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LABOR SUPPLY,
EMPLOYMENT AND UNEMPLOYMENT
IN THE EGYPTIAN ECONOMY, 1988-2006

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Abstract

This paper analyzes data from the Egypt Labor Market Panel Survey of 2006 (ELMPS 06) and its predecessor surveys from 1988 and 1998 to reveal that the employment outlook in Egypt has broadly improved since 1998. Despite continued rapid growth of the working age population since 1998, overall participation rates have increased, unemployment rates have decreased, and employment growth has been robust. In many instances, the levels of these variables have returned to or exceeded their levels in 1988, prior to the initiation of the 1991 stabilization and structural adjustment programs. The performance of the labor market in Egypt in the past eight years has been helped by favorable demographic as well as economic developments. The generation at the peak of the youth bulge, which was putting severe pressures on the labor market in the 1990s, has now completed its labor market transition, for the most part, and demographic pressures are easing. These demographic developments have been accompanied by important changes in the structure of the economy. While employment in state-owned enterprises (SOEs) had begun to decline in the 1988-98 decade, employment in government was still growing rapidly during that period at about twice the rate of growth of overall employment. This has clearly changed in the 1998-06. Employment growth in the civil service has slowed dramatically and much of the burden of employment creation has shifted to the private sector.

Concurrent with the decline of employment opportunities in the public sector, the trend toward informalization of the labor market, begun in the 1990s, is continuing unabated. By 2006, 61 percent of all employment was informal, up from 57 percent in 1998. Moreover, 75 percent of new entrants who entered the labor market in the first five years of this decade were entering into informal work.

ملخص

تقوم هذه الورقة بتحليل بيانات فريق سوق العمل المصري لسنة 2006 والمسوحات التي سبقته خلال الفترة من 1988 حتى 1998، وهي بذلك تكشف أن الشكل العام للتوظيف في مصر قد تحسن بشكل كبير منذ 1998، فعلى الرغم من استمرار النمو المتسارع لعدد من هم في سن العمل منذ 1998، فقد زادت معدلات المشاركة بشكل عام وانخفضت معدلات البطالة، علاوة على النشاط في النمو الوظيفي. وفي كثير من الحالات نجد أن هذه المتغيرات قد بلغت أو تخطت مستوياتها في عام 1988 أي قبل إطلاق برامج الاستقرار والتكيف الهيكلي عام 1991. فعلى مدى الثمان سنوات الماضية ساهمت تطورات إيجابية ديموغرافية واقتصادية في أداء سوق العمل في مصر، فقد أكمل جيل الشباب والذي بلغ ذروته العددية ضاغطة سوق العمل في التسعينيات دورة انتقاله إلى سوق العمل، في الأعم الأغلب، كما صارت الضغوط الديموغرافية تنقلص تدريجياً.

وقد صاحب هذه التطورات الديموغرافية تغيرات جوهرية في هيكل الاقتصاد، ففي الوقت الذي بدأت فيه معدلات التوظيف تنقلص في قطاعات الأعمال المملوكة للدولة خلال الفترة من 1988 إلى 1998، ظل التوظيف في القطاع الحكومي علي وتيرة نمو متسارعة بمعدل هو ضعف معدل النمو في التوظيف بوجه عام. وقد تغير ذلك بشكل واضح في الفترة 1998-2006 حيث تباطأ معدل نمو التوظيف في الهيئات الحكومية بشكل كبير بينما تحمل القطاع الخاص العبء الأكبر في مسألة خلق فرص للعمل.

وصاحب قلة فرص العمل بالقطاع العام استمرار الاتجاه إلى خصخصة سوق العمل والذي كان قد بدأ في التسعينات. وبحلول العام 2006 ارتفعت نسبة العمالة غير الرسمية إلى 61 بالمائة مقابل 57 بالمائة عام 1998. بالإضافة إلى ذلك، فإن ما نسبته 57 بالمائة من حجم العمالة الجديدة التي دخلت سوق العمل خلال الخمس سنوات الأول من هذا الفترة التحقت بالعمل غير رسمي.

1. Introduction

The Egypt Labor Market Panel Survey of 2006 (ELMPS 06) collected a wealth of information on employment and unemployment in Egypt, allowing for in-depth analysis of both the structure and the trend of these variables. The results reveal that the employment outlook in Egypt has broadly improved since 1998. Despite continued rapid growth of the working age population since 1998, overall participation rates have increased, unemployment rates have decreased, and employment growth has been robust. In many instances, the levels of these variables have returned to or exceeded their levels in 1988, prior to the initiation of the 1991 stabilization and structural adjustment programs.

The performance of the labor market in Egypt in the past eight years has been helped by favorable demographic as well as economic developments. In 1988, the children born prior to the onset of fertility declines of the early 1980s, and who were surviving at higher rates due to significant improvements in early childhood mortality, were still about 5 years old, too young to affect the labor market. This child bulge made its way to adolescence in the following decade and starting putting severe supply pressures on the labor market. By 2006, the peak of the bulge was at age 22, and many of those on its leading edge had already made their way into the labor market, relieving some of the demographic pressure felt in the 1990s. Egypt is therefore now poised at the gateway of the demographic window of opportunity, where the proportion of the population of adult working age will be rising steadily and age dependency rates falling. It appears from all appearances that the Egyptian labor market is now managing to absorb this increased number of potential producers into employment.

These demographic developments have been accompanied by important changes in the structure of the economy. While employment in state-owned enterprises (SOEs) had begun to decline in the 1988-98 decade, employment in government was still growing rapidly during that period at about twice the rate of growth of overall employment. This has clearly changed in the 1998-06 period. Employment growth in the civil service has slowed dramatically and much of the burden of employment creation has shifted to the private sector. Although this development is generally positive, it has had negative consequences on some groups, namely educated young women, who had come to rely heavily on the government for employment. Without employment opportunities in the government, many of these educated young women appear to be opting out of the labor force altogether, as indicated by falling participation rates among educated females, the very group that in the past would have joined the ranks of the civil service.

Concurrent with the decline of employment opportunities in the public sector, the trend toward informalization of the labor market begun in the 1990s is continuing unabated. By 2006, 61 percent of all employment was informal, up from 57 percent in 1998. Moreover, 75 percent of new entrants who entered the labor market in the first five years of this decade were entering into informal work. However, if we restrict our attention to private wage employment, we can detect a certain degree of formalization since 1998, which could well be attributed to added flexibility in formal employment relations introduced by the passage of a new labor law in 2003.

In what follows, I review trends in the working age population, the labor force, labor force participation, unemployment, and employment in the Egyptian economy over the period 1988 to 2006. Whenever possible, I compare developments from 1988-98 to what happened in the 1998-06 period. The three surveys I am relying on – the LFSS 1988, ELMS 1998, and ELMPS 2006—are all broadly comparable in design and methodology. The ELMPS 2006 was designed as a longitudinal panel, but little of the ensuing analysis depends on this panel

design. Despite some attrition from the panel, we made sure that the 2006 remains nationally representative by using appropriate weights that correct for this attrition.

2. The Egypt Labor Market Panel Survey of 2006 (ELMPS 06)¹

The Egypt Labor Market Panel Survey (ELMPS 06) is a follow-up survey to the Egypt Labor Market Survey of 1998 (ELMS 98), which was carried out in November-December 1998 by the Economic Research Forum (ERF) in cooperation with the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) – the main statistical agency of the Egyptian government. ELMS 98 was carried out on a nationally-representative sample of 4,816 households² and was designed to be comparable to the special round of the Egyptian Labor Force Survey carried out in October 1988 (LFSS 88). The ELMPS 06 is the second round of what is intended to be a periodic longitudinal survey that tracks the labor market and demographic characteristics of the households and individuals interviewed in 1998, any new households that might have formed as a result of splits from the original households, as well as a refresher sample of households to ensure that the data continue to be nationally-representative. The field work for ELMPS 06 was carried out from January to March 06.

2.1 Sample

The final sample of 8,349 households is made up of 3,684 households from the original ELMS 98 survey, 2,167 new households that emerged from these households as a result of splits, and a refresher sample of 2,498 households. Of the 23,997 individuals interviewed in 1998, 17,357 (72 percent) were successfully re-interviewed in 2006, forming a panel that can be used for longitudinal analysis. The 2006 sample contains an additional 19,743 “new” individuals. Of these 2,663 individuals joined the original 1998 households, 4,880 joined the split households, and 12,200 were part of the refresher sample of households.

The original sample of the ELMS 1998 was selected from 200 primary sampling units PSUs across Egypt. Urban PSUs were over-sampled and constituted 140 of the total and rural PSUs made up the remainder. The 1998 sample was a two-stage stratified random sample selected from a master sample prepared by CAPMAS. The PSUs included in the master sample were selected according to the probability proportional to size (PPS) method. The refresher sample of 2,500 households was selected from an additional 100 PSUs randomly selected from a new master sample prepared by CAPMAS, of which 46 were urban PSUs and 54 were rural PSUs.

The attrition that occurred in the original 1998 sample was mostly random in nature since it resulted from the loss of records containing identifying information for the 1998 households. Of the 1,115 households that could not be re-interviewed, 615 are due to loss of records and the remainder is made up of expected losses due to total relocation of the household, death of all household members, or refusal to participate in the survey.³ A second source of attrition is due to the inability to locate some of the individuals that split from the original 1998 households. An analysis of the 1998 characteristics of these individuals revealed no systematic differences between them and those that were successfully tracked.

¹ The LFSS 1988 and ELMS 1998 are described in some detail in Assaad (2002)

² The five border governorates of Matruh, New Valley, Red Sea, North and South Sinai were excluded from the original sample due to their remoteness and limited populations.

³ For more details, see Barsoum, G. 2006. Egypt Labor Market Panel Survey 2006, Final Report. The Population Council, Cairo, Egypt.

2.2 Questionnaire

The questionnaire for the ELMPS 06 is closely based on that used in the ELMS 98 to ensure comparability of the data over time, but adds to the earlier questionnaire several critical modules that would permit a more in depth study of marriage dynamics in Egypt. The questionnaire is composed of three major sections: (i) a household questionnaire administered to the head of household or the head's spouse that contains information on basic demographic characteristics of household members, movement of household members in and out of the household since 1998, ownership of durable goods and assets, and housing conditions, (ii) an individual questionnaire administered to the individual him or herself containing information on parental background, detailed education histories, activity status, job search and unemployment, detailed employment characteristics, migration histories, job histories, time use, earnings, fertility, a module on costs of marriage, and a module on women's work, (iii) a household enterprise and income module that elicits information on all agricultural and non-agricultural enterprises operated by the household as well as all income sources, including remittances and transfers.

3. The Evolution of the Working Age and Youth Populations

According to estimates prepared by CAPMAS, the overall average annual population growth rate in the 1998-06 period was virtually the same as in 1988-98 period at about 2 percent per annum (Table 1). The working age population (15-64) grew a little faster at 2.4 percent per annum. This growth differential in favor of the working age population is typical of the middle stages of the demographic transition, a period that follows the onset of fertility decline (Bloom and Williamson, 1998). In the early stages of this period, however, much of the growth in the working age population is concentrated among youth (15-24), which leads to severe labor supply pressures on the labor market. The youth population in Egypt has indeed grown very rapidly in the 1988-98 period at 3.4 percent per annum, but has slowed, more recently, to a rate of 2.1 percent per annum, indicating that Egypt has passed the period of most severe labor supply pressures.⁴

As a reflection of the more recent fertility declines in rural areas and the continued slowing of net rural-to-urban migration, rural population growth rates were higher than urban rates, but have now slowed to about the same rate as in urban areas. The rural working age and youth populations, in particular, are growing much faster than their urban counterparts (Table 1).

One of the most important differences between the 1998-06 period and the decade that preceded it from the perspective of developments in the labor market is the change in the age composition of the youth age group. As shown in Figures 1a and 1b, the population distribution in both urban and rural areas in 1988 was unimodal and the mode was at about age 5 in both urban and rural areas. By 1998, the distribution was still unimodal with the peak of the bulge moving to about age 15 and the leading edge stretching to about age 25, the age interval in which participation in the labor force rises sharply. This pronounced youth bulge clearly translated into a period of severe labor supply pressures. The main difference between urban and rural areas was the more pronounced child bulge in 1988 and youth bulge in 1998, a reflection of the higher rural fertility rates

By 2006, the distribution has become bimodal, with the original mode moving to age 22 and a new one emerging at young ages. This clearly reflects the gradual transition of the members of the original youth bulge into the age of parenthood. The ageing of the youth

⁴ The growth of the male youth population appears to be significantly lower than that of female youths. This may be due to some differential migration rates, both to foreign countries and to the border governorates that are not covered by the survey. This is an issue that requires further investigation.

bulge generation also means that they are gradually undertaking their transition into the labor market, with an increasing number having already completed this transition. These demographic developments have no doubt had profound consequences for developments in the labor market and should be kept in mind when we review the various labor market indicators below.

The other important development in the composition of the working age population is the change in its educational composition. As shown in Figures 2a and 2b, the most dramatic shift in the educational composition of the male working age population is the sharp increase in the proportion of technical secondary school graduates from 1988 through 2006. This is balanced by a steady reduction in the proportion of illiterate males and literate males with no educational credentials, especially in the early part of the period. The proportion of university graduates has also increased across the two periods under consideration, but at a slower pace than that of technical secondary graduates. The male labor market is therefore becoming increasingly dominated by technical secondary school graduates who now make up over 30 percent of the male working age population in both urban and rural areas.

The educational composition of the female working age population exhibits similar trends. The share of vocational secondary school graduates has shot up, especially in rural areas and the share of illiterates has come down significantly. In rural areas, illiterates made up 81 percent of the female working age population in 1988. By 2006, their share has gone down to 47 percent. Conversely, the share of female technical high school graduates in rural areas has gone up from 4 percent in 1988 to over 22 percent in 2006. These compositional shifts have enormous implications for female labor force participation. As we will see below, female participation rates increase significantly once women reach the technical secondary level.

4. Labor Force Growth and Labor Force Participation

In the ensuing analysis we use two definitions of the labor force: the market labor force and the extended labor force. The market labor force includes all those who are either engaged in economic activity for purposes of market exchange or seeking such work. The extended labor force includes those engaged in “the production and processing of primary products, whether for the market, for barter, or for their own consumption; the production of all other goods and services for the market; and, in the case of households that produce such goods and services for the market, the corresponding production for their own consumption.” (ILO, 1982). The distinction between the two definitions is particularly salient for women in Egypt, many of whom engage in animal husbandry and the processing of dairy products for purposes of household consumption and are thus counted as employed in the extended definition of the labor force.

The 1998 and 2006 surveys make it possible to apply both definitions in estimating the economically active population, but the 1988 survey only permits the use of the extended definition. Thus all comparisons that include 1988 are only for the extended definition, whereas any comparisons involving the market definition are for 1998 and 2006 only. In all cases we use the labor force of working age, i.e. 15-64, leaving aside for now the discussion of trends in child labor and in the elderly working population.

4.1 Trends in Labor Force Participation

As shown in Figure 3, the market labor force in Egypt grew from 17.2 million in 1998 to 22.3 million in 2006, at a rate of 3.5 percent per annum (p.a.). The extended labor force is about 4.5 million larger than the market labor force and grew more slowly, at a rate of 2.8 percent p.a. These rates of growth exceed by a sizable margin the rates of growth of the working age

population, indicating the average labor force participation rate has gone up during the period under study.

As shown in Table 2, the rural labor force has grown much more rapidly than the urban one, which partly reflects the more rapid growth of the working age population in rural areas (Table 1), but also indicates a rapid increase in female participation in market work in rural areas. The explosive increase in the female market labor force in rural areas (7.9 percent p.a.) must be interpreted with some caution, however, given the well-known difficulties in distinguishing between market work and subsistence work and between participation and non-participation for rural women (See discussion in Anker 1990, Assaad 1997, Langsten and Salem 2006). Two trends are apparent in the rural female participation rates. First, many women who reported being exclusively engaged in subsistence work in 1998 are now reporting some market activity, a trend that bears closer scrutiny and may be due to better measurement of involvement in market work in 2006.⁵ Second, there is a marked slowdown in the growth of the extended labor force, especially in urban areas, suggesting that the number of women engaged exclusively in subsistence work has declined in absolute terms. This could well be due to the fact that the survey coincided in timing with the bird flu epidemic when many households had to destroy their flocks of poultry, thus suspending one of the major subsistence activities in both urban and rural households.

A further noteworthy trend in Table 2 is the slower growth in the youth labor force as compared to the overall labor force. This may again be the result of better measurement of market work among older rural women, which is somewhat exaggerating the growth of the overall rural female workforce. The growth of the extended labor force seems to have accelerated for young males but decelerated for young women compared to the 1990s. Since the young female working age population is growing faster than that of males, this suggests that participation rates are falling among young females and rising among young males, a trend that is confirmed below, when we examine participation rates directly.

As implied by the positive differential between labor force growth rates and the growth of the working age population, labor force participation rates have increased in the 1998-06 period. As shown in Table 3 overall participation rates in the market labor force increased by about 5 percentage points from 47.2 percent to 52.4 percent. This reflects increases in participation for both males and females of about the same magnitudes, although the relative increase for females is clearly larger. For men, the increase in participation is similar across urban and rural areas, although starting from a higher base in rural areas. Rural women, in contrast started from a lower base of market labor force participation than their urban counterpart (possibly due to understatement), but experienced a more rapid increase over time.⁶

Overall labor force participation rates based on the extended definition also increased significantly from 1998 to 2006, but the increase is limited to males. The increasing male

⁵ In line with recommendations put forth in Langsten and Salem (2006), we added a number of specific entries to the questions designed to detect female participation in the labor force in the ELMPS 2006. These questions including participation in any of the following activities for the purposes of market exchange: agricultural production, animal husbandry and poultry raising, production of butter, ghee or cheese, collection of dung or fuel wood, food preparation, sewing or knitting, basket or rug weaving, offering a service in exchange for a fee, artisan work for pay, selling of a product from home, in the street or in a marketplace, purchasing goods for resale, construction work, and learning a trade as an apprentice. Detection questions were used in 1998, but not with the same level of specificity. Those stating that they weren't working were asked if they produced a good sold through a shop or project, offered a service to others in exchange for a fee, produced a good or service that was then sold, purchasing products for resale, assisted in a family enterprise, animal husbandry and poultry raising for purposes of market exchange, work as an apprentice in workshop or factory.

⁶ We return below to the issue of the understatement of female participation rates in the market labor force in 1998 and provide alternative estimates of the growth of the female labor force based on retrospective data.

participation rates in the recent period are in stark contrast to their decline in the 1988-98 period. This reversal can essentially be interpreted by the changing age structure of the population. In the 1988-98 period, a large bulge of males of school age was just entering the working age population, depressing overall participation rates. This bulge of young males has now largely moved into the labor force, thus increasing participation rates. This age pattern is being masked for females by changing participation behavior as an increasing number of women achieve secondary schooling and begin to seek paid employment. We will further examine these participation trends when we examine participation trends by age and education below. The stability of female participation in the extended labor force despite a rapid rise in market participation can again be primarily attributed to the effects of the bird flu epidemic on reducing the number of women who participated exclusively in subsistence work.

4.2 Labor Force Participation by Age

The most notable trend in male labor force participation by age is the earlier entry into the labor force recorded in 2006 as compared to 1988 and 1998. A close examination of the data reveals that the increase in participation is essentially among 18 to 24 year-old males. As we will see below, this is consistent with a shift in distribution away from general secondary degrees toward technical secondary degrees. Since the technical secondary degree is for the most part a terminal degree, while the general secondary is a continuing degree, a higher incidence of technical secondary degrees would lead to earlier entry into the labor force.⁷

We also note that the trend toward early retirement in urban areas observed in 1998 for men in their forties and fifties has been reversed in 2006, but has continued for men in their late fifties and sixties. In rural areas, the trend toward earlier retirement for men above fifty has been reversed as well. Since the market and extended labor force are essentially the same for men, the same age patterns of participation hold for the market labor force.

The earlier onset of participation in 2006 for young men, in combination with the shift in the population distribution toward older youths (see figure 1) explains the significant increase in male participation observed between 1998 and 2006. Some of the increase in rural areas results from later exit from the workforce on the part of older rural males.

As shown in Figure 5, the main shift in the age pattern of participation for women in urban areas occurred between 1988 and 1998 as older females significantly increased their participation according to the extended definition of economic activity. Not much change occurred between 1998 and 2006 except for a slight decline in participation for young women. This contrasts with young men who are entering the workforce earlier. As will be apparent later, both these developments --the increase from 1988 to 1998 and the slight decline for younger women from 1998 to 2006--can be attributed to developments in the civil service. Female civil servants in the 1990s were holding onto to their jobs after marriage as these jobs became increasingly difficult to get. The slowdown in government hiring thereafter is responsible for the dip in female participation for younger women.

In rural areas, participation based on the extended definition has increased from 1998 to 2006 for women in the prime working ages of 30 to 50. This continues an increasing trend that began in the previous decade. We also note a slight delay in initiating work for young women.

As shown in Figure 6, the age pattern of female labor force participation based on the market definition reveals some important differences from that using the extended definition. The

⁷ Technical secondary graduates of working age grew at 8.6 percent per annum as compared to 1.4 percent per annum for general secondary graduates of working age.

main difference in urban areas is a continuation of the delayed exit trend first noted in the 1988-98 period as opposed to the stability observed in the extended labor force participation. In rural areas, there is a significant increase in market labor force participation for women above age 25 and a delay in entry for young women. As a result of these changes, the peak participation in market activities for both urban and rural women has shifted to older ages. In urban areas, peak participation has shifted from about age 35 in 1998 to two distinct peaks, one at age 25 and one at age 45. In rural areas, peak participation shifted from just above age 25 in 1998 to age 40 in 2006.

From the shifts in the age pattern of participation, one can therefore conclude that the increase in female market labor force participation between 1998 and 2006 is partly due to the increased participation of older women and partly to the shift of the population distribution toward older youths who participate at higher rates than their younger counterpart. It masks a slight decline in participation among young women 15-24.

4.3 The Educational Pattern of Labor Force Participation

For males, the pattern of labor force participation by educational attainment is quite predictable. As shown in Figure 7, participation is high for illiterate and literate males with no educational credentials. It drops for elementary school graduates, because some of them are still in middle school even after age 15. It drops further for middle school graduates because the majority of them go on to high school. Participation reaches its lowest point for males for general secondary graduates as the vast majority of them are bound to higher education institution where they obtain another degree before joining the labor force. Technical high school degrees, post-secondary degrees, and university degrees are generally terminal degrees in Egypt, leading again to high levels of participation.

With regards to changes over time in the educational pattern of participation of males, we note only slight changes between 1998 and 2006, including a rise in participation among middle school graduates in urban and rural areas and a slight decline in participation among technical secondary and post-secondary institute graduates. The most noticeable changes are between 1988 and 1998 with the sharp drop in participation among general high school graduates, most of whom are now pursuing higher degrees before working.

The educational pattern of participation is quite different. For women in Egypt, participation is generally low, up to the general high school level and then shoots up for technical high school graduates. As can be seen from comparing Figures 8 and 9, much of the participation of less educated women is in subsistence work that is captured in the extended definition of the labor force but not in the market definition.

Unlike the relative stasis of the male educational pattern of participation, the female pattern has experienced significant changes over time, especially for technical high school and post-secondary institute graduates. As the number of vocational high school graduates has soared and as opportunities for them in the government have dwindled, female technical secondary graduates are participating at lower rates than before. Female graduates have been highly reliant on government employment to achieve the high participation levels observed in 1988. As these opportunities become fewer in number, many of these women, in particular those that have married, increasingly prefer to, or are forced to, withdraw from the labor force.

Besides the marked decline in participation among more educated women, we note from Figure 9 an increase in participation among less educated rural women. This increase could either be due to better measurement of household-based market activity in 2006 or to a shift from subsistence work to market work among less educated rural women. The dramatic increase in market participation among rural women is therefore partly due to better

measurement of market participation among less educated rural women and partly due to the significant shift in composition towards technical school degree holders.⁸

5. The Evolution of Unemployment in the Egyptian Economy

Unemployment is clearly a major concern in Egypt and it is therefore essential to ensure that, at least the trend in unemployment, if not the level itself, is measured accurately. According to four different estimates based on various definitions of unemployment and of economic activity, unemployment has declined across the board in the 1998-2006 period, after having risen significantly in the 1988-98 period. Although the decline is fairly broad, cutting across urban and rural areas, and across regions, rural areas appear to have experienced a sharper decline in unemployment than urban areas, and most surprisingly the decline is greatest in rural Upper Egypt.

We use a standard definition of unemployment that requires that the individual not to have worked even one hour in the week prior to the interview or to have been attached to a job, to have desired to work, to be available for it, and to have actively searched for it during the three months prior to the survey. We refer to this group of active searchers as the active unemployed. In the broad definition, we loosen the search requirement to include the discouraged unemployed among the unemployed. Under the market definition of economic activity, only market work counts as work, so that subsistence workers can be considered unemployed if the rest of the definition applies to them. Under the extended definition, any subsistence work counts as work and subsistence workers are not considered unemployed even if searching for market work, thus reducing the numerator of the unemployment rate. Moreover, the denominator now includes subsistence workers, most of whom are counted as out of the labor force in the market definition. As a result, the unemployment rates estimates under the extended definition are much lower than those obtained with the market definition.

5.1 Trends in Overall Unemployment

According to the standard definition of unemployment and the market definition of economic activity, the unemployment rate in Egypt declined from 11.7 percent in 1998 to 8.3 percent in 2006. As shown in Figure 10, men started with significantly lower unemployment rates than women and the decline was similar in relative terms for both men and women. The ratio of female to male unemployment remained constant at about 4:1 from 1998 to 2006. The decline in unemployment was proportionally greater in rural areas, where it went from 12.2 percent to 6.3 percent as compared to 11.0 percent to 9.7 percent in urban areas. Both men and women in rural areas experienced a near halving of their unemployment rates.

The trends are quite similar if we use the extended definition of economic activity, but now we are in a position to compare with 1988. As shown in Figure 11, the downward trend holds for all subgroups using the extended definition, but in this case the reduction for women is relatively smaller than that for men.

The observed broad-based decline in unemployment rates in the 1998-06 period comes after a period of fairly widespread increases in the previous decade. According to the extended measures which are the only ones available for 1988, standard unemployment is still slightly higher in 2006 than it was in 1988 (See Figure 11). This holds for both males and females

⁸ The growth of participation among rural female non-wage workers engaged in market-oriented activity can be re-evaluated by examining longitudinal recall data on when women who were captured as engaged in such activity actually began doing so. This data reveals that the growth of non-wage market employment among rural females drops to a more reasonable 4.3 percent per annum instead of the unrealistic 24 percent per annum obtained using the cross sectional data.

and for urban and rural areas. The only group for which unemployment is lower in 2006 than in 1988 is urban females.

The regional pattern of unemployment is shown in Figures 12 and 13. Again, I will focus the discussion on the standard definition using the market definition of economic activity, but the observed patterns are generally consistent across definitions. Greater Cairo is the only region that saw no appreciable decline in unemployment in the 1998-06 period, although it started out at fairly low levels compared to the national average. In fact, the unemployment rate for men in greater Cairo has increased, one of the very few exceptions to the generally declining trend. The decline was fairly even in relative terms in all the other urban regions, which include Alexandria and the Suez Canal Cities, as well as urban Upper and Lower Egypt. The greatest decline in unemployment was in the two rural regions, where it declined by 39 percent and 45 percent in rural Lower and Upper Egypt, respectively.⁹ Urban and rural Lower Egypt were the regions with the highest unemployment rates in 1998. Urban Lower Egypt continues to be the highest unemployment region in 2006.

As shown in Figure 14, the absolute number of unemployed has also declined from just over 2 million to 1.9 million from 1998 to 2006, using the standard definition of unemployment. The number of discouraged unemployed has fallen even more rapidly during the period from 381 thousand to 296 thousand, a rate of decline of 3.4 percent p.a. Because the number of discouraged unemployed has declined, a broad unemployment measure that includes the discouraged would have declined even faster than the standard unemployment measure. The broad unemployment rate stood at 13.6 percent in 1998 and is down to only 9.4 percent in 2006. See Appendix Tables 1 & 2 for a comparison of broad and standard unemployment rates.

5.2 The Age Pattern of Unemployment

It is well-established that unemployment in Egypt is essentially a labor market insertion phenomenon, meaning that it essentially affects young new entrants to the labor force. As the youth bulge ages, we would expect unemployment rates to decline unless the age pattern of unemployment changes and rates increase as the bulge moves into older ages. This has, fortunately, not been the case in Egypt over the 1998-06 period, at least for males. As shown in Figures 15a-d, the high unemployment rates have not shifted to older age groups as the youth bulge advanced. If anything unemployment rates for younger male youths have declined in urban areas as their share of the population declined. In rural areas, all young males have experienced a sharp decline in unemployment. Comparisons with 1988, using the extended definition of economic activity show that youth unemployment is just slightly higher in 2006 than where it was in 1988, despite the fact that there are now many more youths in that age group.

For females, Figure 15b shows that unemployment rates using the market definition of economic activity have declined for urban females under the age of 27, although the more significant declines were for 15-19 year-old females. There is some evidence of an increase in urban unemployment rates for women between the ages of 27 and 34. In rural areas, the declines in female unemployment are larger and extend all the way to age 35. The picture for women using the extended definition of unemployment is not much different (Figure 15d). While unemployment rates in 2006 are lower for 15-19 year old women than in 1988, they are higher for women 25-34. Thus it appears that the aging of the youth bulge is negatively affecting young adult women in this age range.

⁹ It should be noted that by the extended measures the decline in both standard and broad unemployment was greater in rural Lower Egypt than in rural Upper Egypt.

5.3 The Educational Pattern of Unemployment

In contrast to the relative stability of the age pattern of unemployment from 1998 to 2006, the pattern of unemployment by education has exhibited some important changes during this period. As shown in Figures 16a and b, unemployment rates in 1998 were low at low levels of education, increased sharply for technical secondary graduates and then fell off again for post-secondary institute and university graduates. In 2006, unemployment rates remain very low for people with lower levels of education, increase for technical secondary graduates but increase even more for post-secondary and university graduates in most cases. In fact, university graduates are the only educational group to have experienced an increase in unemployment rates between 1998 and 2006. All other groups have seen a decline in unemployment, in many cases quite large declines. Rural-based technical school graduates had among the highest unemployment rates in 1998 and experienced some of the most significant declines. We should also recall, however, that participation rates among females with these educational credentials have declined, indicating that some of them may have just given up on the prospect of getting employment and remain out of the labor force. If that is the case, these educated women do not even indicate a desire for work in 2006 because the broad unemployment measure, which ostensibly includes the discouraged unemployed, shows a roughly similar pattern as the standard measure.

An examination of Figures 16c and d, which show the educational pattern of unemployment using the extended labor force definition, allows us to compare to the situation in 1988. The pattern in 1988 was roughly similar to 1998, with unemployment being highest for technical high school graduates. Unemployment rates in 1988 were also unexpectedly high for lower educated urban females, probably due to some measurement problem.

As was indicated in Figures 2a and 2b above, the most important development in the educational arena is the sharp rise in the proportion of technical high school graduates in the working age population. Fortunately, this sharp increase in that category did not result in rising unemployment rates for them. In fact, they fared much better than university graduates whose numbers haven't risen to the same extent.

6. Employment Growth in the Egyptian Economy, 1988-2006

The direct implication of rising labor force participation and falling unemployment is that employment has grown fairly rapidly during the 1998-06 period and that employment to population ratios have increased. As shown in Table 4, this is indeed the case. Overall employment to population ratios have gone up from about 42 to 48 percent using the market definition of economic activity, and from 55 to 58 percent using the extended definition. Employment to population ratios by that definition are higher in 2006 than they were in 1988.

The increase in the employment-to-population ratio is fairly widespread, affecting both males and females and urban and rural areas, but as in the case of unemployment, the changes are larger in rural areas. Rural females in particular have greatly increased their employment ratios by the market definition although the change was small by the extended definition. Again, this could be the result of better measurement of market activities that were previously logged as subsistence activities or it may be the consequence of the decline of subsistence due to the bird flu epidemic. Female employment ratios in urban areas have actually declined by the extended definitions, probably as a result of the effect of the bird flu on urban household-based poultry raising activities.

Overall employment growth based on the market labor force definition over the 1998-2006 was 4.6 percent per annum, nearly 1.7 times the growth of the working age population. The growth was more vigorous in rural areas at 5.4 percent p.a. compared to 3.5 percent p.a. in urban areas. Although this difference may be somewhat exaggerated by the improved

measurement of female employment in home-based activities, employment growth for males in rural areas also exceeds by a large margin its level in urban areas (4.2 percent p.a. vs. 3.3 percent p.a.). It should also be kept in mind that these figures are based on place of residence not place of work and that many of the jobs of rural residents may be in urban areas. Female employment grew at more than twice the rate of male employment (7.5 percent p. a. vs. 3.8 percent p.a.), but again this is largely due to the better measurement of household-based market activities. However, some of the excess female growth goes beyond the non-wage work category that may be affected by such measurement issues. Female wage work grew at 3.5 percent p.a. compared to 3.1 percent p.a. for male wage work (See Appendix Table 3 for more details).

As shown in Figure 17a, the public sector in both its components has contracted significantly in relative terms, from 39 percent in 1998 to 30 percent in 2006. In fact, as shown in Figure 17b, the public enterprise has continued a trend of absolute decline, at a rate of 0.2 percent per annum, whereas the government sector has continued to grow, albeit at rates that are far smaller than overall employment growth or its own growth in the 1988-98 period, which was 5.2 percent p.a.

Although formal private sector employment still constitutes a relatively small share of overall employment, it has increased its share substantially from 8 to 10 percent from 1998 to 2006.¹⁰ It has in fact grown fairly rapidly at 7.8 percent p.a. (Figure 17b). This is a considerable acceleration over the previous decade, when it had grown at only 3.2 percent p.a. The acceleration of formal private employment clearly has to do with increased dynamism in the Egyptian economy in recent years, but could also be due to the impact of the new labor law on formalizing employment relationships. By making it easier for employers to lay off workers and by allowing fixed-term employment contracts, the new law may have encouraged some employers to hire workers formally. More research is needed to establish whether this was in fact the case.

The other type of private sector employment to have grown rapidly is informal but regular wage employment. This is in contrast to irregular wage employment, where the relationship with the employer is seasonal or intermittent. As shown in Figure 17a, informal but regular wage employment in the private sector increased its share of overall employment from 13 to 17 percent and grew at an annual rate of 7.7 percent per annum. This is also a sign of significant dynamism in the private sector in the 1998-2006 period. In what follows, we will be investigating in more detail the industries in which this employment growth occurred as well as the segment of the private sector in terms of firm size in which it is taking place.

Private irregular employment, a type of employment prevalent in the construction and agricultural sectors, has been contracting significantly from 12 percent to 8 percent of overall employment (See figure 17a). This is good news because this is the sort of employment that is most associated with poverty. This decline could be the result of the continued subdivision of agricultural land, with many farmers increasingly relying on their own families for workers rather than hired labor. This argument is in fact supported by a significant increase in the share of household enterprise workers in total employment, nearly half of whom work in agriculture.¹¹ As shown in Figure 17a, the share of household enterprise workers in overall employment has increased significantly from 19 to 25 percent from 1998 to 2006. In fact, the

¹⁰ Formal employment is defined here as employment where the worker either has a registered employment contract or social insurance coverage. It does not necessarily correspond to employment in formal sector firms, which may be either formal or informal by this criterion.

¹¹ We defined household enterprise workers as any non-wage workers (employers, self-employed or unpaid family workers) who are members of a household that includes other non-wage workers. Individual self-employed workers are non-wage workers with no other non-wage workers in their household.

rate of growth among these workers was 7.8 percent per annum, just as rapid as that of formal private sector wage workers. We should keep in mind however the possibility that this rate is somewhat inflated by the improved measurement of women in household-based market-oriented activities.

We now move to an examination of the structure of employment and its evolution over time by sector of economic activity. As shown in Figure 18a, the share of agriculture in total employment has increased significantly from 20 to 25 percent. The increased share of agriculture is in part due to measurement issues relating to the involvement of women in agriculture, but is not limited to that since it also increased for men from 21.9 to 22.3 percent of total male employment. As suggested earlier, the bulk of this growth is among unpaid family workers on family farms rather than among hired agricultural workers. In fact, the rate of growth of agricultural wage workers was a mere 0.2 percent p.a.

The industry sector with the most disappointing growth record is mining, manufacturing, and utilities, which is dominated by the manufacturing sector. Its share in total employment shrunk from 17 to 15 percent and it grew at a rate of only 2.4 percent p.a. (Figures 18a and b). However, it should be noted that female employment in the mining, manufacturing and utilities group grew much more rapidly than male employment at 5.1 percent p.a. as compared to 2 percent p.a. (See appendix Table 4). The bulk of this female employment growth in manufacturing was in the garments and textiles sector, a sector where the female share more than doubled from 15 to 30 percent in the 1998-2006 period (See Assaad and El-Hamidi 2007). An examination of why overall employment growth in manufacturing has been so sluggish despite a fairly dynamic economy is an area worthy of more detailed analysis.

The other industry group with slower than average growth is public and community services, which is dominated by government employment. This sector's share of overall employment fell from 27 percent in 1998 to 22 percent in 2006, with an average annual growth of only 1.8 percent per annum (Figures 18 a and b). This performance is not at all surprising given the concerted attempts by the government to slow the growth of the civil service over this period.

All other industry sectors, with the exception of the residual "other" sector, grew faster than overall employment. The fastest growing sector was financial and business services sector which grew at 8.8 percent p.a., albeit from a very small base of 2 percent of overall employment. The second fastest growing sector was the larger transport, storage and communications sector, which grew at 6.8 percent p.a. and increased its share of overall employment from 6 to 7 percent. The effect of the tourism boom in recent years can be directly seen in the trade, restaurants and hotels sector, which also grew rapidly at 6.4 percent p.a. and increased its share from 15 to 17 percent of employment. Finally, the construction sector also grew faster than average at a rate of 5.9 percent p.a., to capture an 8 percent share of total employment in 2006.

We move next to a more detailed examination of employment growth within the private sector, with a focus on formal and informal paid employment. We know that virtually all employment in family enterprises and farms occurs in very small firms, but what about the structure of employment generation among wage workers in the private sector? What is the relative role of small and microenterprise relative to larger firms? The distribution of wage employment in the private sector by firm size is shown in Figure 19a and the rate of growth of each firm size segment is shown in Figure 19b. As shown in these figures, nearly half of all wage employment in the private sector is in microenterprise of fewer than five workers, and that share has increased slightly from 1998 to 2006. The only other size segment to have increased its share is the 30 to 49 worker segment, which was the smallest segment to start with. An examination of Figure 19b reveals, however, that this segment grew quite fast at

about twice the rate of growth of private wage employment. All other size segments have either reduced their share of private wage employment or maintained a constant share.

Wage employment in the private sector in Egypt is not only dominated by employment in very small firms, but is also predominantly informal.¹² As shown in Figure 20, the degree of informality declines with firm size, but even the largest firms hire nearly on quarter of their workers informally. In firms of under ten workers, the proportion of informal employment is well in excess of 80 percent. We note however, that the degree of informality in the Egyptian private sector seems to have declined in recent years. The proportion of private wage employment that is informal has dropped from 75 percent in 1998 to 70 percent in 2006. The decline in informality seems to cut across most of the firm size categories, except for the 10-29 and 30-49 worker categories. The increase in informality in the 30 to 49-worker category is particularly noteworthy given the rapid rate of growth of this category (see Figure 19b). A possible explanation is that employers do not formalize the employment status of new workers right away and with the rapid growth of this size category, the proportion of new workers in it may have increased significantly.

The decline in the informality of employment in the Egyptian private sector could well be attributable to the new labor law introduced in 2003, which has introduced greater flexibility in hiring and firing for employers, leading more of them to hire workers formally. Although this is a plausible hypothesis, further research is needed confirm this.

The trend toward greater formalization of private wage employment does not mean however that the overall labor market is becoming more formal. The decline in the share of public sector employment and the increase in the share of non-wage employment means that informality is still increasing in the Egyptian labor market. In fact, informal employment in all its forms has increased from 57 percent in 1998 to 61 percent in 2006.

7. Conclusion

Our review of developments in the Egyptian labor market in recent years has revealed a trend of overall improvement in labor market conditions since 1998. With the aging of the youth bulge and the concentration of young people around the early and mid-twenties rather than the mid to late teens, a significant proportion has already been absorbed into employment. Although youth unemployment rates remain very high, they are experiencing a downward trend. Most notably, there hasn't been a shift in unemployment toward older ages with the aging of the youth bulge, with the notable exception of urban females. The continuation of these favorable demographic developments in the foreseeable future means that Egypt could reap a significant demographic dividend provided that employment growth continues to be healthy. As the number of producers in the economy rises relative to the number of dependents, Egypt has the opportunity to increase rates of growth in per capita income, increase savings rates, and deepen investments in human capital.

With the slow down in public sector employment, the private sector has finally become the engine of employment growth in the Egyptian economy. Private sector employment has been growing in excess of 7 percent per annum, with the most dynamic growth being observed in formal and informal regular wage employment and employment in household enterprise. The most dynamic industries were financial and business services, transport storage and communications, and trade, restaurants and hotels. The most disappointing performance was in the manufacturing industry, which grew at half the rate of overall employment growth.

¹² Informal employment is defined as employment that is not covered by either a legal contract or social insurance.

Employment in the Egyptian private sector is still dominated by very small firms. Individual self-employment and employment in household enterprises, which constituted more than a third of overall employment in 2006, is clearly dominated by very small firms. In addition, nearly two-thirds of private wage employment is in firms of fewer than ten workers. Employment in medium sized firms of 30 to 49 employees is growing rapidly, but from a very small base. It constitutes no more than 5 percent of private wage employment in 2006. Employment in largest firms (50 workers and above) maintained its share at 14 percent of private wage employment or nearly 5 percent of overall employment.

Although the overall picture since 1998 is one of general improvement in labor market conditions, there remains some areas of concern. The first such area is the employment prospects of university graduates. University graduates are the only educational group that has experienced an increase in unemployment since 1998. This increase in unemployment may be due to the very rapid increase in their ranks in recent years. Another area of concern is the declining rates of participation among educated females, especially those with technical secondary degrees. With the drying up of employment opportunities in the government, the sector which provided the bulk of employment for this group, many female graduates are simply not seeking employment at all. The relatively inhospitable employment climate for women in the private sector and the large gender gap in wages are discouraging these women to look beyond the government sector for employment. Thus some of the reduction in female unemployment can be attributed to this declining participation trend among educated women.

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Figure 1a: Age Distribution of the Urban Population

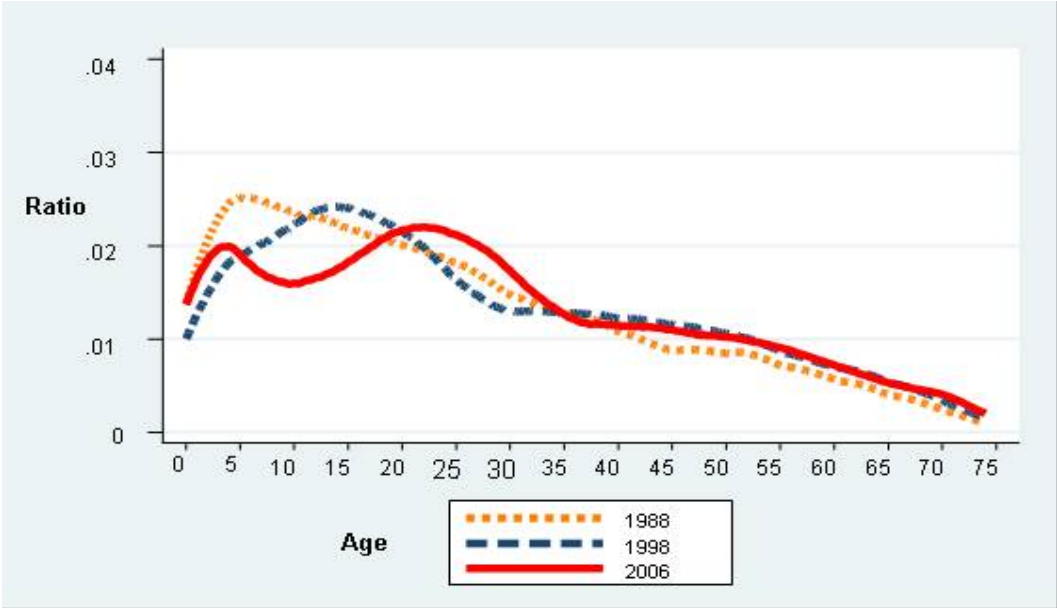


Figure 1b: Age Distribution of the Rural Population

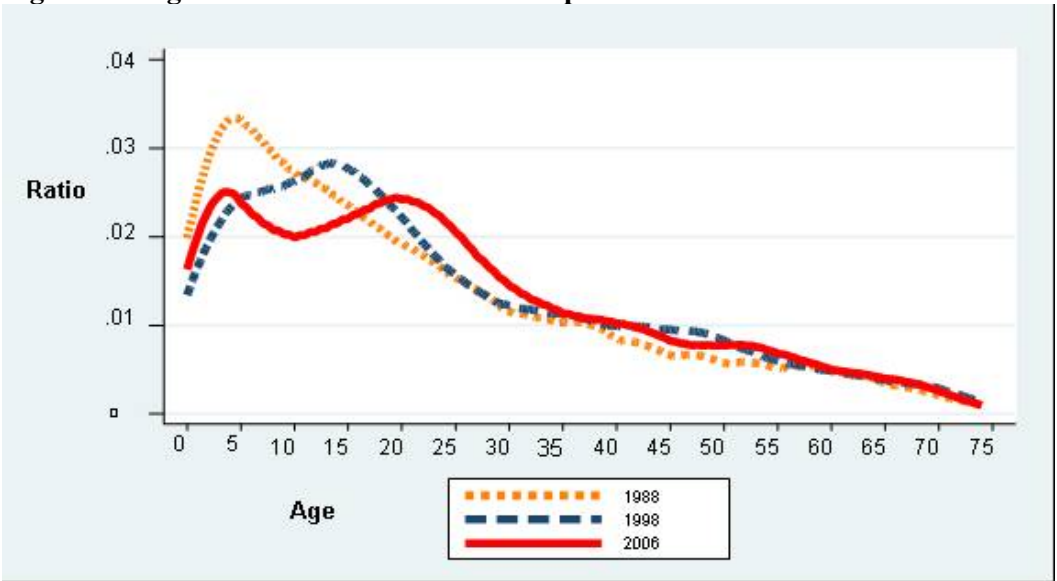


Figure 2a: Distribution of the Male Population by Educational Attainment and Urban/Rural Location, Ages 15-64, 1988-2006

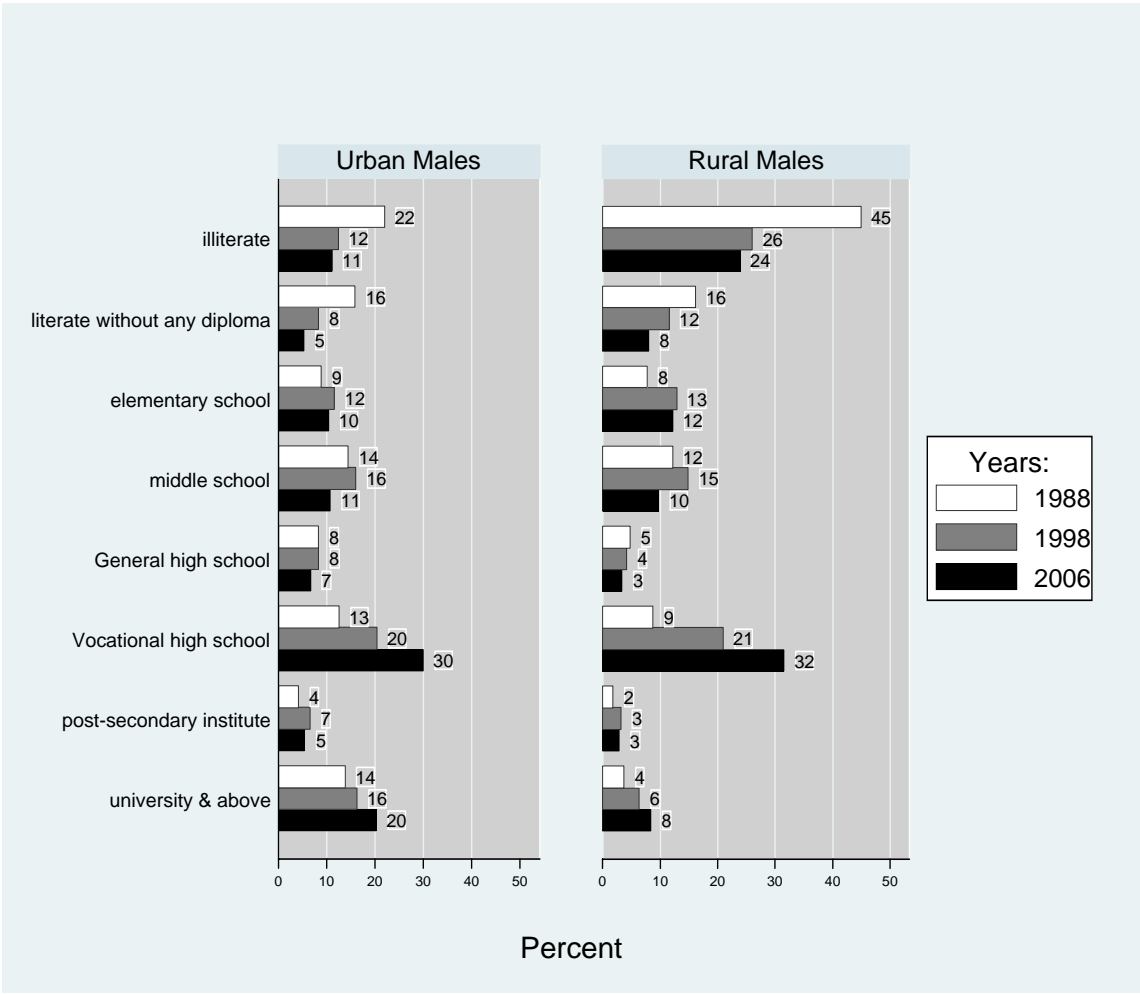


Figure 2b: Distribution of the Female Population by Educational Attainment and Urban/Rural Location, Ages 15-64, 1988-2006

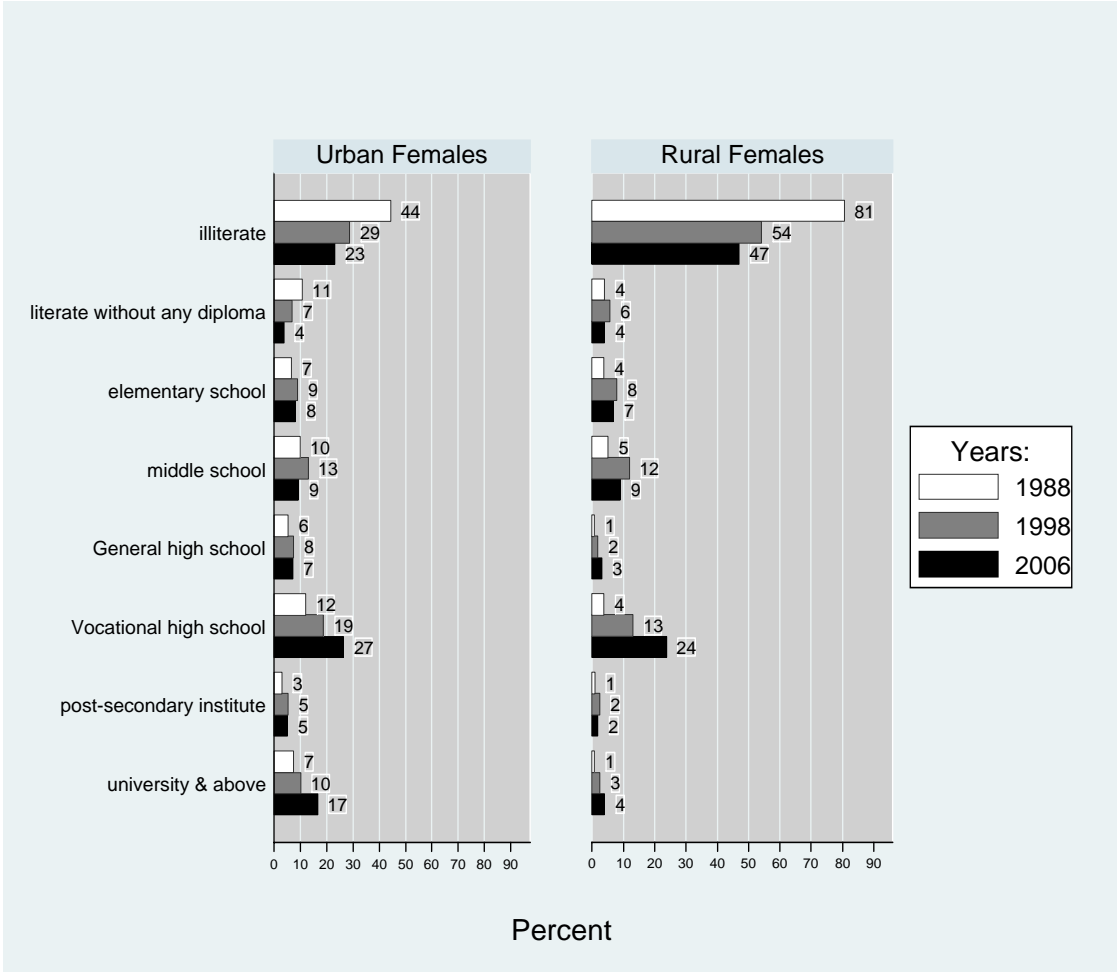


Figure 3: Size and Growth of Market and Extended Labor Force, 1988, 1998, 2006

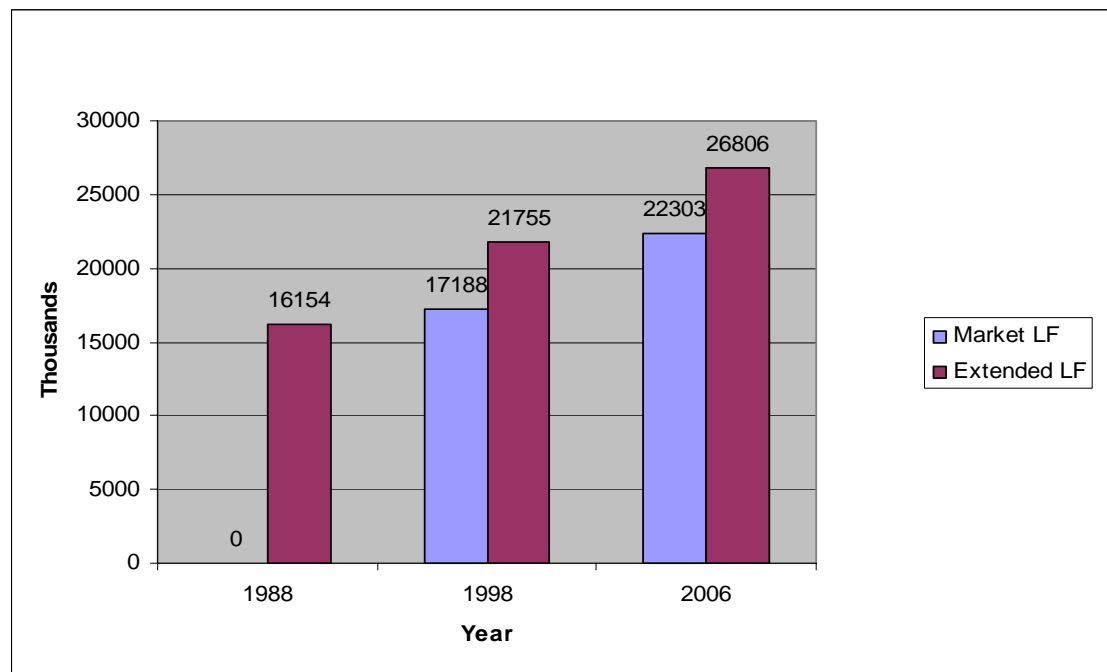


Figure 4: Male Labor Force Participation Rates by Age, Urban/Rural Location, Ages 6-75, Extended Labor Force Definition, Search is Required, 1988, 1998, 2006

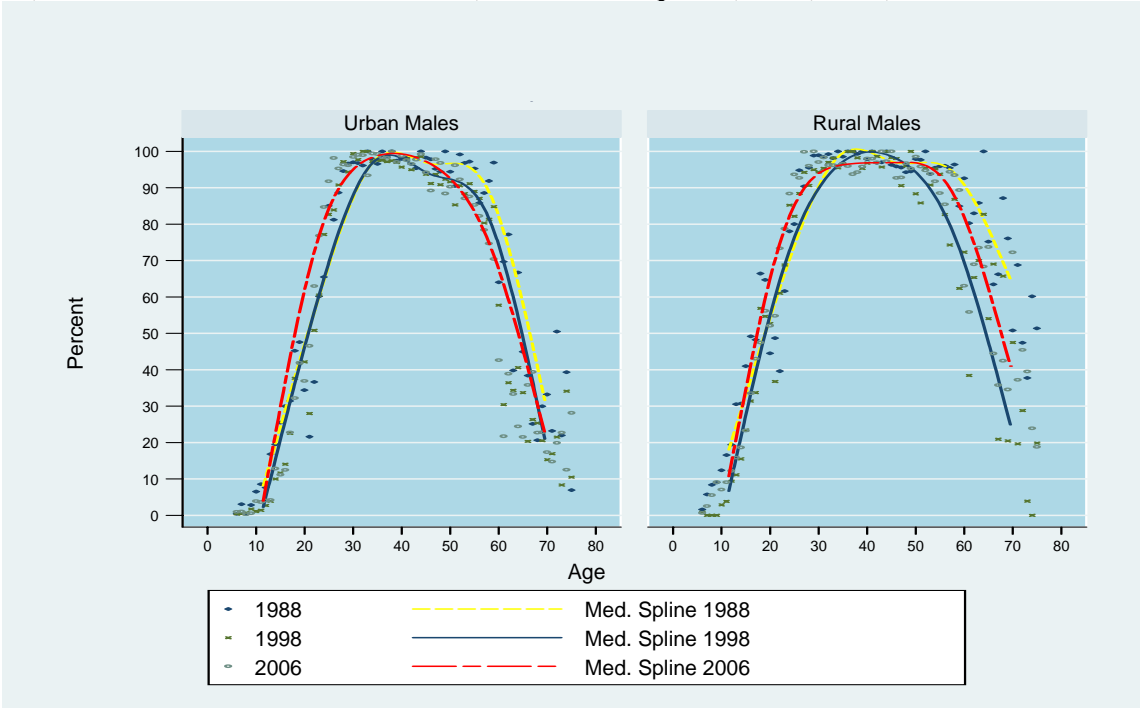


Figure 5: Female Labor Force Participation Rates by Age, Urban/Rural Location, Ages 6-75, Extended Labor Force Definition, Search is Required, 1988, 1998, 2006

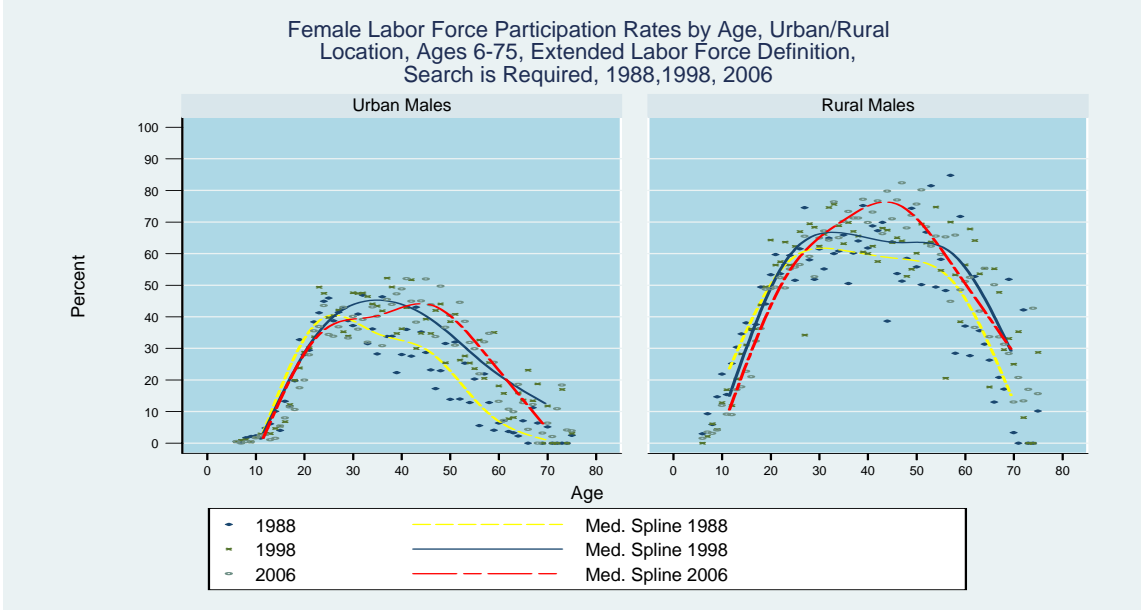


Figure 6: Female Labor Force Participation Rates by Age, Urban/Rural Location, Ages 6-75, Market Labor Force Definition Search is Required, 1998-2006

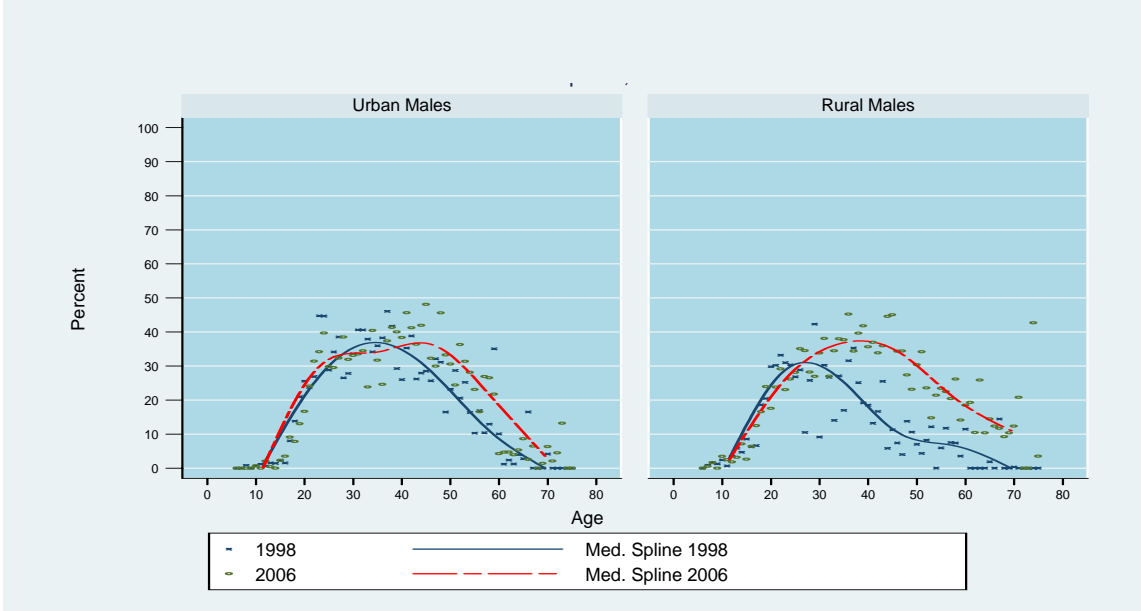


Figure 7: Male Labor Force Participation Rates by Educational Attainment, Urban/Rural Location, Ages 15-64, Extended Labor Force Definition

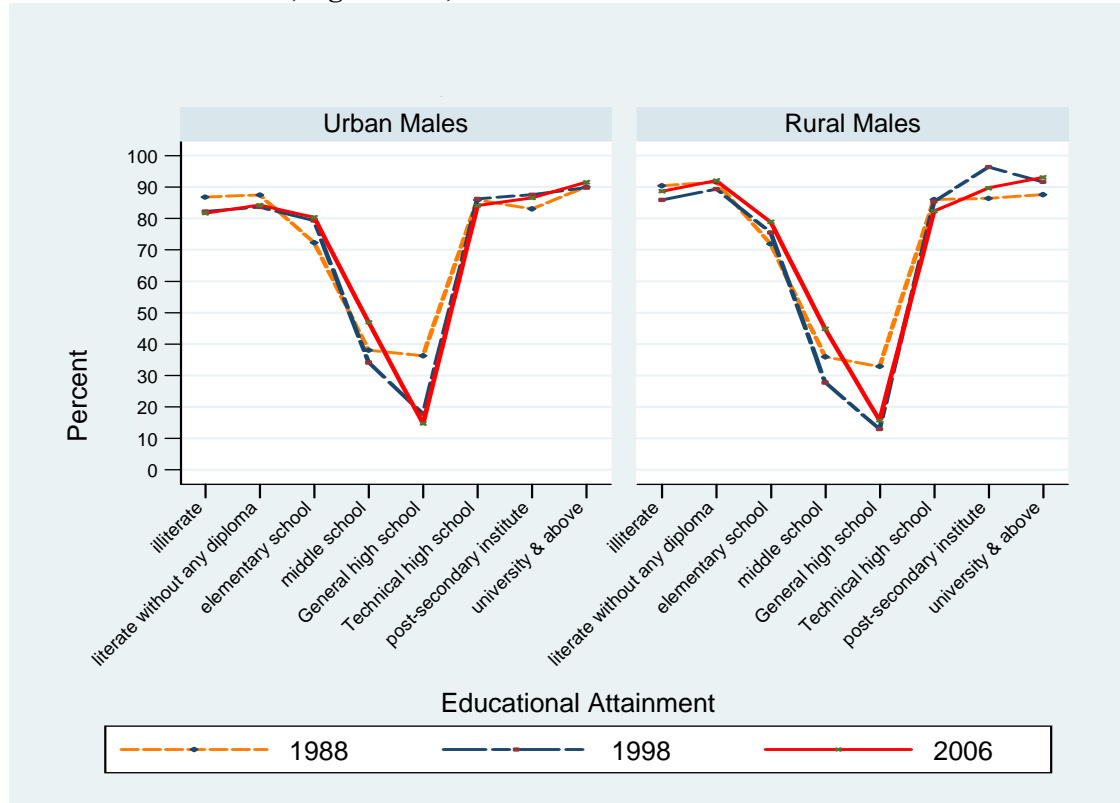


Figure 8: Female Labor Force Participation Rates by Educational Attainment, Urban/Rural Location, Ages 15-64, Extended Labor Force Definition

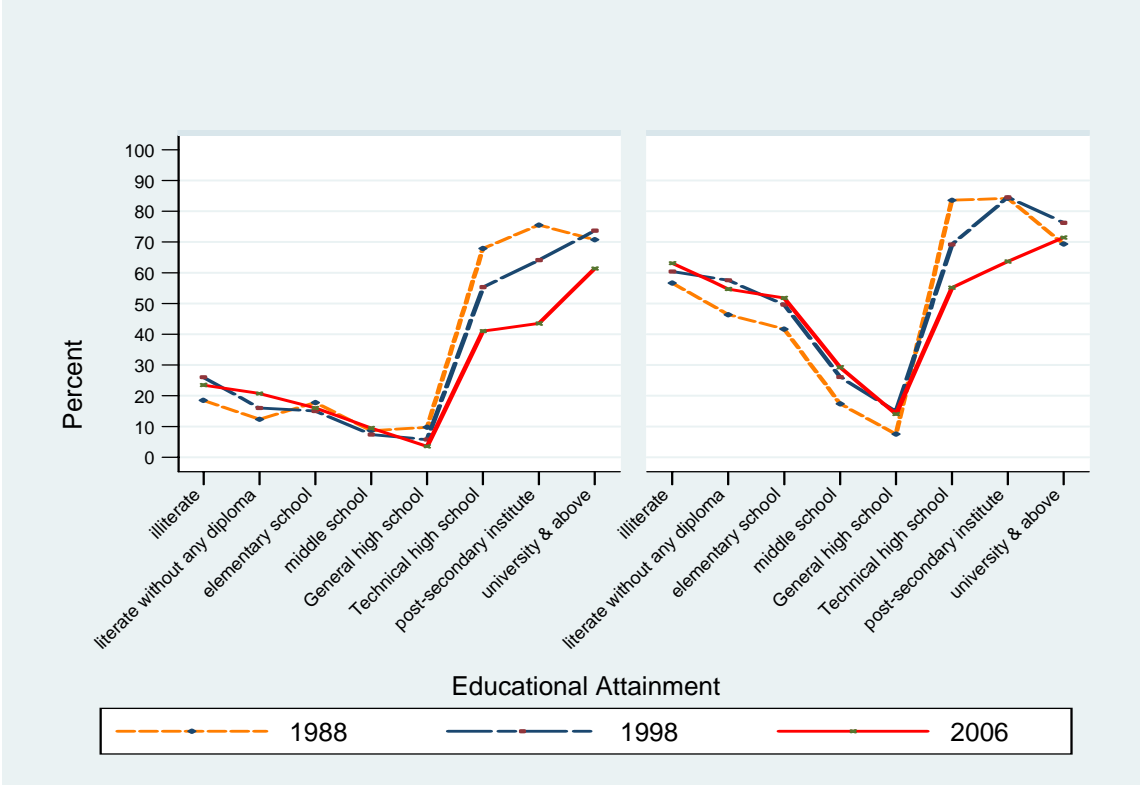
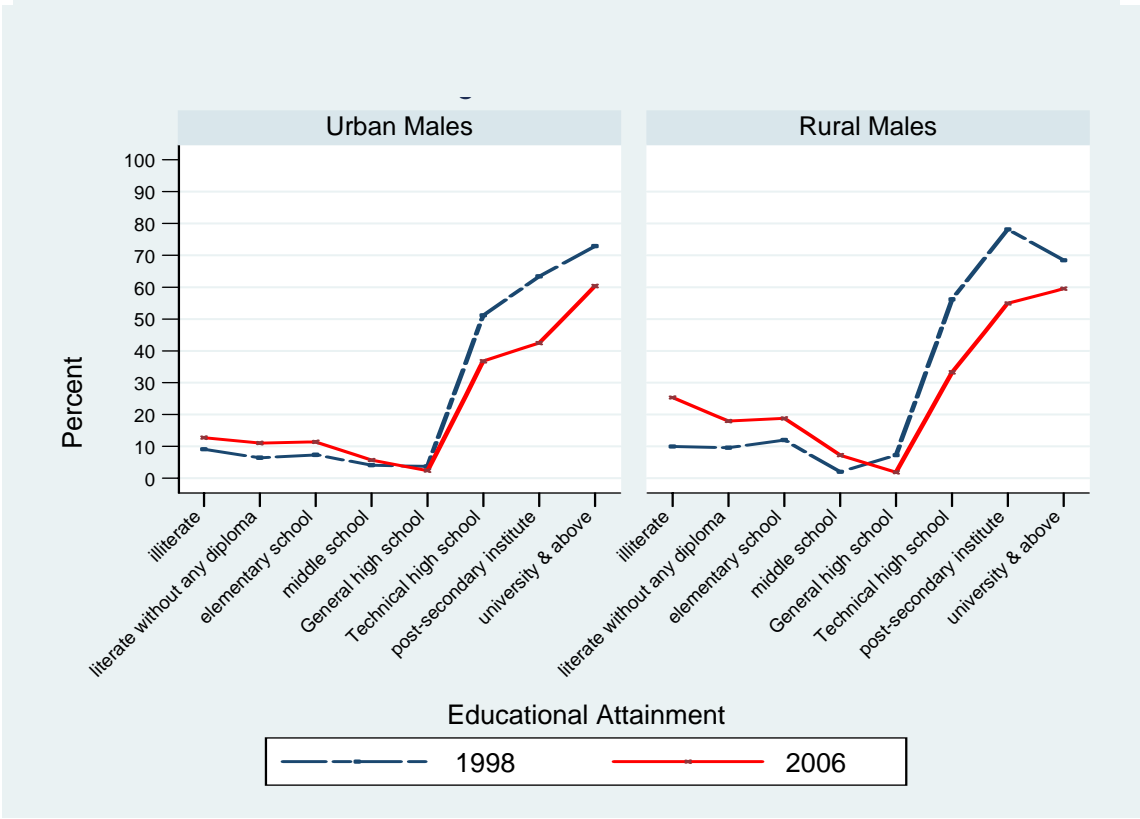


Figure 9: Female Labor Force Participation Rates by Educational Attainment, Urban/Rural Location, Ages 15-64 Market Labor Force Definition



**Figure 10: Unemployment Rate by Gender and Urban/Rural Location, Ages 15-64.
Standard Unemployment Definition and Market Labor**

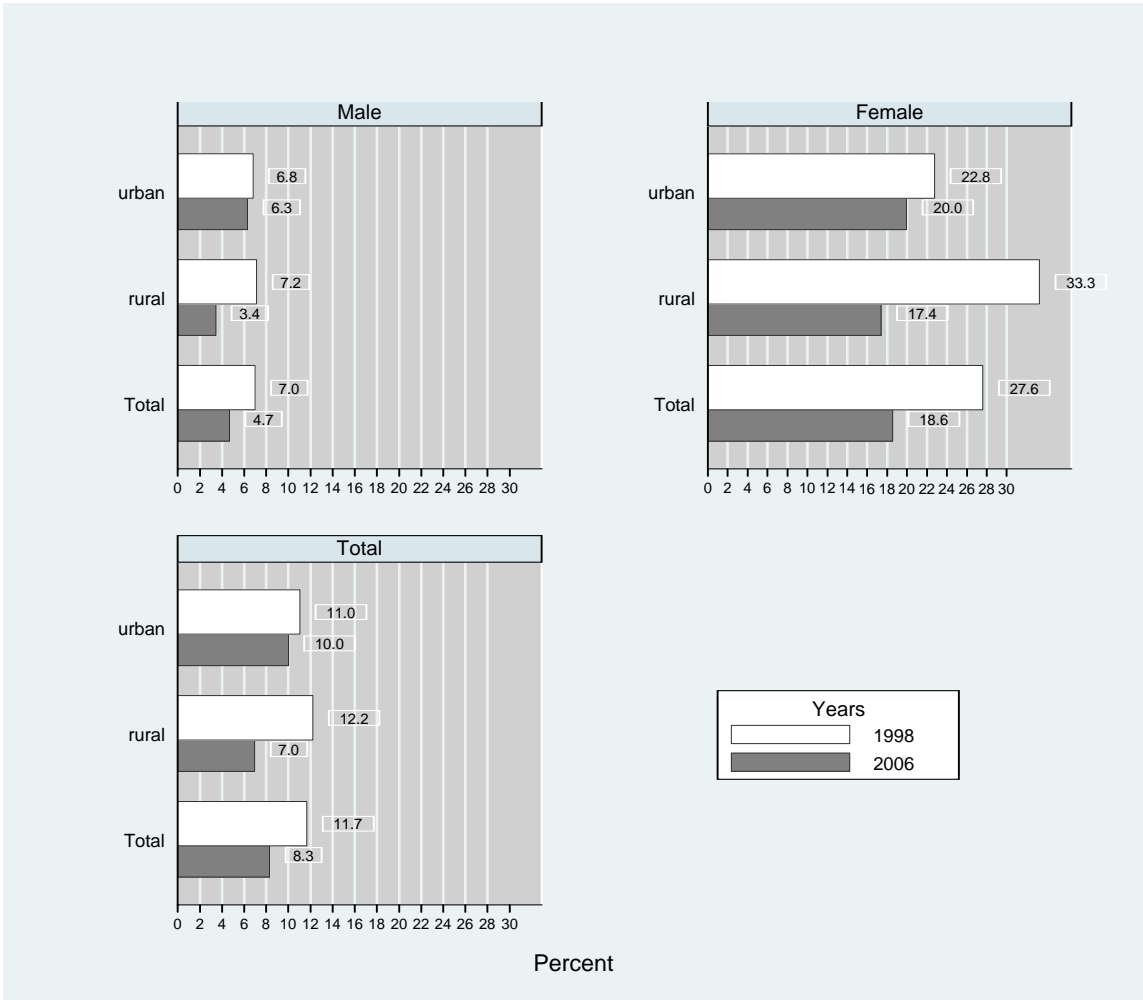
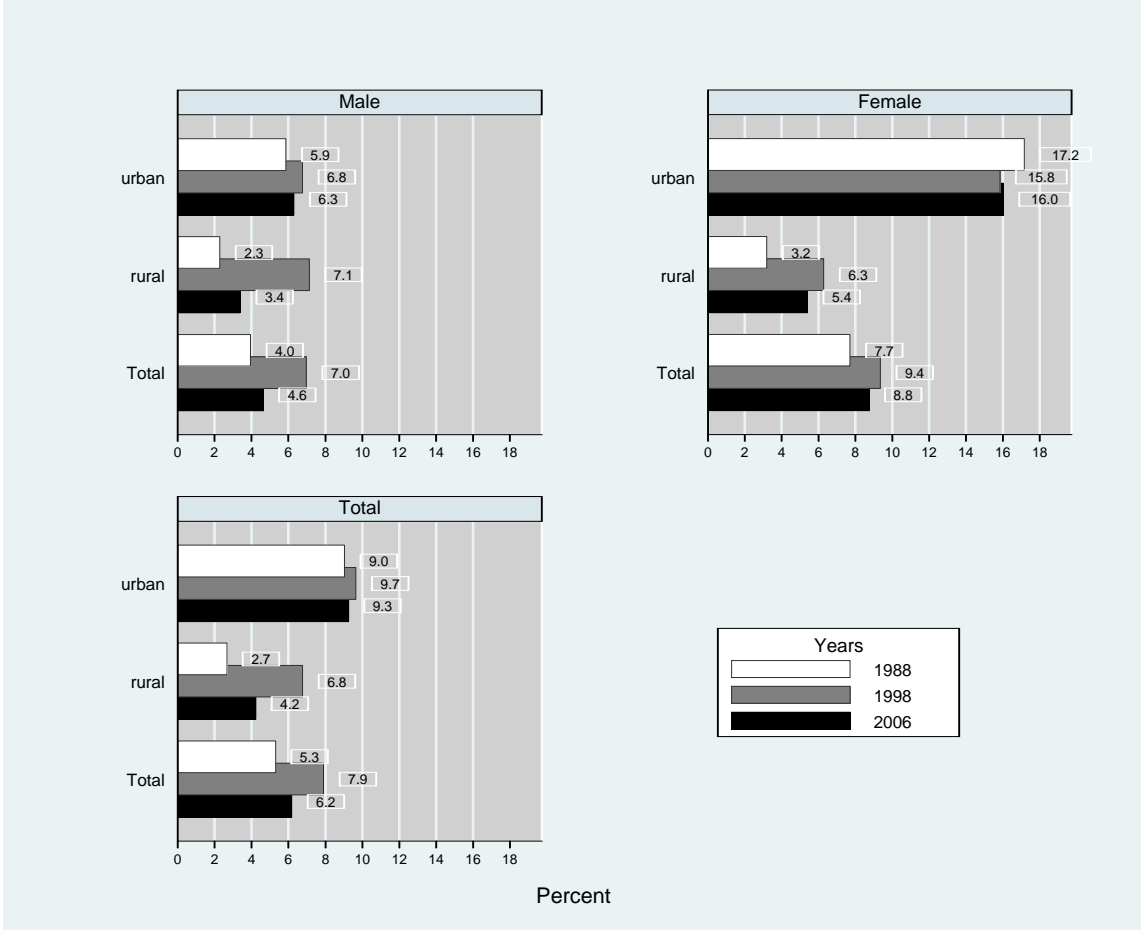


Figure 11: Unemployment Rate by Gender and Urban/Rural Location. Ages 15-64. Standard Unemployment Definition and Extended Labor Force Definition.



**Figure 12: Unemployment Rate by Region and Sex. Ages 15-64 Standard
Unemployment Definition and Market Labor Force Definition**

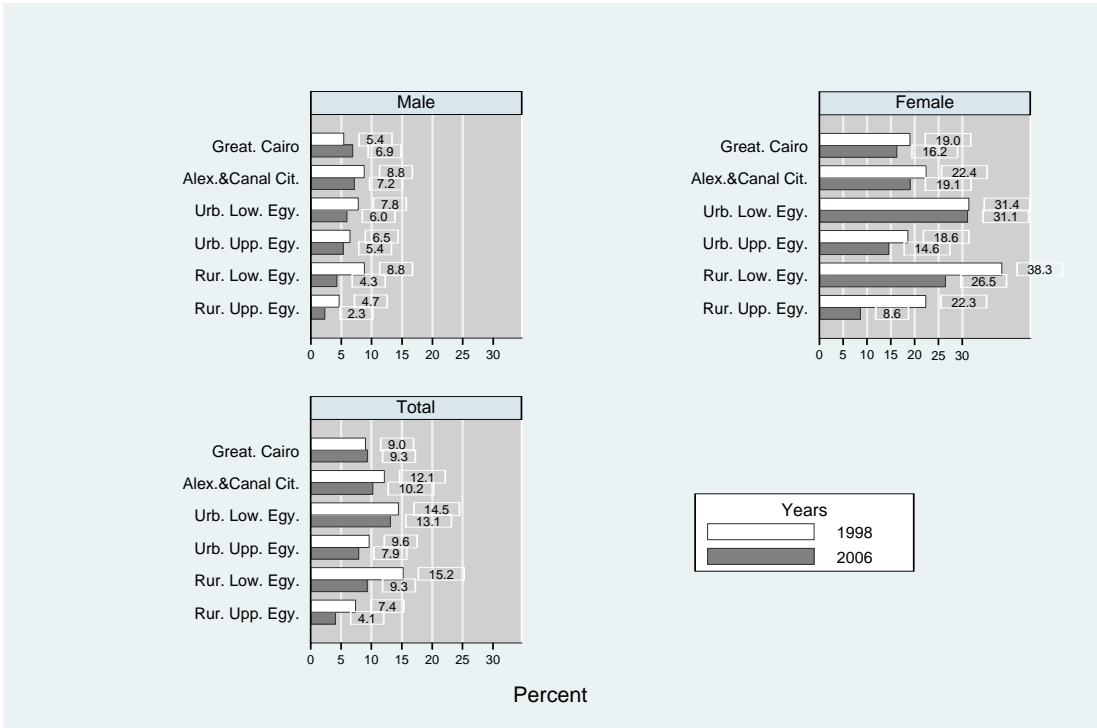


Figure 13: Unemployment Rate by Region and Sex, Ages 15-64, Standard Unemployment Definition & Extended Labor Force Definition, 1988-2006

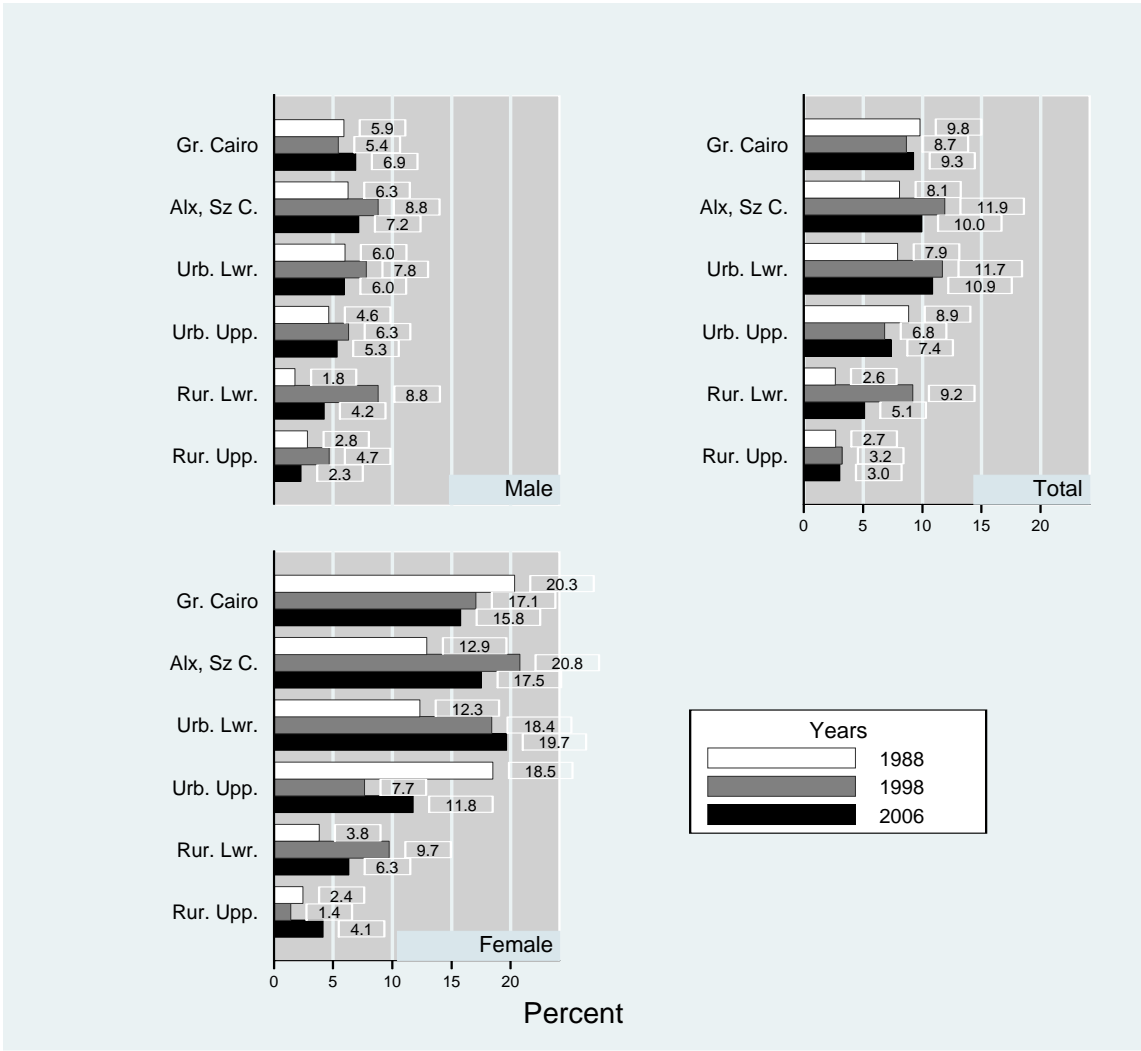


Figure 14: Evolution of Number of Unemployed Under Various Definitions, 1988,1998, 2006

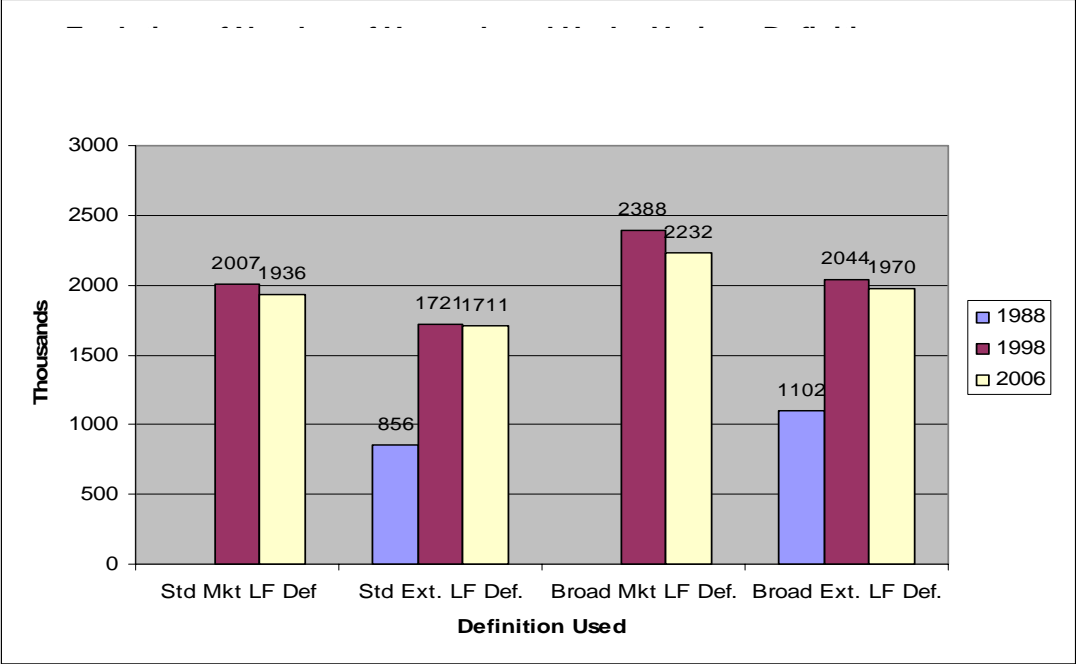


Figure 15a: Male Unemployment Rates by Age and Urban/Rural Location, 1998,2006. Market Labor Force Definition. Active Search Required

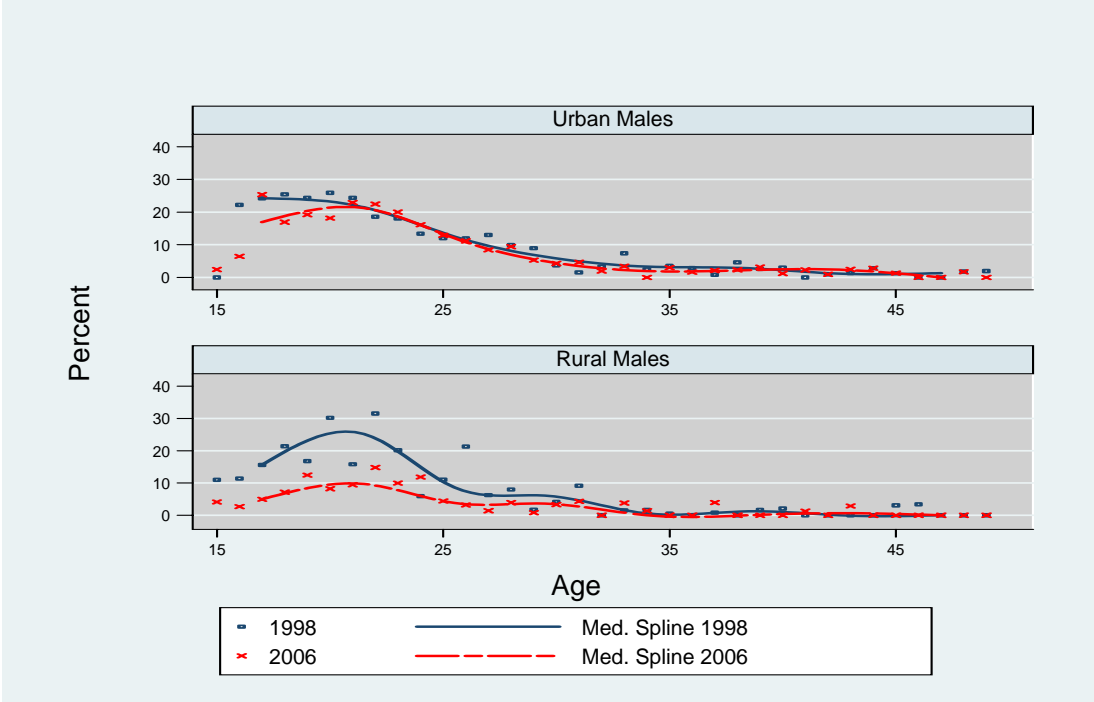


Figure 15b: Female Unemployment Rates by Age and Urban/Rural Location, Standard Unemployment Definition and Market Labor Force Definition

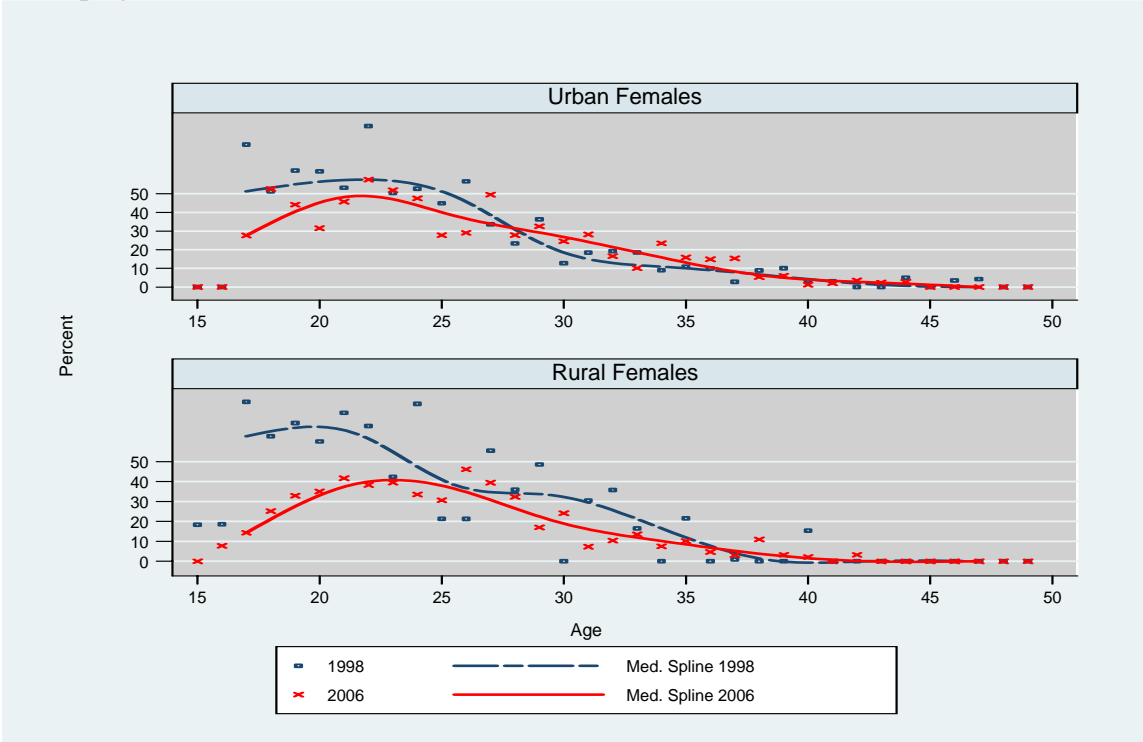


Figure 15c: Male Unemployment Rates by Age and Urban/Rural Location, 1988-2006. Extended Labor Force Definition. Active Search Required.

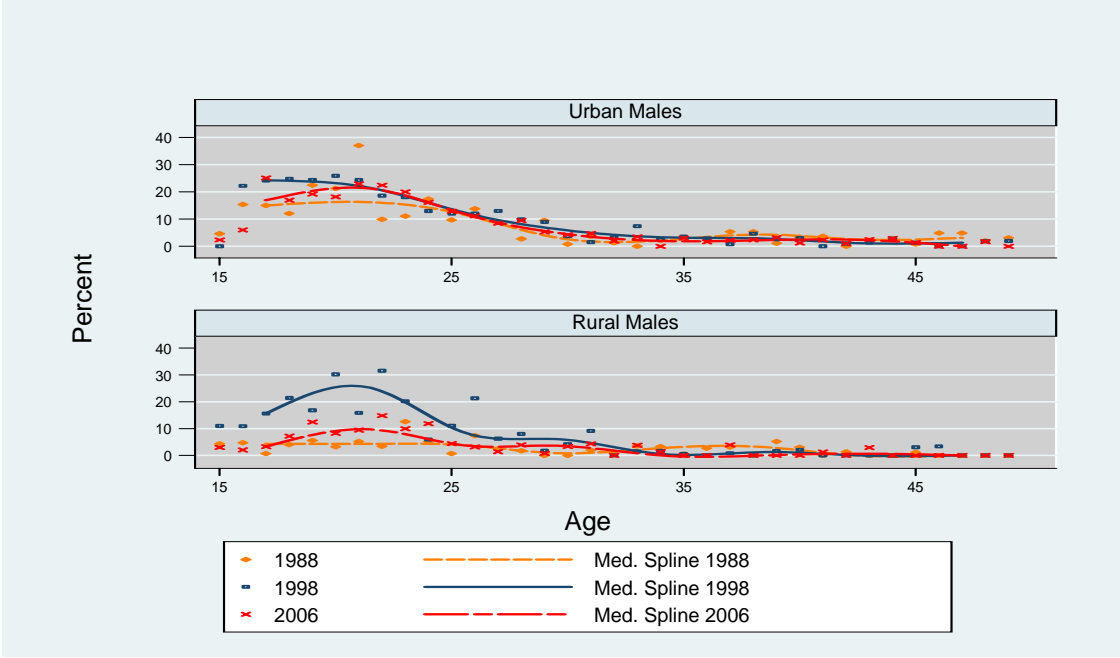


Figure 15d: Female Unemployment Rates by Age and Urban/Rural Location, 1988-2006. Extended Labor Force Definition. Active Search Required.

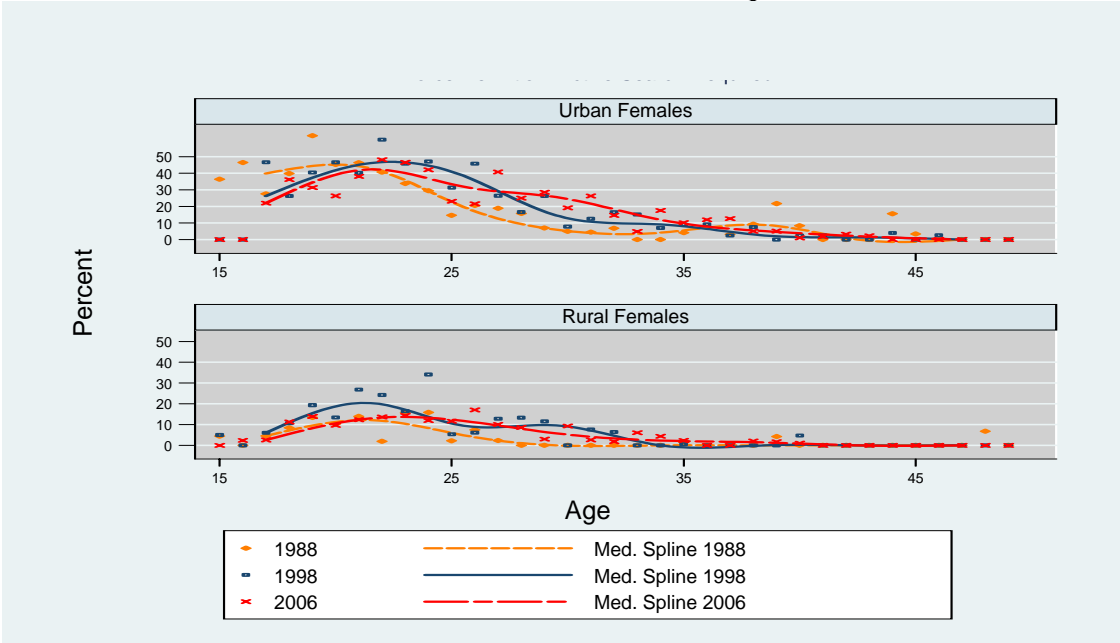


Figure 16a: Male unemployment Rates by Educational Attainment, Urban Rural Location, Ages 15-64, Market Labor Force Definition. Search is Required, 1998-2006

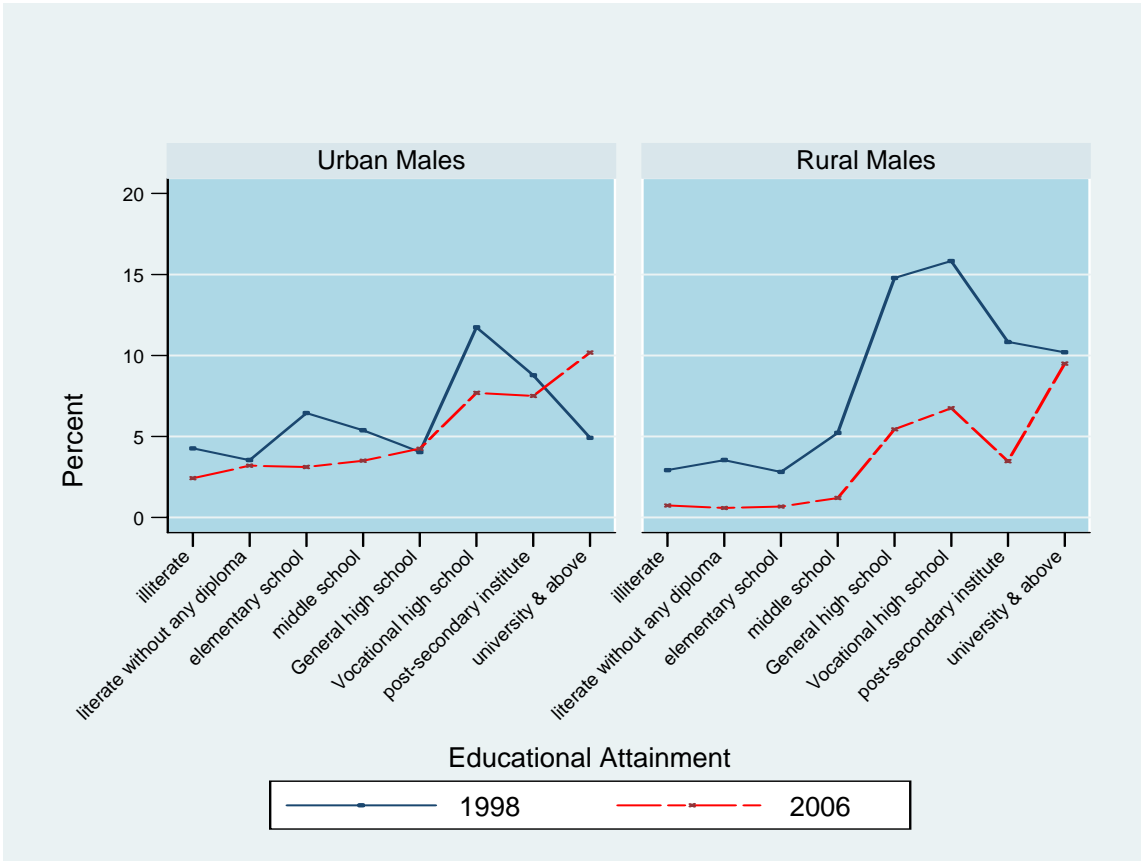


Figure 16b: Female unemployment rates by educational attainment, urban/rural location, ages 15-64, Market Labor Force Definition, Search is Required, 1998-2006

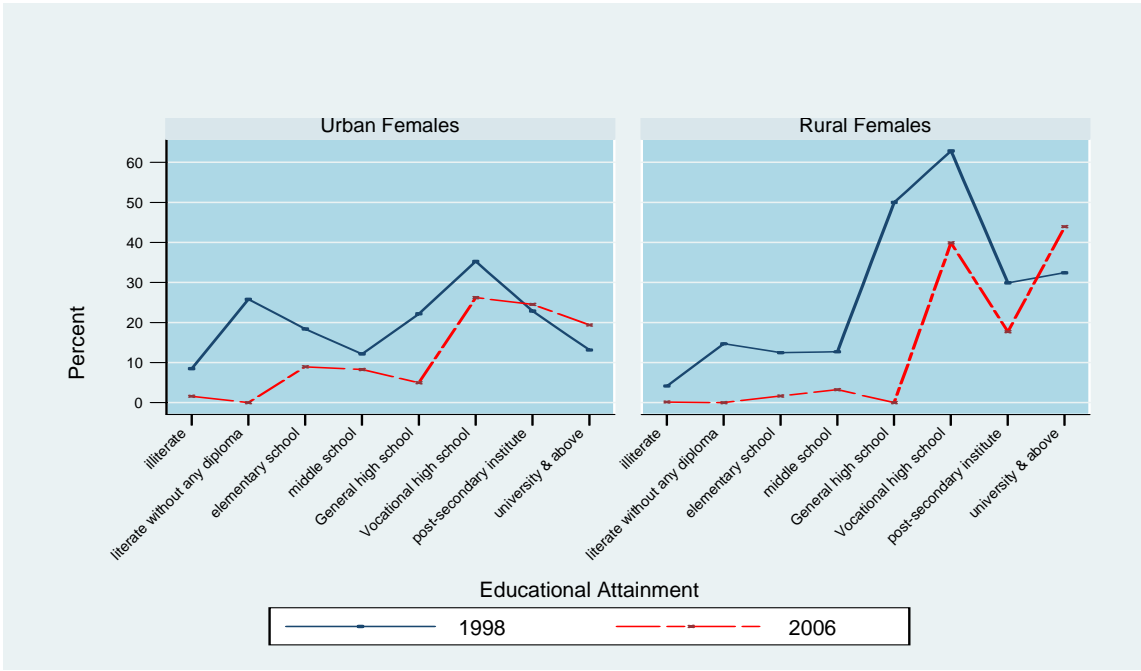


Figure 16c: Male Unemployment Rates by Educational Attainment Urban/Rural Location, Ages 15-64, Extended Labor Force Definition; search is required, 1988-2006

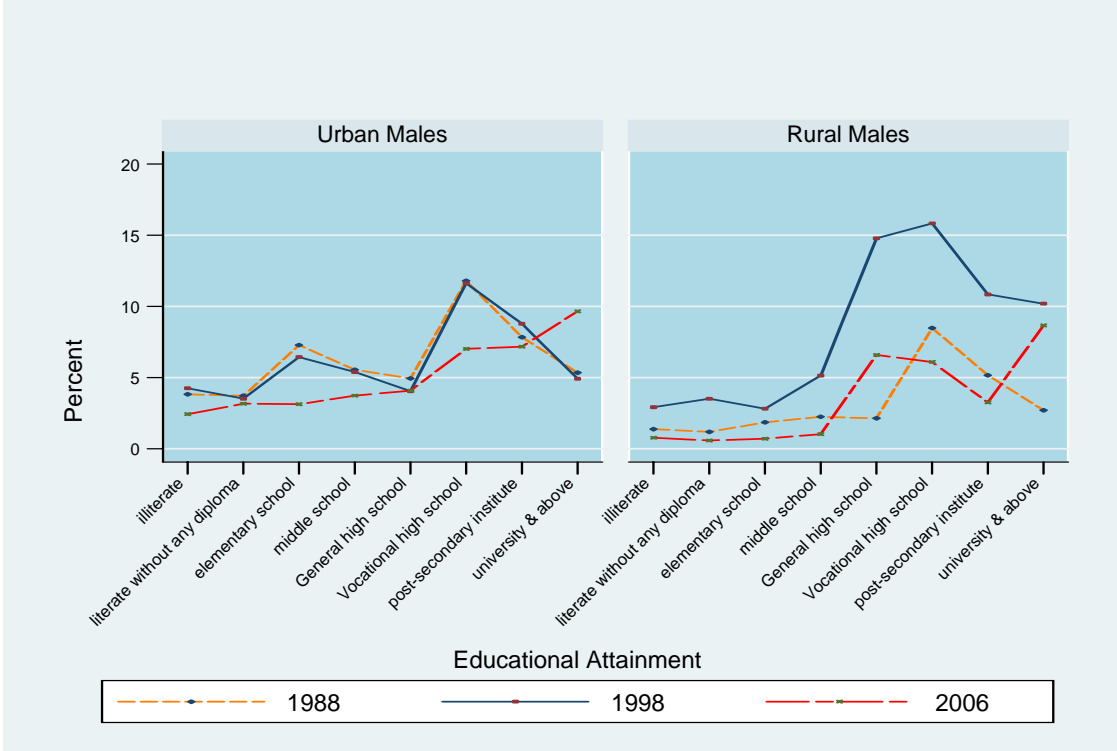


Figure 16d: Female Unemployment Rates by Educational Attainment Urban/Rural Location, Ages 15-64, Extended Labor Force Definition; search is required, 1988-2006

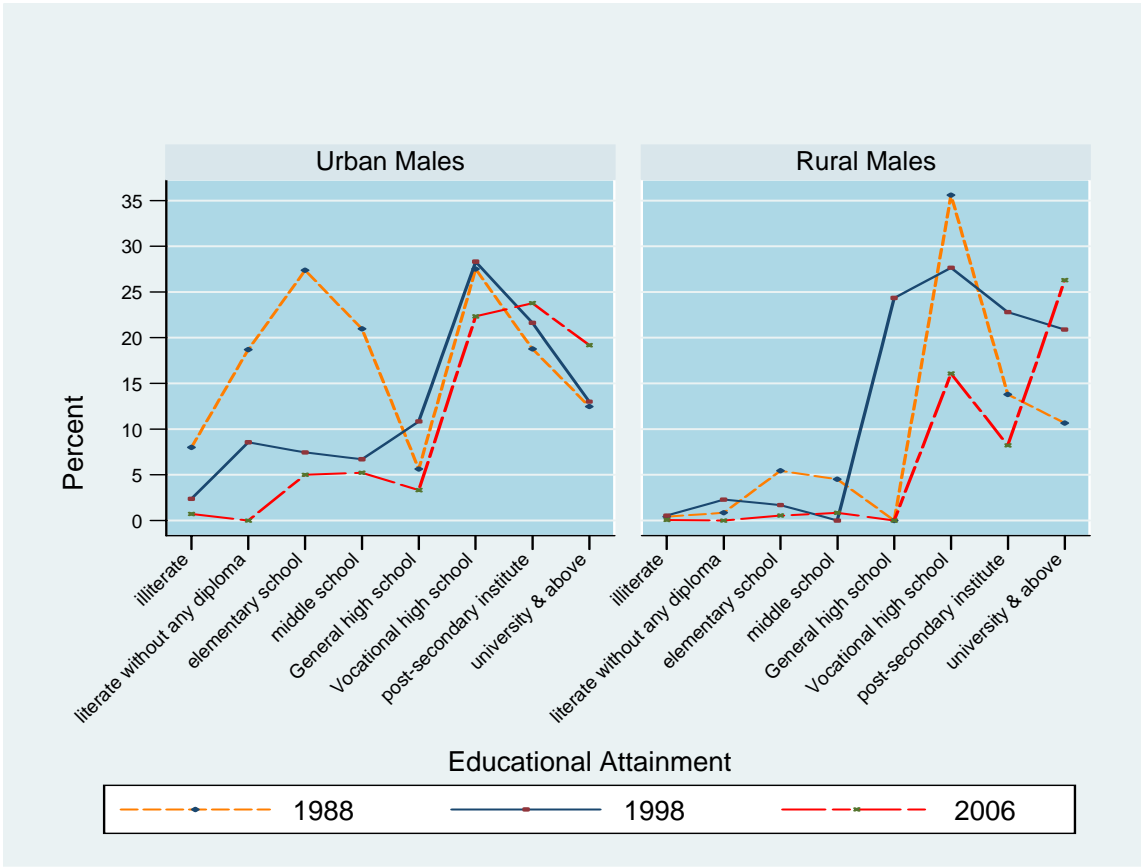


Figure 17a: Distribution of Employment by Institutional Sector, 1998-2006

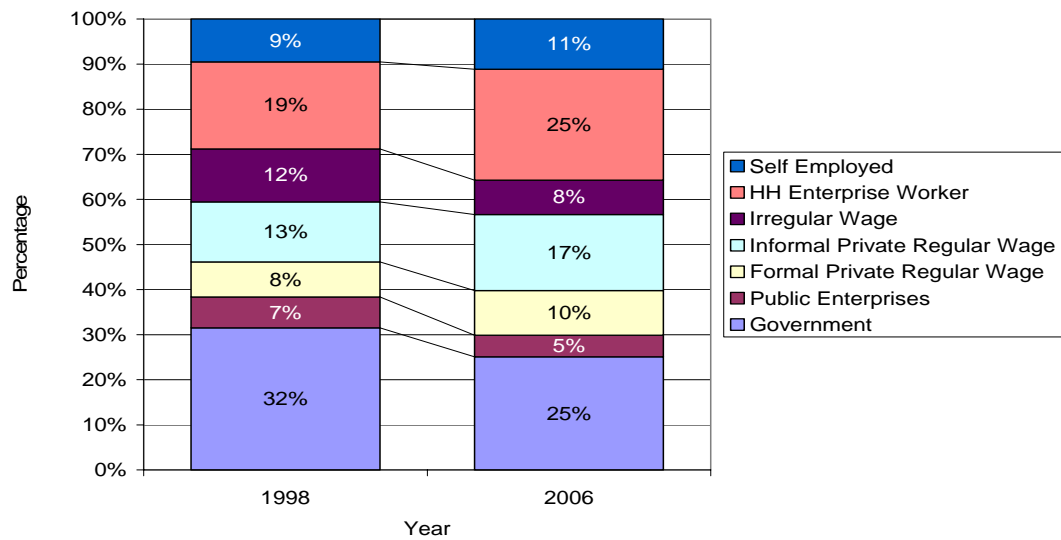


Figure 17b: Average Annual Growth by Institutional Sector 1998-2006

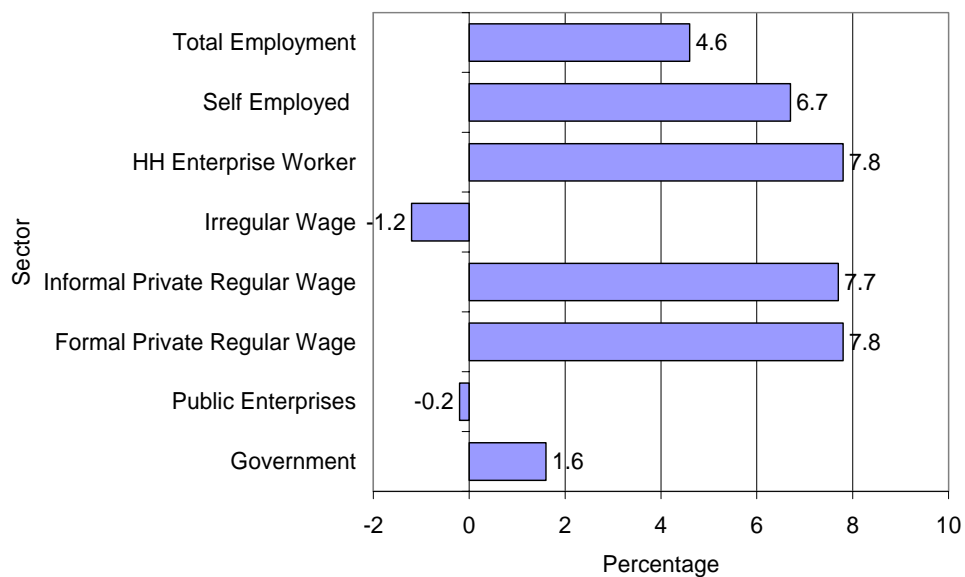


Figure 18a: Distribution of Employment by sector of Economic Activity 1998 2006

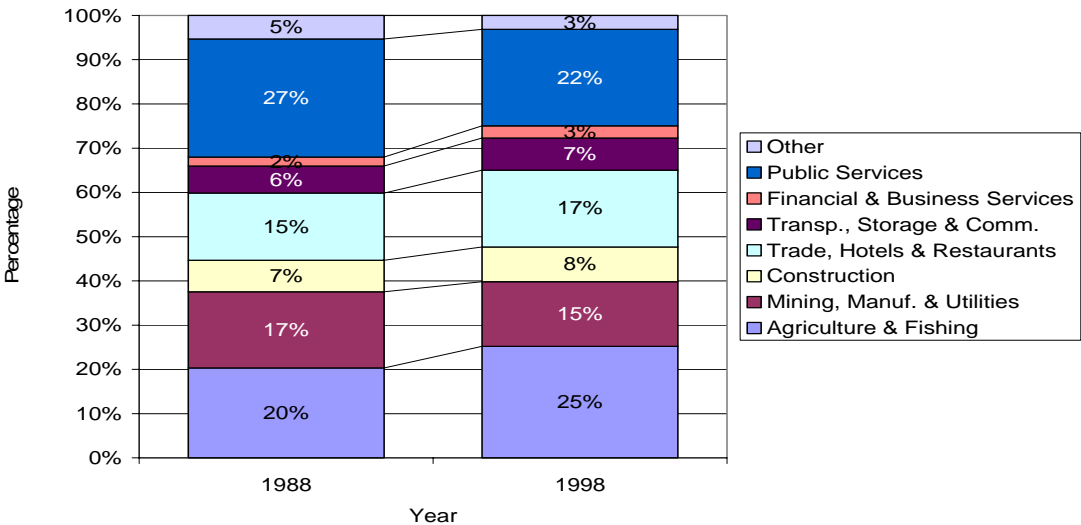


Figure 18b: Average Annual Growth of Employment by Sector of Economic Activity 1988, 2006

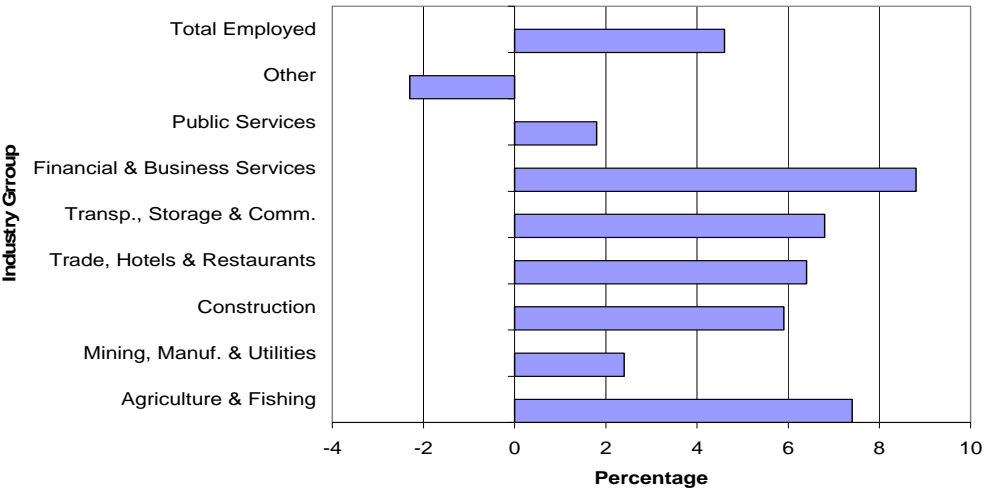


Figure 19a: Distribution of Private Wage Employment by Firm Size, 1998, 2006

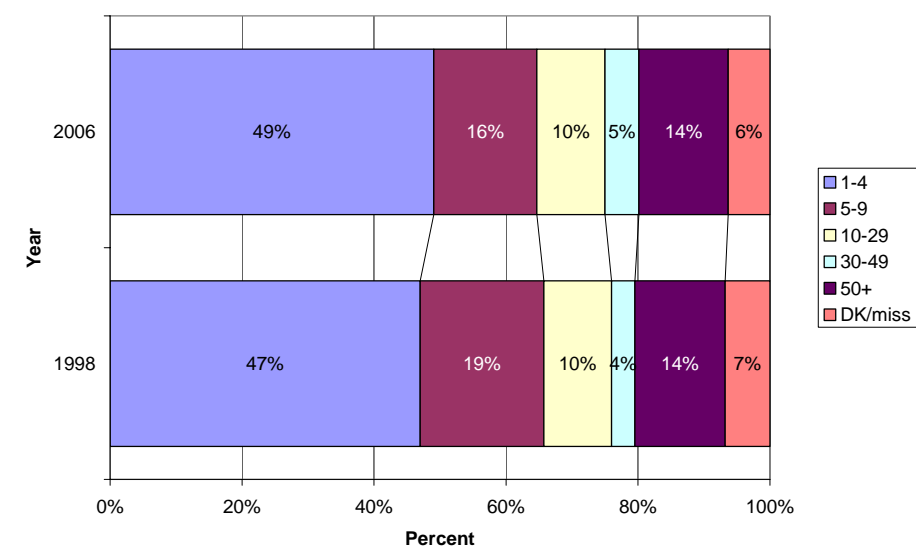


Figure 19b: Average Annual Growth Rate of Private Wage Employment by Firm Size, 1998, 2006

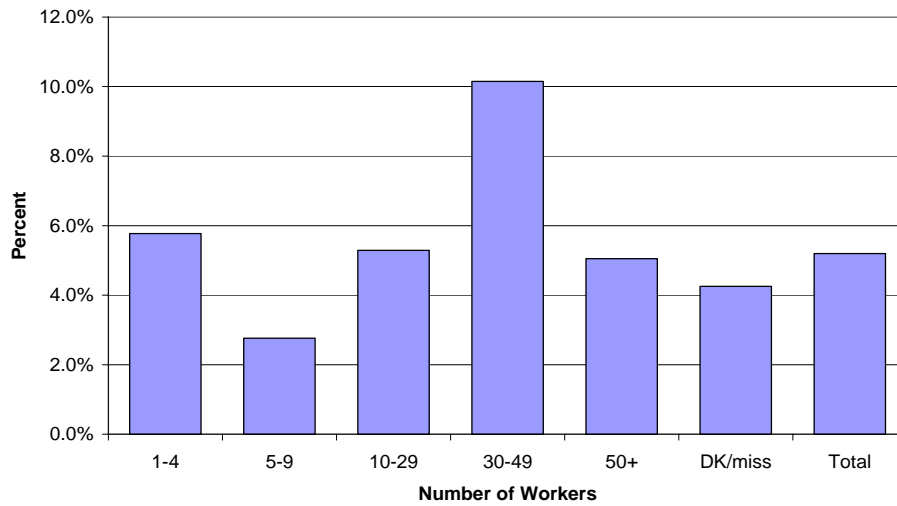


Figure 20: Proportion of Informal Employment in Private Wage Employment by Firm Size, 1998-2006

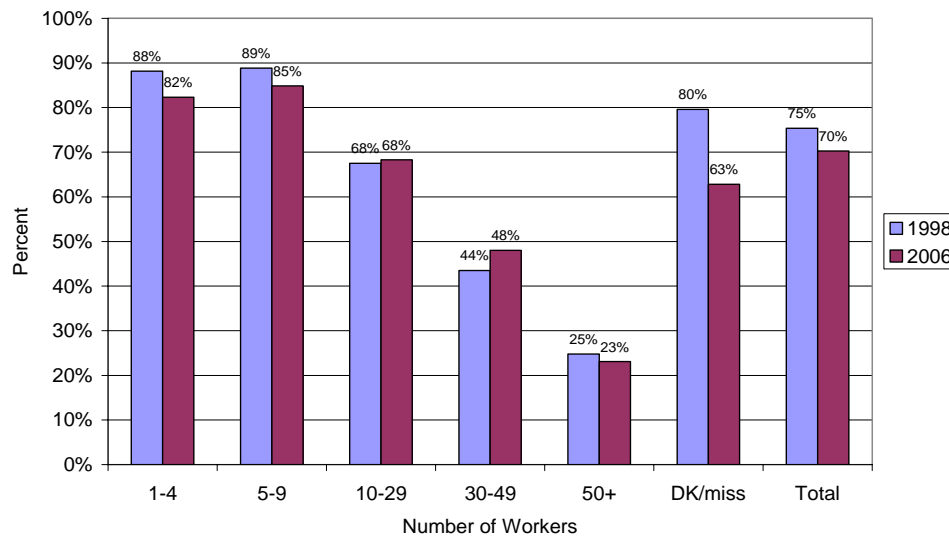


Table 1: Average Annual Population Growth Rates By Urban/Rural Location and Sex, 1988-98 and 1998-06

	Total Population		Working Age Population (15-64)		Youth Population (15-24)	
	88-98	98-06	88-98	98-06	88-98	98-06
Male						
Urban	1.7	1.9	2.4	2.3	2.6	0.3
Rural	2.4	1.9	3.7	2.7	4.1	1.4
Total	2.1	1.9	3.1	2.5	3.5	1.0
Female						
Urban	1.8	2.1	2.2	2.7	2.0	2.9
Rural	2.2	2.1	3.5	2.9	4.1	3.6
Total	2.0	2.1	2.9	2.8	3.2	3.3
All						
Urban	1.7	2.0	2.3	2.5	2.4	1.6
Rural	2.3	2.0	3.6	2.8	4.1	2.5
Total	2.1	2.0	3.0	2.7	3.4	2.1

Table 2: Average Annual Growth Rates of the Labor Force by Urban/Rural Location and Sex, 1988-98 and 1998-06 (percentage)

	Market Labor Force (15-64)		Extended Labor force (15-64)		Youth Market Labor Force (15-24)		Youth Extended LF (15-24)	
	88-98	98-06	88-98	98-06	88-98	98-06	88-98	98-06
Male								
urban	n.a.	3.3	1.9	3.3	n.a.	2.3	1.9	2.3
rural	n.a.	3.6	3.0	3.7	n.a.	2.9	3.0	3.3
total	n.a.	3.5	2.5	3.5	n.a.	2.7	2.6	3.0
Female								
urban	n.a.	3.7	3.7	2.4	n.a.	2.6	1.4	2.1
rural	n.a.	8.1	3.8	2.8	n.a.	3.1	3.9	2.1
total	n.a.	5.9	3.8	2.7	n.a.	2.9	3.2	2.1
All								
urban	n.a.	3.4	2.5	3.0	n.a.	2.4	1.7	2.2
rural	n.a.	4.6	3.3	3.3	n.a.	3.0	3.4	2.8
total	n.a.	4.1	3.0	3.2	n.a.	2.8	2.9	2.6

Note: n.a. = not available

Table 3: Labor Force Participation Rates for Working Age Population (15-64), Market and Extended Definitions, by Sex and Urban/Rural Location, percentage

		Male			Female			Total	
		1988	1998	2006	1988	1998	2006	1988	2006
Urban	Market LF	n.a	71.5	77.0	n.a	25.7	27.6	n.a	48.6
	Extended LF	74.5	71.5	77.1	28.4	33.3	32.5	51.2	54.4
Rural	Market LF	n.a	74.7	79.6	n.a	17.8	26.4	n.a	46.1
	Extended LF	79.0	74.8	80.3	54.7	56.9	56.5	66.7	68.3
Total	Market LF	n.a	73.2	78.5	n.a	21.4	26.9	n.a	47.2
	Extended LF	76.8	73.3	78.9	42.1	46.3	45.9	59.3	62.2

Note: n.a. = not available

Table 4: Employment to Population Ratios by Urban/Rural Location and Sex, 1988, 1998, 2006 Market and Extended Definitions of Economic Activity

		Male			Female			All		
		1988	1998	2006	1988	1998	2006	1988	1998	2006
urban	Mkt. LF def.	n.a.	66.6	72.2	n.a.	19.8	22.1	n.a.	43.2	46.7
	Ext. LF Def.	70.1	66.6	72.2	23.5	28.0	27.3	46.6	47.3	49.3
rural	Mkt. LF def.	n.a.	69.3	76.9	n.a.	11.9	21.8	n.a.	40.5	49.1
	Ext. LF Def.	77.2	69.4	77.6	52.9	53.3	53.5	64.9	61.4	65.4
Total	Mkt. LF def.	n.a.	68.1	74.8	n.a.	15.5	21.9	n.a.	41.7	48.0
	Ext. LF Def.	73.8	68.2	75.2	38.9	42.0	41.8	56.1	55.1	58.3

n.a.: not available

Appendix Table 1: Unemployment Rate by Urban and Rural Location and Sex , 1988, 1998, 2006, Narrow and Broad Definitions, Extended and Market Labor Force Definitions

		Male			Female			All		
		1988	1998	2006	1988	1998	2006	1988	1998	2006
Urban	Std. Mkt LF Def.	n.a	6.8	6.3	n.a	22.8	20.0	n.a	11.0	10.0
	Std. Ext. LF Def.	5.9	6.8	6.3	17.2	15.8	16.0	9.0	9.7	9.3
	Brd. Mkt. LF Def.	n.a	8.2	6.9	n.a	25.7	22.8	n.a	12.9	11.3
	Brd. Ext. LF def.	7.3	8.2	6.9	20.0	18.0	18.4	10.9	11.3	10.5
Rural	Std. Mkt LF Def.	n.a	7.2	3.4	n.a	33.3	17.4	n.a	12.2	7.0
	Std. Ext. LF Def.	2.3	7.1	3.4	3.2	6.3	5.4	2.7	6.8	4.2
	Brd. Mkt. LF Def.	n.a	8.5	3.8	n.a	36.9	19.9	n.a	14.2	8.0
	Brd. Ext. LF def.	3.2	8.4	3.8	4.5	7.3	6.4	3.7	7.9	4.9
Total	Std. Mkt LF Def.	n.a	7.0	4.7	n.a	27.6	18.6	n.a	11.7	8.3
	Std. Ext. LF Def.	4.0	7.0	4.6	7.7	9.4	8.8	5.3	7.9	6.2
	Brd. Mkt. LF Def.	n.a	8.4	5.2	n.a	30.9	21.2	n.a	13.6	9.4
	Brd. Ext. LF def.	5.1	8.3	5.1	9.6	10.7	10.2	6.7	9.3	7.0

Note: Std Definition of unemployment requires active search

Broad Definition of unemployment does not require active search and thus includes discouraged unemployed

n.a. = not available

Appendix Table 2: Unemployment Rate by Region and Sex , 1988, 1998, 2006, Narrow and Broad Definitions, Extended and Market Labor Force Definitions

		Male			Female			All		
		1988	1998	2006	1988	1998	2006	1988	1998	2006
Greater Cairo	Std. Mkt LF Def.	n.a	5.4	6.9	n.a	19.0	16.2	n.a	9.0	9.3
	Std. Ext. LF Def.	5.9	5.4	6.9	20.3	17.1	15.8	9.8	8.7	9.3
	Brd. Mkt. LF Def.	n.a	6.4	7.3	n.a	21.8	19.3	n.a	10.6	10.5
	Brd. Ext. LF def.	7.1	6.4	7.3	21.9	19.8	18.8	11.1	10.2	10.4
Alex & Suez Canal	Std. Mkt LF Def.	n.a	8.8	7.2	n.a	22.4	19.1	n.a	12.1	10.2
	Std. Ext. LF Def.	6.3	8.8	7.2	12.9	20.8	17.5	8.1	11.9	10.0
	Brd. Mkt. LF Def.	n.a	10.4	7.7	n.a	23.6	19.1	n.a	13.6	10.6
	Brd. Ext. LF def.	7.0	10.4	7.7	16.8	21.9	17.5	9.7	13.3	10.3
Urban Lower Eg.	Std. Mkt LF Def.	n.a	7.8	6.0	n.a	31.4	31.1	n.a	14.5	13.1
	Std. Ext. LF Def.	6.0	7.8	6.0	12.3	18.4	19.7	7.9	11.7	10.9
	Brd. Mkt. LF Def.	n.a	9.2	6.9	n.a	34.2	33.7	n.a	16.4	14.7
	Brd. Ext. LF def.	8.6	9.2	6.9	17.9	20.3	21.4	11.5	13.3	12.1
Urban Upper Eg.	Std. Mkt LF Def.	n.a	6.5	5.4	n.a	18.6	14.6	n.a	9.6	7.9
	Std. Ext. LF Def.	4.6	6.3	5.3	18.5	7.7	11.8	8.9	6.8	7.4
	Brd. Mkt. LF Def.	n.a	8.6	6.1	n.a	23.9	19.0	n.a	12.7	9.8
	Brd. Ext. LF def.	6.8	8.5	6.1	21.1	9.9	15.5	11.1	9.0	9.2
Rural Lower Eg.	Std. Mkt LF Def.	n.a	8.8	4.3	n.a	38.3	26.5	n.a	15.2	9.3
	Std. Ext. LF Def.	1.8	8.8	4.2	3.8	9.7	6.3	2.6	9.2	5.1
	Brd. Mkt. LF Def.	n.a	9.9	4.6	n.a	40.9	29.1	n.a	16.8	10.3
	Brd. Ext. LF def.	2.6	9.8	4.5	5.1	10.5	7.1	3.7	10.1	5.6
Rural Upper Eg.	Std. Mkt LF Def.	n.a	4.7	2.3	n.a	22.3	8.6	n.a	7.4	4.1
	Std. Ext. LF Def.	2.8	4.7	2.3	2.4	1.4	4.1	2.7	3.2	3.0
	Brd. Mkt. LF Def.	n.a	6.4	2.8	n.a	28.1	11.0	n.a	10.0	5.2
	Brd. Ext. LF def.	3.9	6.4	2.8	3.7	2.6	5.4	3.8	4.8	3.9
All Egypt	Std. Mkt LF Def.	n.a	7.0	4.7	n.a	27.6	18.6	n.a	11.7	8.3
	Std. Ext. LF Def.	4.0	7.0	4.6	7.7	9.4	8.8	5.3	7.9	6.2
	Brd. Mkt. LF Def.	n.a	8.4	5.2	n.a	30.9	21.2	n.a	13.6	9.4
	Brd. Ext. LF def.	5.1	8.3	5.1	9.6	10.7	10.2	6.7	9.3	7.0

Appendix Table 3: The Structure of Employment and Working Age Population (15-64) by Institutional Sector, Market Labor Force Definition, in Thousands, 1998-2006,

Type of Employment	Urban			Rural			All Egypt		
	1998	2006	Av. Ann Gr,%	1998	2006	Av. Ann Gr, %	1998	2006	Av. Ann Gr, %
Male									
Government	1,557	1,643	0.7	1,753	1,953	1.4	3,310	3,596	1.1
Public Enterprises	597	611	0.3	319	294	-1.1	916	905	-0.2
Formal Private Regular Wage	745	1,201	6.4	291	644	10.6	1,035	1,845	7.7
Informal Private Regular Wage	841	1,408	6.9	957	1,762	8.1	1,798	3,169	7.6
Irregular Wage	393	376	-0.6	1,277	1,143	-1.5	1,670	1,519	-1.3
Total Wage Work	4,133	5,239	3.2	4,597	5,796	3.1	8,729	11,034	3.1
HH Enterprise Worker	569	567	0	1,863	3,005	6.4	2,432	3,572	5.1
Self Employed	731	1,164	6.2	469	665	4.7	1,200	1,830	5.6
Total Non-Wage Work	1,300	1,731	3.8	2,332	3,670	6	3,632	5,402	5.3
Total Employment	5,433	6,970	3.3	6,929	9,466	4.2	12,361	16,436	3.8
Active Unemployed	397	469	2.2	534	338	-6.1	930	807	-1.9
Student out of Labor Force	1,437	1,391	-0.4	1,646	1,622	-0.2	3,082	3,013	-0.3
Non Student out of Labor Force	889	831	-0.9	887	891	0.1	1,775	1,722	-0.4
Out of Man Power	82	109	3.8	161	126	-3.3	243	235	-0.4
Total Not Working	2,805	2,800	0	3,228	2,977	-1.1	6,030	5,777	-0.6
All Males	8,237	9,771	2.3	10,155	12,444	2.7	18,392	22,215	2.5
Female									
Government	1,028	1,208	2.2	445	568	3.3	1,472	1,776	2.5
Public Enterprises	108	103	-0.6	15	15	0	123	117	-0.7
Formal Private Regular Wage	122	225	8.2	22	50	10.9	144	275	8.6
Informal Private Regular Wage	157	274	7.4	67	156	11.3	223	430	8.8
Irregular Wage	17	24	4.6	98	87	-1.6	115	111	-0.5
Total Wage Work	1,432	1,834	3.3	647	876	4	2,077	2,709	3.5
HH Enterprise Worker	102	227	10.7	394	1,456	17.4	497	1,683	16.3
Self Employed	84	155	8.2	157	397	12.4	241	552	11.1
Total Non-Wage Work	186	382	9.6	551	1,853	16.2	738	2,235	14.8
Total Employment	1,618	2,216	4.2	1,198	2,729	11	2,815	4,944	7.5
Active Unemployed	478	553	1.9	598	576	-0.5	1,077	1,128	0.6
Student out of Labor Force	1,280	1,352	0.7	1,152	1,366	2.3	2,432	2,717	1.5
Non Student out of Labor Force	4,789	5,913	2.8	7,123	7,850	1.3	11,913	13,763	1.9
Out of Man Power	72	44	-6.6	52	89	7.2	125	133	0.8
Total Not Employed	6,619	7,862	2.3	8,925	9,881	1.4	15,547	17,741	1.8
All Females	8,238	10,077	2.7	10,124	12,610	2.9	18,362	22,686	2.8
Both									
Government	2,584	2,851	1.3	2,198	2,521	1.8	4,782	5,372	1.6
Public Enterprises	705	714	0.2	335	309	-1.1	1,040	1,023	-0.2
Formal Private Regular Wage	867	1,426	6.6	312	694	10.7	1,179	2,120	7.8
Informal Private Regular Wage	998	1,682	7	1,024	1,918	8.4	2,022	3,600	7.7
Irregular Wage	410	400	-0.3	1,374	1,230	-1.5	1,784	1,630	-1.2
HH Enterprise Worker	672	794	2.2	2,257	4,461	9.1	2,929	5,255	7.8
Self Employed	815	1,319	6.4	626	1,063	7.1	1,441	2,382	6.7
Total Employment	7,051	9,186	3.5	8,126	12,196	5.4	15,177	21,382	4.6
Active Unemployed	875	1,022	2.1	1,132	914	-2.9	2,007	1,936	-0.5
Student out of Labor Force	2,717	2,743	0.1	2,798	2,988	0.9	5,515	5,731	0.5
Non Student out of Labor Force	5,678	6,744	2.3	8,010	8,741	1.2	13,688	15,485	1.6
Out of Man Power	154	154	0	213	215	0.1	367	368	0
Total Not Employed	9,424	10,663	1.6	12,153	12,858	0.8	21,577	23,520	1.1
All Egypt	16,475	19,848	2.5	20,279	25,053	2.8	36,754	44,901	2.7

Appendix Table 4: The Structure of Employment (15-64) by Sector of Economic Activity, Market Labor Force Definition, in Thousands, 1998-2006

Sector of Economic Activity	Urban			Rural			All Egypt		
	1998	2006	Av. Ann Gr, %	1998	2006	Av. Ann Gr, %	1998	2006	Av. Ann Gr, %
<u>Male</u>									
Agriculture & Fishing	259	291	1.6	2,453	3,376	4.3	2,712	3,667	4.0
Mining, Manuf. & Utilities	1,351	1,505	1.4	971	1,188	2.7	2,322	2,692	2.0
Construction	436	680	5.9	622	985	6.1	1,058	1,666	6.1
Trade, Hotels & Restaurants	1,074	1,773	6.7	750	1,271	7.0	1,824	3,045	6.8
Transp., Storage & Comm.	519	752	4.9	364	710	8.9	883	1,461	6.7
Financial & Business Services	177	333	8.4	42	120	14.0	219	453	9.7
Public Services	1,193	1,333	1.5	1,429	1,535	1.0	2,621	2,868	1.2
Other	424	301	-4.6	297	276	-1.0	722	577	-3.0
							12,36	16,42	
Total Employed	5,433	6,968	3.3	6,928	9,461	4.2	1	9	3.8
Total Not Employed	2,805	2,800	0.0	3,228	2,977	-1.1	6,030	5,777	-0.6
				10,15	12,43		18,39	22,20	
All Males	8,237	9,768	2.3	5	8	2.7	2	7	2.5
<u>Female</u>									
Agriculture & Fishing	30	134	20	346	1,587	20.3	376	1,721	20.3
Mining, Manuf. & Utilities	190	250	3.7	99	174	7.5	289	424	5.1
Construction	12	18	5.4	11	2	-22.7	23	20	-1.9
Trade, Hotels & Restaurants	215	319	5.3	266	348	3.6	481	667	4.4
Transp., Storage & Comm.	41	71	7.3	7	14	9.2	48	85	7.6
Financial & Business Services	80	103	3.4	5	33	25.2	85	136	6.3
Public Services	995	1,240	2.9	438	548	3.0	1,433	1,789	3.0
Other	59	77	3.6	25	23	-1.1	84	100	2.3
Total Employed	1,622	2,212	4.1	1,197	2,729	11	2,819	4,942	7.5
							15,54	17,74	
Total Not Employed	6,619	7,862	2.3	8,925	9,881	1.4	7	1	1.8
		10,07		10,12	12,60		18,36	22,68	
All Females	8,241	6	2.7	4	9	2.9	5	5	2.8
<u>Both</u>									
Agriculture & Fishing	289	425	5.1	2,799	4,963	7.6	3,088	5,388	7.4
Mining, Manuf. & Utilities	1,541	1,755	1.7	1,070	1,362	3.2	2,611	3,117	2.4
Construction	448	698	5.9	633	988	5.9	1,081	1,686	5.9
Trade, Hotels & Restaurants	1,289	2,093	6.5	1,016	1,619	6.2	2,305	3,712	6.4
Transp., Storage & Comm.	560	823	5.1	371	724	8.9	931	1,546	6.8
Financial & Business Services	257	436	7	48	153	15.5	304	589	8.8
Public Services	2,188	2,574	2.2	1,866	2,083	1.5	4,054	4,656	1.8
Other	483	378	-3.3	323	300	-1	806	677	-2.3
					12,19		15,18	21,37	
Total Employed	7,055	9,182	3.5	8,126	2	5.4	0	1	4.6
		10,66		12,15	12,85		21,57	23,52	
Total Not Employed	9,424	3	1.6	3	8	0.8	7	0	1.1
		19,84		20,27	25,04		36,75	44,89	
All Egypt	16,478	4	2.5	9	8	2.8	7	2	2.7