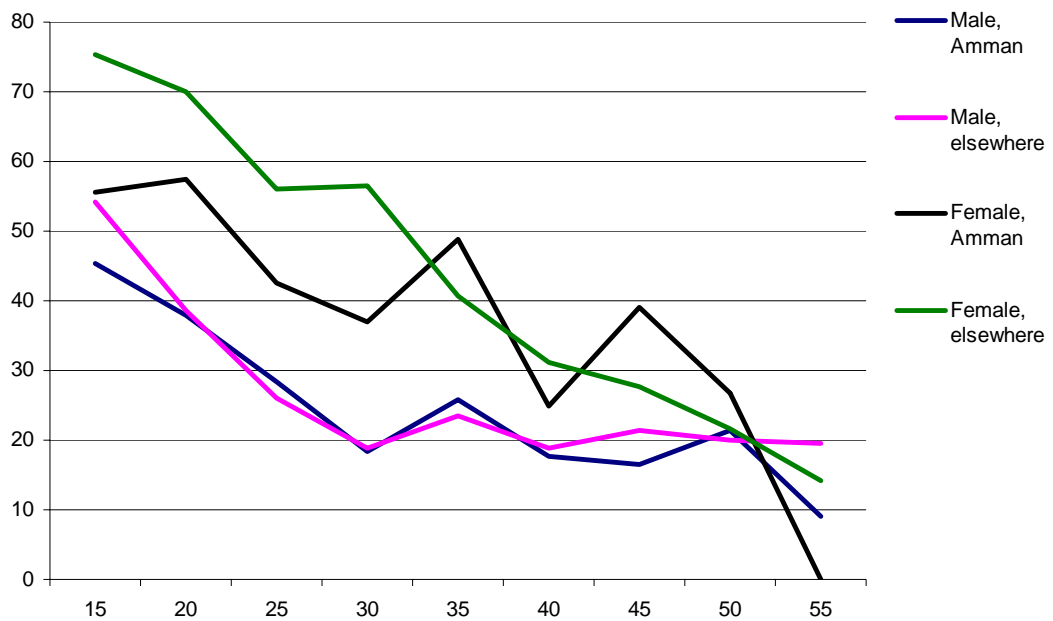
Both regular, ILO defined unemployment and under utilization of labour is primarily found among the young, and decreases steadily with age (Figures 4.73 and 4.74). Around 20 years, 30 percent of the men, and 45 percent of the women are unemployed. The corresponding under utilization rates for the same age group are 50, and 65 percent respectively. It goes without saying that the very high rate of under utilization, and the social frustration commonly associated with being in this situation, represents a substantial challenge for the Jordanian society.

Figure 4.73 Unemployment Rate by Sex, Age and Residence in Amman or Elsewhere



The concentration among the young is even higher in terms of *absolute numbers*, due to the rapidly diminishing size of the age cohorts at higher age. For example, the 25-30 years group is almost twice as high as the 40-45 years group. For young women, it seems easier to find employment in Amman than elsewhere. For males, there are not much difference between the capital and other governorates.

Figure 4.74 Underutilization Rate by Sex, Age and Residence in Amman or Elsewhere



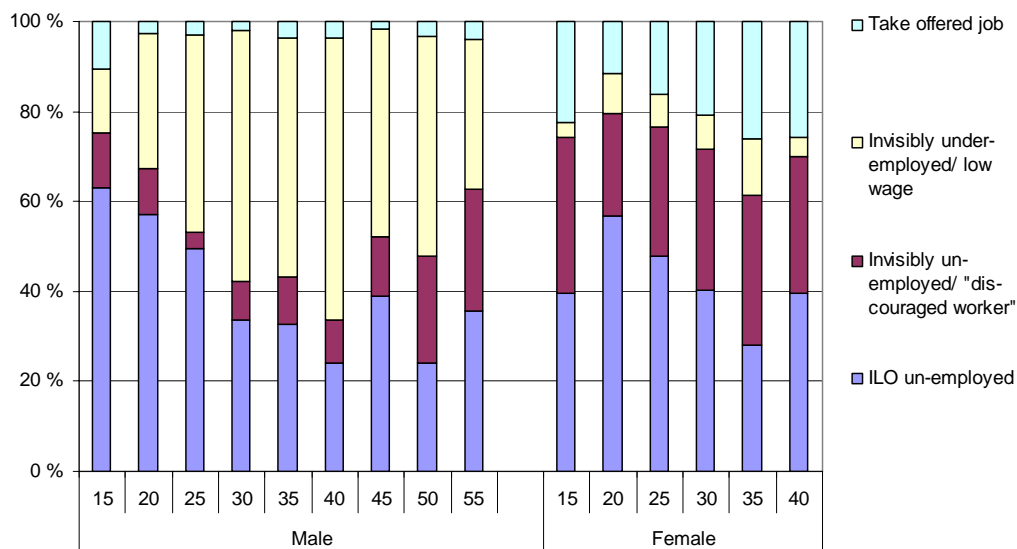
With increasing age under-utilised males “move” from the unemployed to the visibly underemployed group

In Figure 4.75 we show the composition of the group of under-utilised, by gender and age. The pattern clearly highlights the social obligations embedded with males to care for their families. At young age males may reside with their parents, and can “afford” to be unemployed. However, as more and more of them marry and form their own households, under utilization manifests itself as invisible underemployment rather than complete inactivity. Finally, above 50 years of age, many become less attractive for employers, and many end up as “discouraged workers”. In all age groups, hardly any man sits idle at home and waits for a job to arrive.

For women, the pattern is relatively different, as already discussed above. Above 20-25 years fewer and fewer become unemployed, and more and more become discouraged workers, or would take an offered job, but without *actively* seeking one. The reason is

probably that many of these women are tied up with family obligations, and that these obligations put so strong restrictions on their ability to work that they consider the likelihood of obtaining adequate employment as being small anyhow.

Figure 4.75 Types of Underutilization by Sex, Age and Residence in Amman or Elsewhere

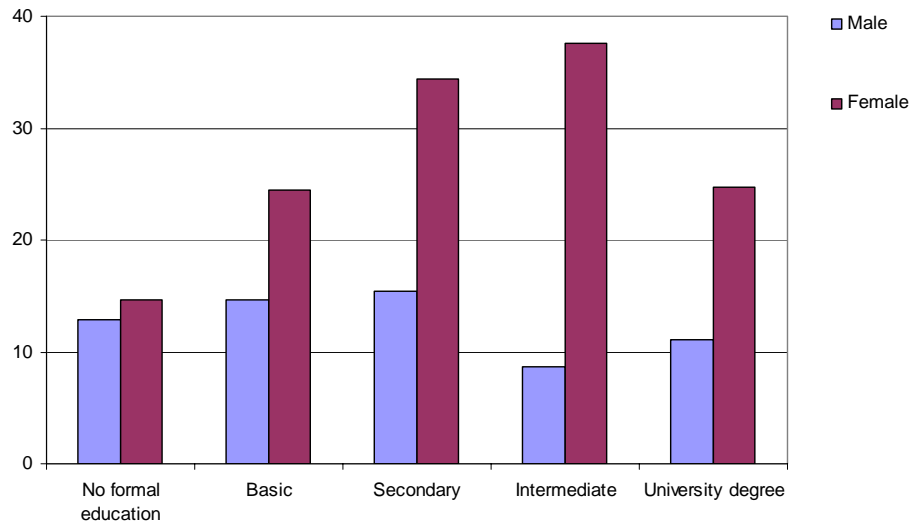


In contrast to females, male unemployment does not increase with increasing education

Male unemployment rates are relatively insensitive to education levels (Figure 4.76). One explanation is that although education is an asset when searching for a job, the educated men tend to be younger than those with little education, and unemployment strikes harder among the young.

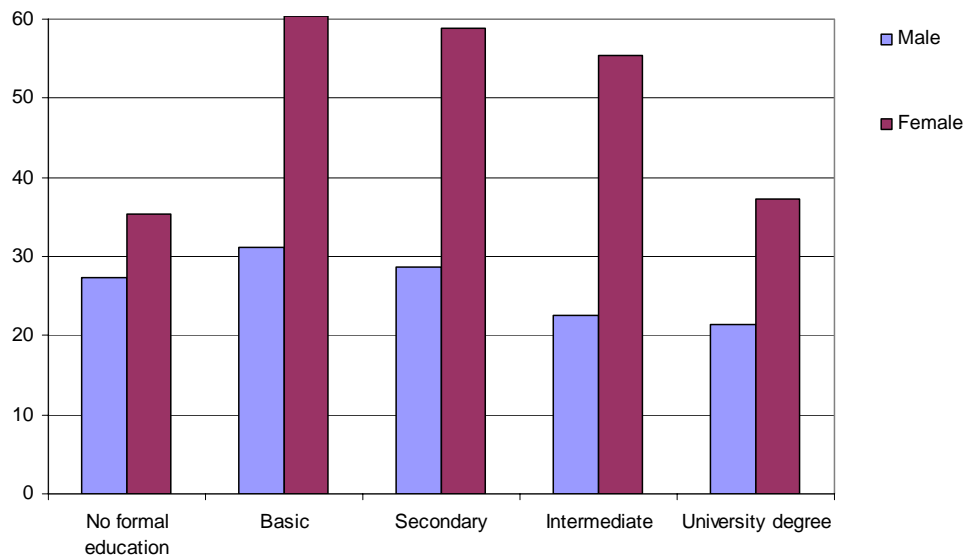
For women, there is a relatively strong increase in the unemployment with increasing education. One possible reason is that the desire for employment among women increases with increasing education, but that there is a threshold for women among employers, that can only be passed when the women have obtained university education.

Figure 4.76 Unemployment by Sex and Education



Under utilization of male labour, among which the regularly unemployed are included, shows the same pattern across educational groups as unemployment, albeit at a higher level (Figure 4.77). It does not seem that male under utilization levels are particularly high among those with university education, although this group tend to be visible, in major cities and frequently well articulated in the Jordanian society.

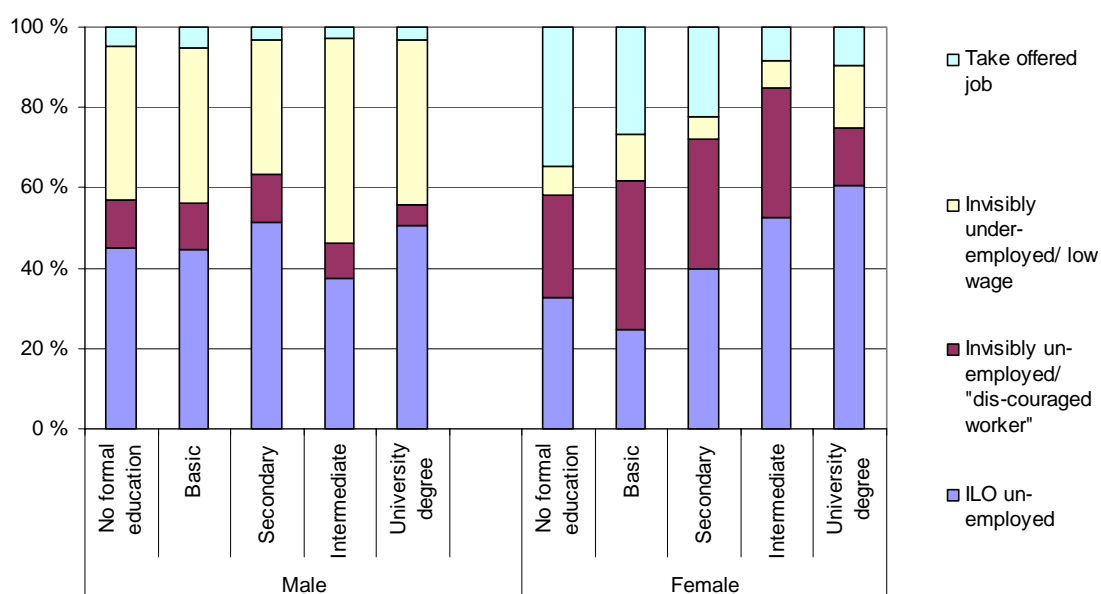
Figure 4.77 Underutilization by Sex and Education



Highly educated women have higher confidence in their job prospects

For women, the relationship between under-utilization and education is different than for unemployment. One reason for this is that under-utilised women seem to search for work more actively when their education increase (Figure 4.78). With increasing education, more and more of the under-utilised women become unemployed (implying *active* job search), rather than having given up hope (i.e. “discouraged workers”), or just let “fate” decide (take a job if offered one). Women with university education apparently know that they have passed the threshold among the employers. Very few are “discouraged workers”.

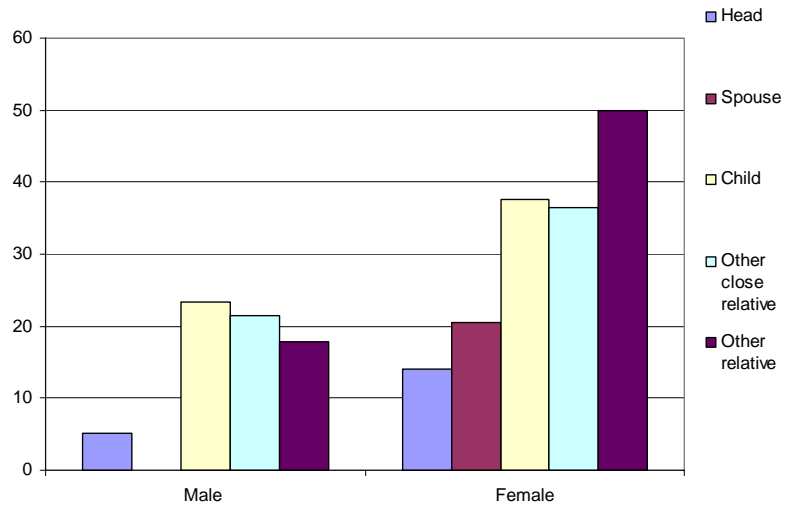
Figure 4.78 Types of Under Utilization by Sex and Education



Household Heads cannot afford to become regularly unemployed

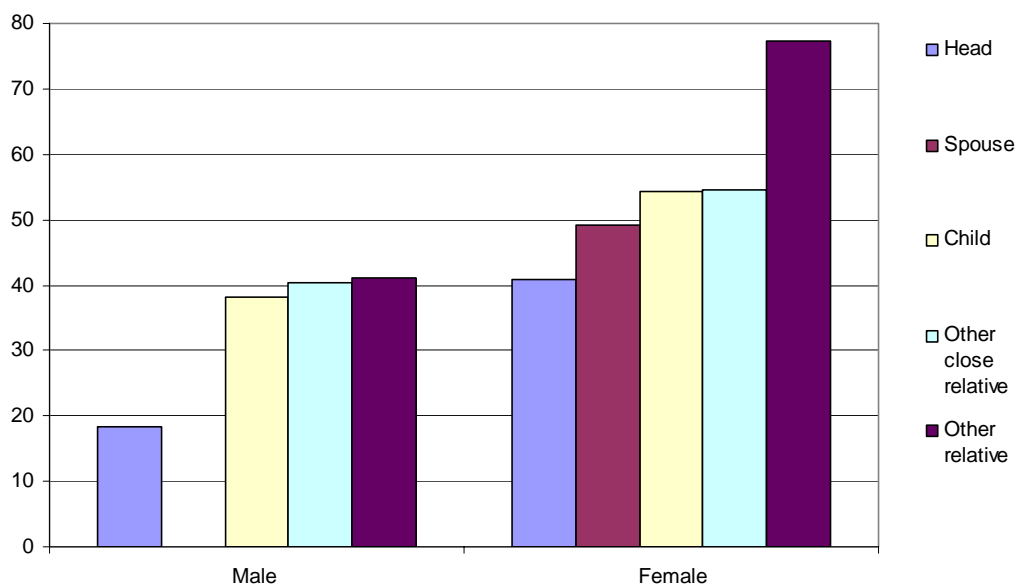
Household Heads rarely are unemployed (Figure 4.79). Moreover, the unemployed Heads represent a small share of the under-utilised Heads (Figure 4.79 versus Figure 4.80). The reason is, of course the social obligations resting with Household Heads. Few can afford to be completely idle, but must in most cases accept the best type of employment available to them, regardless if the work does not fit their skills and education. For other males, the situation is different, and a much larger share of the under-utilised is regularly unemployed. This is particular the case for the group of “other male relative”.

Figure 4.79 Unemployment Rate by Sex and Relation to the Household Head



For women, and in particular for adult daughters of the Household Head, the situation is quite different. While just more than 50 percent are under-utilised, almost 40 percent are (also) unemployed, indicating that they have relatively few social obligations to obtain income, but are allowed to search for an appropriate, socially acceptable job.

Figure 4.80 Under Utilization Rate by Sex and Relation to the Household Head



A related pattern of low unemployment, relative to under utilization, can be observed among married men (who are often Household Heads). To the contrary, never married men resemble never married women, in the sense that many more can afford to stay unemployed (Figures 4.81 and 4.82). When married women become under-utilised, it is also to a much lesser extent than for the unmarried women, as unemployed. The reason is that *when* the spouse has joined the group of under-utilised, it is frequently associated with economic need, implying that they *have* to work.

Figure 4.81 Unemployment Rate by Sex and Marital Status

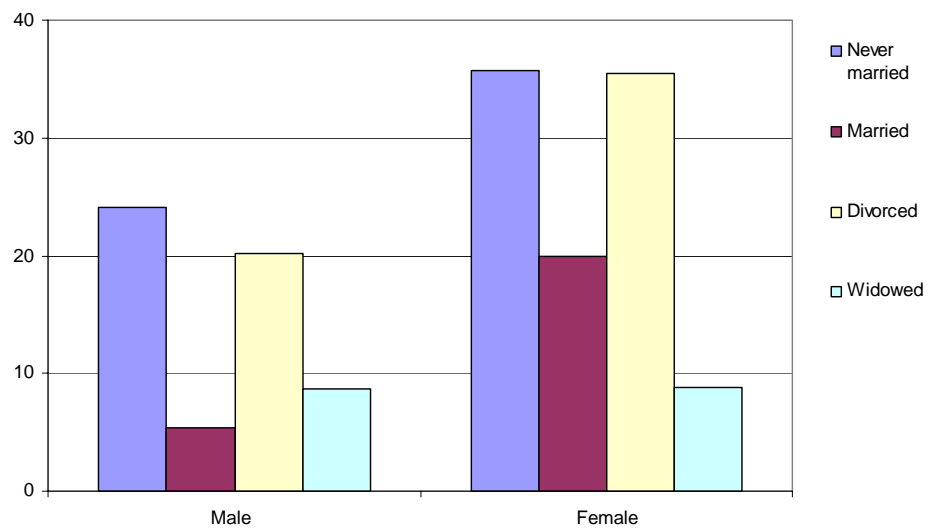
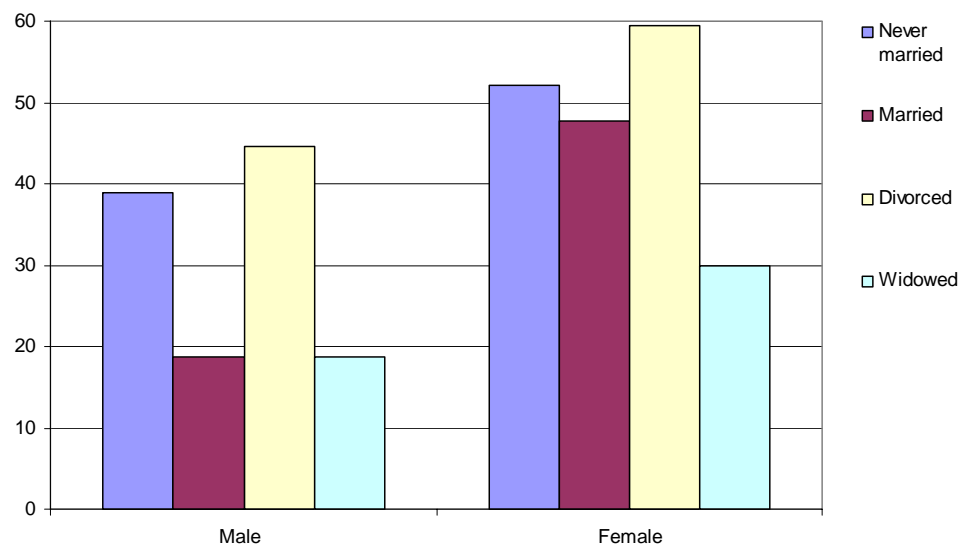


Figure 4.82 Under Utilization by Sex and Marital Status



Summing up on unemployment and under utilization by individual characteristics

Although both unemployment and under utilization of labour is strongly associated with young age, the position in the household seems to have an independent effect on the *share* of the under-utilised that are unemployed. The stronger the social obligation to bring in income to the family, e.g. for those being Heads, the lower share of the under-utilised are unemployed. To the contrary, young, unmarried sons and daughters of the Head can afford to be choosier, and do not need to take up any employment available to them.

4.4.3 Unemployment and under utilization by household characteristics

Both unemployment and under utilization decrease with increasing income

The statistical relationship between individual unemployment and under utilization at the one hand, and household income at the other reflects two main effects. First, the obvious fact that while an employed household member provides income, an unemployed member does not: Hence, we would expect unemployment to *decrease* with increasing income. However, a high household income from other members' work, or from other sources, also enables in particular young household members to stay unemployed. This effect is even more important if high income also raises requirements for what is considered to be an "acceptable" job. The observed pattern in Figures 4.83 and 4.84 indicates that the first effect dominates the second. However, the slight increase in male unemployment for the highest household income group may be caused by the second effect. In any case, the difference in unit level between the measurement for unemployment and under utilization, and household income makes the relationship between them rather complex.

Figure 4.83 Unemployment Rate by Sex and Annual Per Capita Household Income

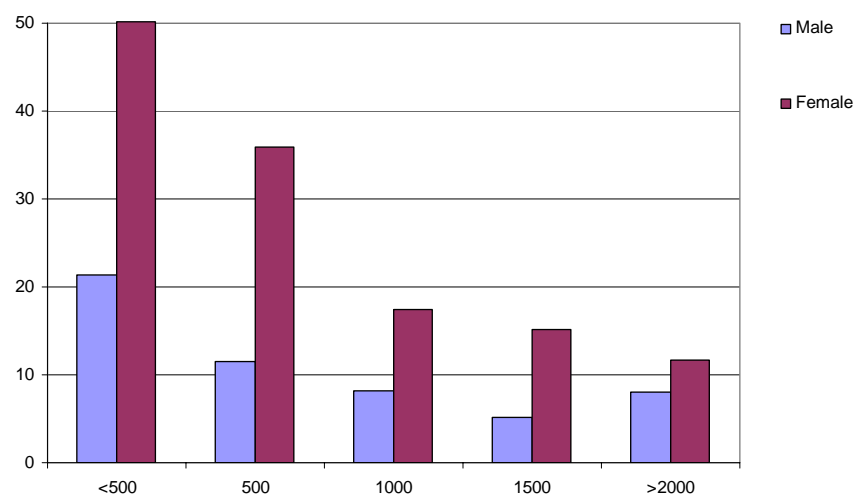
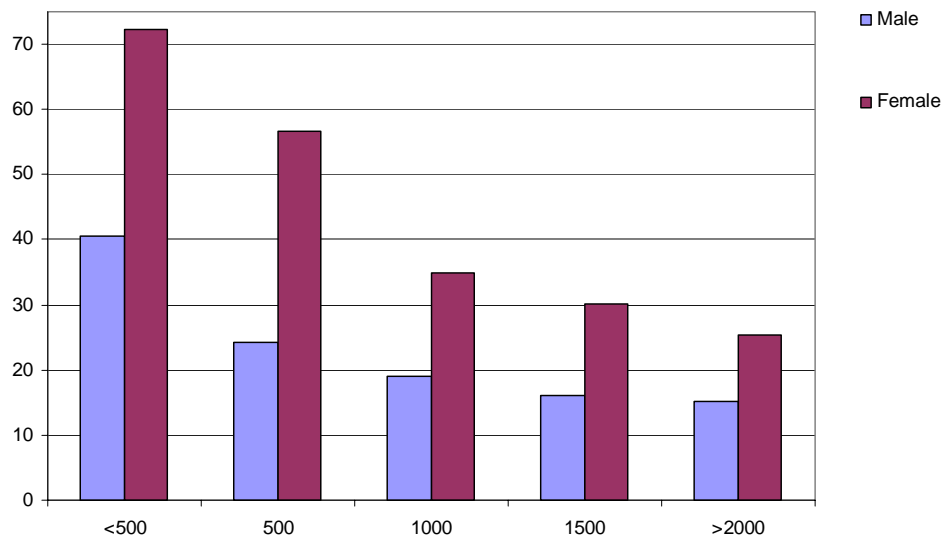


Figure 4.84 Underutilization Rate by Sex and Annual Per Capita Household Income



Male unemployment increases systematically with household size, and stronger than the increase for under utilization

The same complex relationship applies for the relationship between unemployment and under utilization, and household size and household type (Figures 4.85 and 4.86). Male unemployment increases very systematically with increasing household size. The reason is, of course, that the larger the household size, the larger the likelihood that *another* person in the household employed, and hence, enables “our” person to stay unemployed. For women, the unemployment rate is much less dependent on the household size. Anyhow, they are not to the same extent expected to contribute to the household in pure economic terms.

Figure 4.85 Unemployment Rate by Sex and Household Size

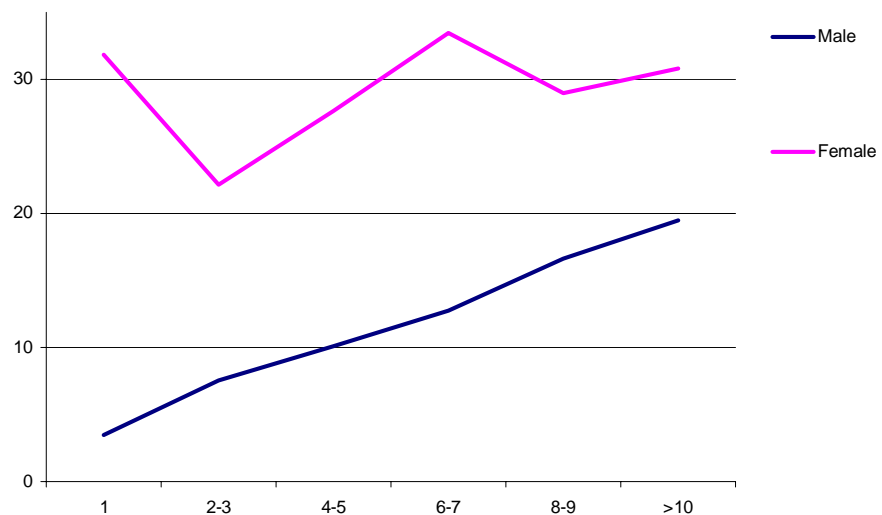
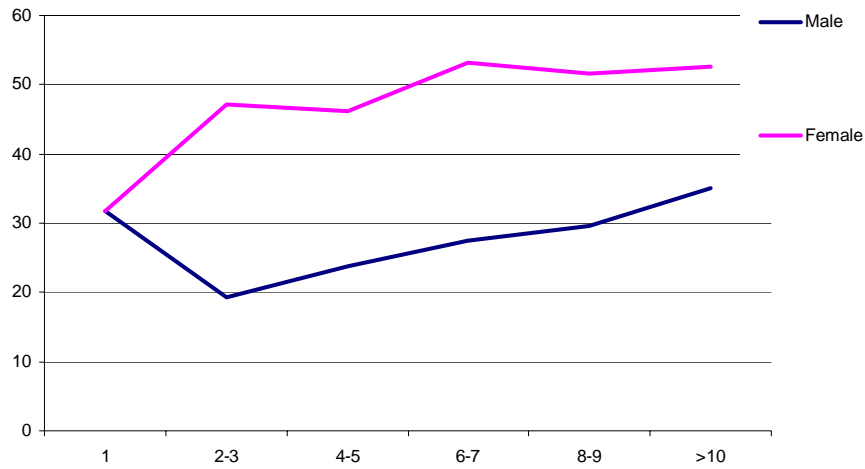


Figure 4.86 Under Utilization Rate by Sex and Household Size



For household *type*, we note that the share of the under-utilised males being *unemployed*, is higher in households with children below 15, than in households with adult children (Comparing Figures 4.87 and 4.88) . In the first group, a larger share of the males *has* to take up any type of employment than in the latter, in which there may be other able-bodied males that can provide income. A related effect seem to be prevalent for women, although the unemployed in all household types represents a much larger share of the under-utilised than for males.

Figure 4.87 Unemployment Rate by Sex and Household Type

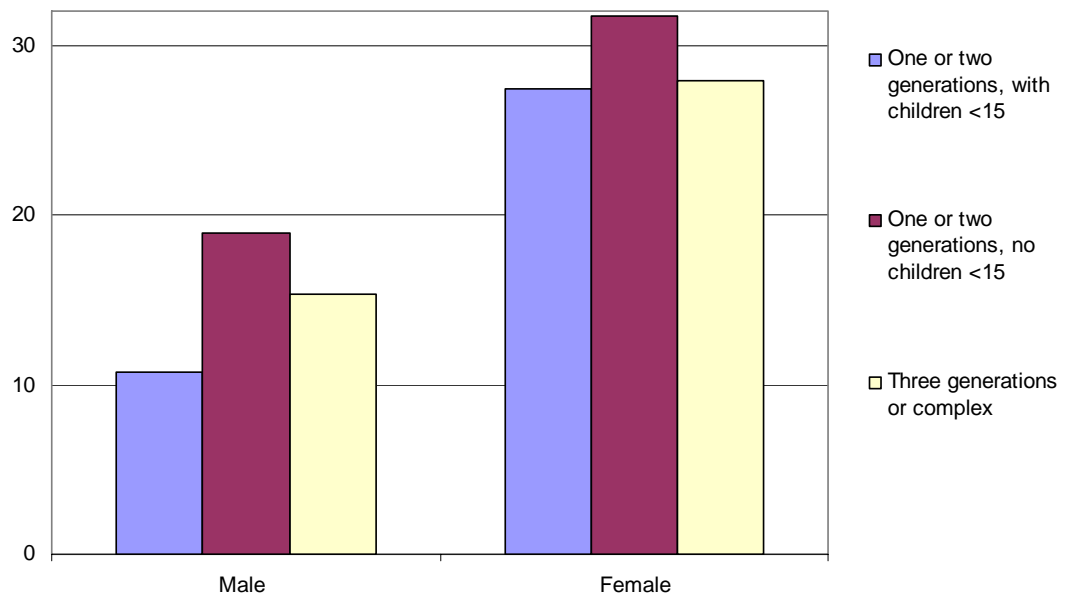
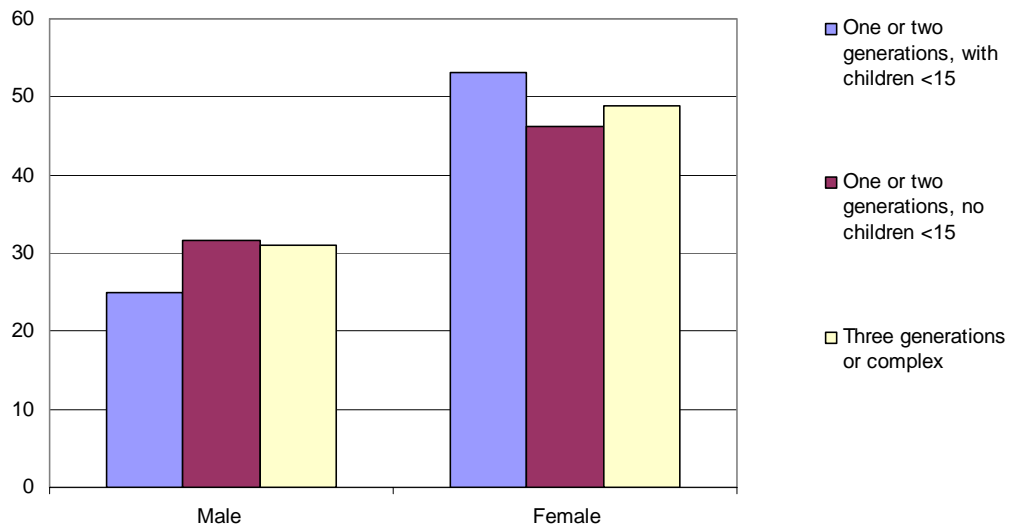


Figure 4.88 Underutilization Rate by Sex and Household Type



Summing up on unemployment, under utilization and household features

The difference in unit level between the measurement for individual unemployment and under utilization, and *household* income, size and type makes their relationships rather complex. Unemployment and under utilization decrease with increasing income, mainly because good, adequate employment provides income. Larger household size gives larger room for male unemployment, while having young children does not. For women, the effects are less systematic because they anyhow are not expected to provide the lion's share of the household income.

4.4.4 Unemployment and under utilization in the household context

Household level unemployment reflects individual unemployment patterns

In the three previous sections, we have exclusively dealt with unemployment and under utilization of labour measured at the *individual* level. As previously mentioned, it is reasonable to assume that these variables in effect are determined by some kind of household mechanism. It is usually not solely up to the individual to decide whether to stay unemployed, or whether to take on less acceptable jobs.

As for individual unemployment, *household* level unemployment is highest in the Southern region, but lowest in Aqaba governorate (Figure 4.89). This is probably both due to the relatively prosperous labour market in Aqaba, but also due to the small household size in that governorate. Fourteen percent of the households have one unemployed member four

percent have two or more unemployed members. In particular, the latter group of households faces a difficult situation. Except for Irbid governorate, geographic variations in household unemployment and household under utilization of labour seem closely related (comparing Figures 4.89 and 4.90).

Figure 4.89 Household Level Unemployment Rate by Sex and Governorate

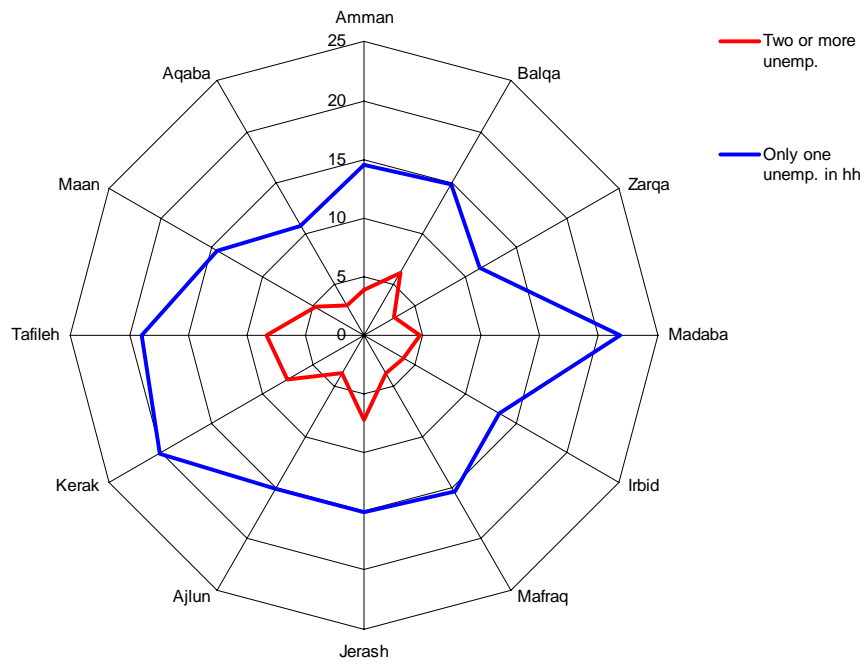
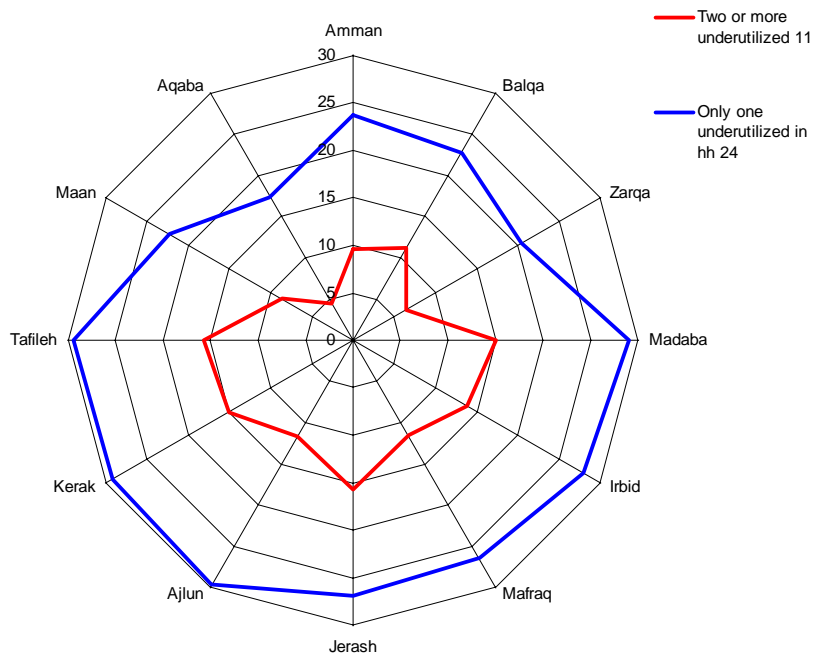


Figure 4.90 Household Level Under Utilization by Sex and Governorate



Small variations in the share of males being the only unemployed household member

Eight percent of the men, and eighteen percent of the women are the *only* unemployed person in their households (Figure 4.91). The corresponding percentages for being the only *under-utilised*, are 12 and 22, respectively (Figure 4.92). For men, the geographical variations are relatively small. For women, the share being the only unemployed in the household is highest in the south and in Jarash.

Figure 4.91 Share of Those Who Are the Only Unemployed Persons in Their Households, by Sex and Governorate

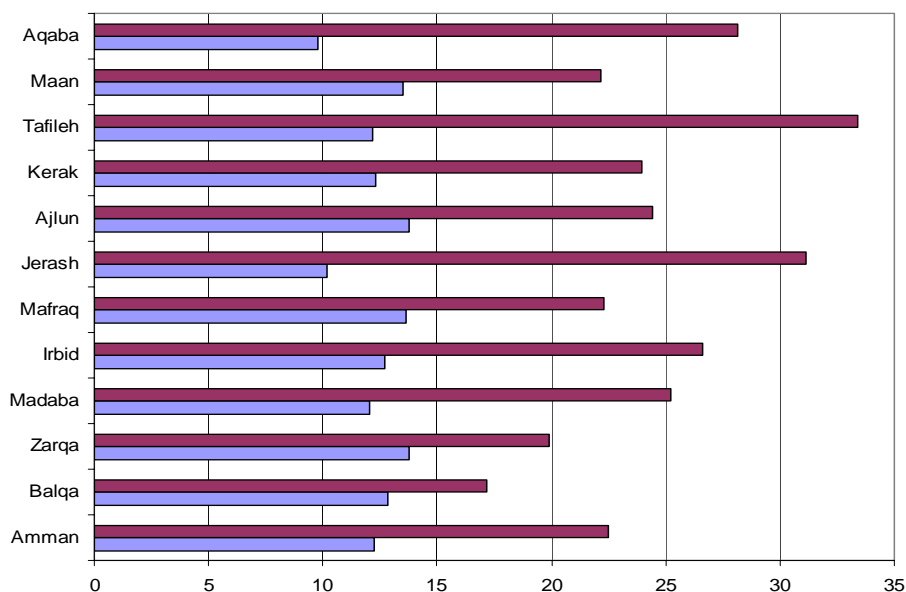
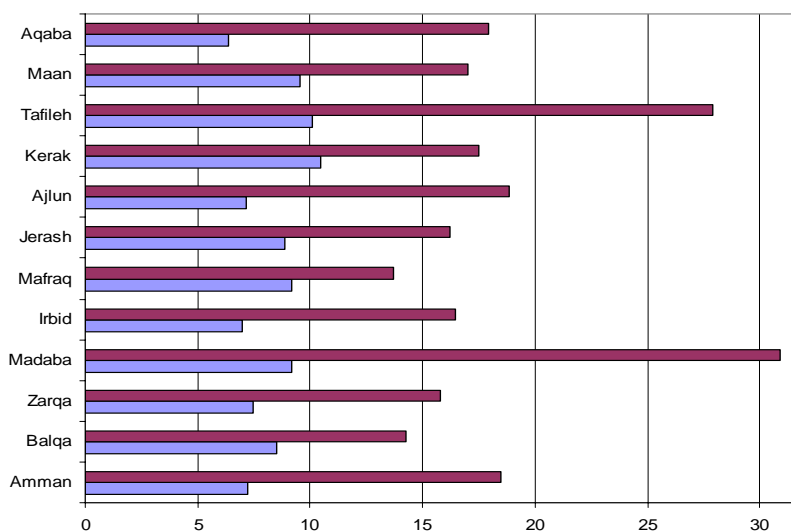


Figure 4.92 Share of Those Who Are the Only Under-Utilised Persons in Their Households, by Sex and Governorate



Finally in this section we look at the share of persons living in households where *another* household member is unemployed, or under-utilised, (regardless of “our” person’s unemployment status) (Figures 4.93 and 4.94). The share is generally lower for males than for females, except in Mafraq, Tafiela and Karak governorates. Zarqa and Jarash have the highest share of persons living in households with *other* unemployed members, at 40 percent.

Figure 4.93 Share of Persons who Live in Households With Other Unemployed, by Sex and Governorate

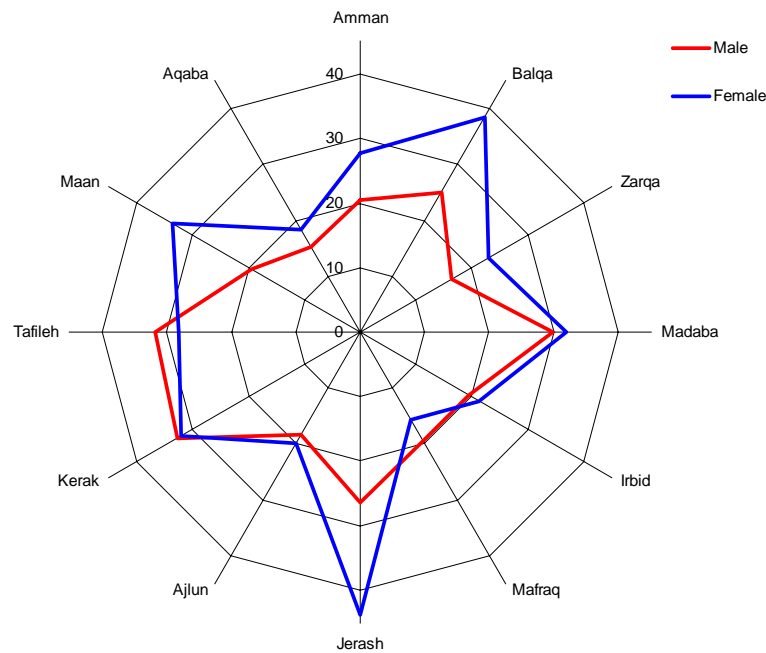
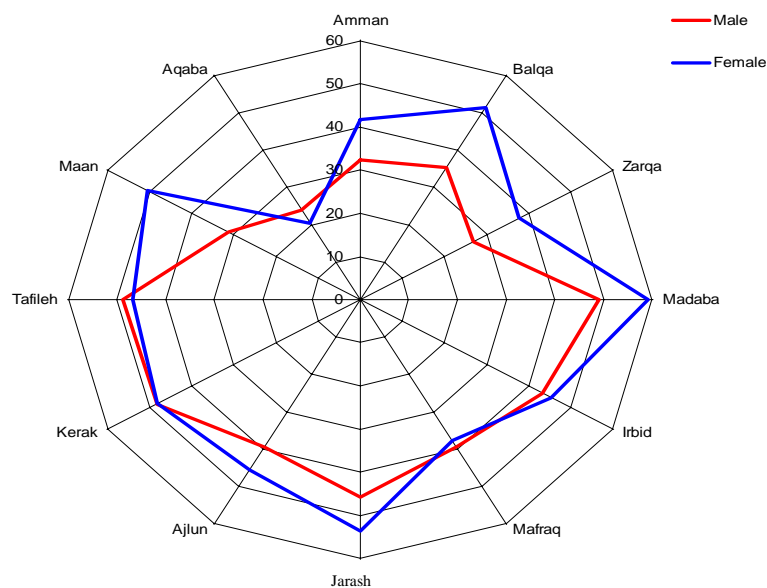


Figure 4.94 Share of Persons Who Live in Households with Other Under-Utilised, by Sex and Governorate



Summing up on unemployment and under utilization in the household context

Relatively households have *more* than one unemployed household member, and few persons are the *only* unemployed person in their households. The reason is that overall ILO unemployment is relatively low, and that few households can “afford” more than one unemployed household member. On the other hand, in most governorates 20 percent of the women live in households with at least one *other* unemployed member, and 50 percent live in households where at least one *other* is an under-utilised worker.

4.4.5 Multivariate Analysis of factors influencing of unemployment and under utilization of labour

Estimate gender specific models for both unemployment and under utilization of labour

In this section we will present two gender specific logistic regression models in order to identify the factors that are associated with unemployment and under utilization of labour in Jordan. As mentioned in section 4.2.5, logistic regression is a multivariate statistical technique that allows us to isolate the effects of several independent variables on one dependent variable. Here, the dependent variables in the two models are, respectively, individual unemployment, and individual under utilization of labour.

In both models, both *individual* and *household* level variables are used as independent, explanatory variables. In line with the reasoning about gender differences in labour force participation in section 4.2.5, we assume that the mechanisms associated with unemployment and under utilization of labour works differently for men and for women, requiring separate equations for each gender.

The regression equation for labour force participation in section 4.2.5 was based on *all* individuals in the sample who were 15 years or older. However, for investigating unemployment, we find it more appropriate to use *only the labour force members* as the population basis. The reason is that we may consider the job search process as a *two*-step procedure, where individuals firstly decide to look for work (i.e. to join the labour force), and secondly are either employed or not²⁰. Hence, the unemployed represents a sub-group selected from the group of labour force members.

In particular for women, it is more relevant to find out whom amongst the *female labour force members* that end up as unemployed, rather than as employed. To the contrary, finding out whom among *all adult women* who ends up as unemployed, would picture which

²⁰ Or manages to establish an own enterprise.

women that choose to *join the labour force* in the first place, rather than which women among the female job seekers that end up as *unemployed*.

A similar argument applies to the analysis of under utilization of labour. However, we must keep in mind that the group of “discouraged workers” is regarded as being outside the labour force by the standard ILO definitions. Hence, we have to use the group of adult individuals that are either in the labour force, under-utilised, or in both groups, as the basis for our analysis.

Both for males and females the unemployed constitute roughly 45 percent of the under-utilised workers. Because the two groups partially overlap, we expect the two equations to yield fairly similar, although not identical results.

Given labour force membership, being female increases the risk of being unemployed and/ or under-utilised

First, we note that *joint* male-female regressions for respectively unemployment and under utilization of labour shows that the odds ratio for being in any of the two “states” are much lower for males than for females (approximately 0.45 vs. 1). Hence, being female is in itself a risk factor for unemployment (among the labour force members) or under-utilised.

Young age increases the risk for unemployment. For males, being illiterate increases the risk, while the pattern is the opposite for women

The equation for *male* unemployment shows that being young, being widowed, illiterate or disables significantly increases the likelihood of unemployment. Both being a refugee and being a foreigner decreases the likelihood of unemployment. (The latter may be explained by the fact that some unemployed foreigners choose to return to their native countries, if they originally moved to Jordan in order to work).

Living in the South increases the risk, relative to living in Amman, while living in the North decreases the risk. Having another household member unemployed also increases the likelihood of unemployment, while having another member employed *decreases* the likelihood of unemployment. The latter result does *not* support the “unemployment as a convenience” theory, but rather indicates that unemployment tend to cluster in certain vulnerable households.

The equation for *female* unemployment yields better fit than the one for males. The risk of female unemployment is highest in Amman. The reason is probably that the agricultural sector, which absorbs many women in other regions, is of little importance in the capital.

Also for women, young age is a risk factor, but here, higher education is also a significant risk factor. This may indicate that, at least those women who are not *forced* to seek employment for economic reasons may allow themselves more freedom of choice with respect to which type of employment they accept. For the *unmarried* female Household Heads, the situation is apparently different. An odds ratio above 2.2 indicates a high level of “choosiness” among a group of women that are required to generate income. It may be that the group of unemployed women is composed of two very different types of women. On the one side, those women where unemployment is a sign of strong deprivation, and on the other, a group of women who are not forced to work for economic reasons, but can “afford” to sit and wait for an “acceptable” job.

Under utilization of labour is caused by roughly the same factors as unemployment. However, the effect of young age for males is smaller on under utilization than for unemployment

As expected, the results for under utilization are roughly similar to those for unemployment. When men marry and form their own households, they cannot remain unemployed, but have to take any kind of (unsuitable) employment. Higher age implies that their under utilization status changes from regular ILO unemployment to invisible underemployment. Hence, for *males* young age is a less important predictor for *under utilization* of labour than for (ILO) *unemployment*. For women, the social obligation to generate income is much less stronger, and the importance of young age is roughly the same for both groups.

Summing up on multivariate analysis of ILO unemployment, and under utilization of labour

The multivariate analysis of factors associated with regular ILO unemployment and under utilization of labour has generally confirmed our previous findings in bivariate tables and graphs. In particular we observe how young males seem to change their type of under utilization of labour from ILO unemployment to invisible underemployment when they reach an age where they form their own households. While higher education *reduces* male unemployment, it seems to *increase* female unemployment. Living in Amman is generally associated with higher unemployment, in particular for women. A likely explanation is that the agricultural sector, which has a low entry threshold, plays a much smaller role in the capital than elsewhere.