

**Constrained Geographical Mobility and Gendered Labor Market Outcomes Under
Structural Adjustment:
Evidence from Egypt**

by

Ragui Assaad*

University of Minnesota, Minneapolis, Minnesota, USA

and

Melanie Arntz

University of Bonn, Bonn, Germany

* Corresponding author: Humphrey Institute of Public Affairs, 301 19th Ave. S., Minneapolis MN 55455. E-mail: rassaad@hh.umn.edu. This work has benefited from a financial grant from the Economic Research forum for the Arab Countries, Iran and Turkey. The contents and views do not necessarily reflect the views of the Economic Research Forum. Comments from Heba Handoussa and Greta Friedemann-Sanchez are gratefully acknowledged.

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ABSTRACT

We examine in this paper the evolution of gender gaps in labor market outcomes during structural adjustment and explore the extent to which widening gaps can be attributed to women's more limited geographical mobility. Using comparable household surveys carried out in 1988 and 1998, we show that gender gaps in access to paid employment and in earnings have widened during this period, especially in the private sector. We also show that women's commuting rates are not only much lower than those of men, but have remained stagnant in a period where males were having to travel significantly more to obtain private sector jobs.

Key Words: gender, wage differentials, labor market, structural adjustment, mobility, Egypt, Middle East

I. INTRODUCTION

There are persistent and repeated claims in the international literature that structural adjustment measures and market-oriented reforms are strongly associated with a deterioration of women's relative position in the labor market (Beneria and Roldan 1987; Cornia, Jolly and Stewart 1987; Haddad et al. 1995; Sparr 1994; Afshar and Dennis 1992). Measures such as cuts in government expenditures and payrolls, privatization of state-owned enterprises, trade reforms, and exchange rate reforms are said to disproportionately affect women because of three major factors: the concentration of women in a few sectors of economic activity, their limited intersectoral and geographical mobility, and their position at the intersection of the household and market economies.

The literature on structural adjustment and gender, drawing primarily on examples from Latin America and Southeast Asia, has emphasized the feminization of the labor market under structural adjustment. The increased female participation in periods of crisis and structural adjustment is either attributed to supply-side effects, pushing women to work outside the home to compensate for falling male incomes, or to demand side effects resulting from the emergence of deregulated, labor-intensive, export-oriented industries that favor the employment of women. People writing in the context of Middle East and North Africa have cautioned that such a trend is not universal and that de-feminization can take place as public sector opportunities dwindle and obstacles to private sector employment persist.

The purpose of this research is to examine the relevance of these propositions in the Egyptian context. Our primary concern is how females are faring relative to males in the paid segment of the labor market and to explore whether their deteriorating positions can be, at least in part, attributed to their more limited geographical mobility. Using data from comparable

household surveys carried out in 1988 and 1998, we present evidence that confirms that in the 1990s, a decade characterized by the implementation of a major economic reform and structural adjustment program in Egypt, gender gaps in the labor market have grown along a number of dimensions. We show that, contrary to predictions of increased female participation in paid work during structural adjustment, there was a de-feminization of the paid labor force, outside of government, in Egypt. Structural adjustment has resulted in a reduction of employment opportunities for young women in the civil service, without concurrently increasing opportunities in the private sector. We also show that the gender gap in earnings, corrected for observable human capital characteristics, has widened, with the effect again being limited to the non-governmental portion of the labor force. We attribute these trends to persistent barriers to entry into private sector paid employment for women in Egypt. In this paper, we focus in particular on one of these barriers, namely women's limited geographical mobility. Although, we do not formally test for a causal relationship between widening gaps in the labor market and limited geographical mobility in the context of structural adjustment, we do show that, during the decade under study, working women's commuting rates are not significantly lower than those of men, but that they remained constant over time, in a context where men were needing to commute significantly more to access private sector employment.

After briefly reviewing the international literature on structural adjustment and gender in Section II, presenting an overview of the Egyptian economic reform and structural adjustment program in Section III, and describing our data sources in Section IV, we organize our empirical analysis into four parts. Section V examines gender differences in access to paid employment by age and educational attainment and shows that female access to such employment, outside of government, has in fact declined in the 1990s. Section VI delves further into this decline by

focusing on the apparent de-feminization of employment in most of the sub-sectors of the economy that disproportionately hire women, without an increase in their prevalence in other sectors. Section VI presents the patterns of change in the gender differentials in real hourly wages across sectors, after adjusting for differences in human capital characteristics. Section VIII presents evidence on differential commuting rates along gender lines and the observed changes in these rates over time, and Section IX concludes the paper.

II. GENDER AND STRUCTURAL ADJUSTMENT – A BRIEF REVIEW OF THE LITERATURE

“Egypt's labor market is highly segmented, with differentiation along a number of axes ... It is my contention that gender is a central source of differentiation and inequality, including occupational sex typing in the formal sector, barriers to entry in the private sector, and lower wages for women.” (V.M. Moghadam, 1998: 109)

A necessary condition for successful adjustment is the mobility of factors of production, including labor, among sectors. Adjustment policies seek to lower the returns of factors of production in the formerly protected import-substitution sectors and in non-tradables and raise them in exportables and formerly unprotected import-competing sectors to induce factors to move accordingly (Horton et al. 1994: 5). The success of these policies therefore hinges on the extent to which factors of production are mobile, with the greatest cost being borne by the most immobile factors. Moreover, structural adjustment involves a retrenchment of the public sector, either through cuts in public expenditures and investments or through the privatization or liquidation of state-owned enterprises.

For a variety of reasons women face significantly more constraints in responding to the changes brought about by structural adjustment than men. Women's major role in the domestic economy and in closely related economic activities, and their limited participation in the labor market make it difficult for them to reallocate their labor when price signals change (Palmer 1992;

Collier 1994). Even if participating in market work, women face discrimination in the labor market, which often takes the form of differential access to wage employment as well as strong gender segregation of jobs, which significantly reduces their intersectoral mobility. Social norms about appropriate gender behavior also constrain their ability to reallocate their labor by limiting their job search horizon to jobs that are deemed “gender appropriate.” Gender typing of jobs and women’s limited geographical mobility can effectively constrain women’s job search to a small subset of jobs in their local community. Finally, women tend to be disproportionately represented in the public sector, partly because public sector jobs tend to be more compatible with women's household responsibilities than wage employment in the private sector, and partly because public sector employers are less able to discriminate against women than their private sector counterparts. Cutbacks in the public sector that generally come with structural adjustment are therefore likely to affect female workers disproportionately (Haddad et al. 1995; Stewart 1992).

Another aspect that is often mentioned in the literature in relation to women's multiple roles in household reproduction and income generation is the differential impact of cutbacks in public services and subsidies. Reduced state provision of health services, the introduction of user charges for such services, and the reduction or elimination of food subsidies all add to women's burden by intensifying home production and unpaid labor, while at the same time forcing them to seek more paid employment. This results in increased demand on women's time and an intensification of both their paid and unpaid employment (Stewart 1992; Elson 1992a, 1992b). The increased burden faced by women at home due to these cutbacks in social expenditure limits their ability to respond to the changing opportunity structures brought about by structural adjustment. Time constraints are closely related to the constraints on geographical mobility that limit women's job search

possibilities and their ability to respond to market changes by changing work location or type of work (Tanski, 1994; Haddad et al., 1995; Miles 2002).

The literature on structural adjustment and gender, much of it drawing on examples from Latin America, has emphasized the increased feminization of the workforce that is observed in periods of crisis and structural adjustment (Standing 1989; Moser 1992; Waylen 1992, Beneria 1992; Safa 1999; Cerruti 2000). The dominant strand in this literature attributes the increase to supply-side pressures that force women to join the paid labor force to make up for falling household income, the so-called “added worker” effect (Lundberg 1985; Maloney 1987, 1991; Safa 1999; Baslevant and Onaran 2002). Another strand emphasizes demand side forces as structural adjustment leads to the emergence of deregulated, labor-intensive, export-oriented industries that open up new spheres of employment for women (Cagatay and Berik 1990; Joekes 1995; Ozler 2000). Others, working specifically on the Middle East and North Africa region, have cautioned that such feminization of employment is by no means universal. Although it appears to have happened to some extent in Morocco, Tunisia, and Turkey, it did not materialize in other countries of the region that have undertaken structural adjustment programs. They attribute this persistent patriarchal family structures and gender systems that hinder women’s participation in paid employment outside the home (Karshenas and Moghadam 2001; Miles 2002). However, it could also very well be attributed to macroeconomic conditions and policies that have discouraged the emergence of the labor intensive, export industries that have led to feminization elsewhere.

Since our purpose here is to attempt to empirically assess how women have fared under structural adjustment in Egypt, it is impractical to tackle all the issues raised by the international literature on gender and structural adjustment. We opted, therefore, to focus our analysis in this paper on the change in women’s relative position in paid employment during the adjustment

period, both in terms of access to such employment and rewards from it. We also opted to focus on one potential causal mechanism, namely women's more limited geographical mobility in the job market.

III. THE EGYPTIAN ECONOMIC REFORM AND STRUCTURAL ADJUSTMENT PROGRAM (ERSAP)

Egypt embarked in 1991 on a major Economic Reform and Structural Adjustment Program (ERSAP) with support from the IMF and the World Bank. The program was adopted after many years of attempted economic stabilization and reform, beginning with the open door policies of the 1970's to stabilization attempts in the late 1980's in response to the sharp fall in oil prices in 1986. ERSAP included, *inter alia*, a stabilization component that aimed to eliminate large and unsustainable fiscal and external imbalances, trade, exchange rate, and financial sector reforms aimed at liberalizing the economy, and an ambitious privatization program. An explicit objective of ERSAP was a reorientation of the economy toward the market and a reduction the role of the State, including its role as a dominant employer.¹

The starting point of the study period, 1988, is situated three years before the initiation of ERSAP and marks a period of severe balance of payments crisis in Egypt, brought about by the sharp decline in oil-related foreign exchange revenues. Although GDP growth had slowed significantly from 1985 to 1988 after the oil price decline, it slowed even further upon adoption of the stabilization program in 1991. By 1995 growth had recovered and remained relatively steady at about 4-5 percent per year until 1998, the end point of our analysis.

IV. THE MAIN SOURCES OF DATA

The empirical analysis that follows is based on nationally representative household surveys for the years 1988 and 1998. Both surveys use a similar sample and questionnaire design to ensure

the comparability of the surveys. The surveys include extensive data concerning basic demographics, employment, unemployment, occupational history, migration, education, earnings, parental background, and women's work. The Egyptian Labor Market Survey (ELMS 1998) was carried out exactly ten years to the day after the October 1988 Labor Force Sample Survey (LFSS 1988) to avoid any issues related to seasonal labor demand or unemployment.² The LFSS 1988 was conducted on a nationally representative sample of 10,000 households that excludes the five remote border governorates.³ The ELMS 1998 was conducted on a similarly designed sample of 5,000 households. All results are weighted by the appropriate sampling weights to reflect the characteristics of the population.

V. WOMEN IN THE EGYPTIAN LABOR MARKET – A FOCUS ON WAGE AND SALARY EMPLOYMENT

During the 1988-1998 decade, growth in the civilian labor force and growth of the working age population (ages 15-64) both equaled about 2.7 percent per year so that overall participation rates remained stable. However, this overall stability in overall participation masked significant changes along gender lines. Male labor force participation rate dropped by 4 percentage points, with the drop primarily due to the earlier withdrawal from the labor force of older, lesser-educated, self-employed males. The female labor force participation rate, on the other hand, increased by 4 percentage points, which can be accounted for by some increases in participation in subsistence agriculture and higher unemployment rates among rural females, and delayed exit from the labor force among married urban females working in the government (Assaad 2002).⁴

Since the aggregate trends in the evolution of employment and unemployment by sex during the 1988 and 1998 period have been reviewed elsewhere (reference suppressed for refereeing), we will limit ourselves here to only a brief overview of these trends. Overall

employment has grown at 2.5 percent per year during the 1988-1998 period, a somewhat slower rate than the 2.7 percent growth rate for the labor force. The more rapid growth of female participation translated into a more rapid growth of overall female employment, which grew at 3.4 percent per year compared to 1.9 percent for males.

The primary concern of this paper, however, is how females are faring relative to males in the paid segment of the labor market. Specifically, we are concerned with identifying the sectors that females of various age groups and educational levels have been able to enter as wage employees and those that they have had limited access to. Most urban women who are employed are wageworkers (70 percent in 1988 and 63 percent in 1998). Wage employment is much less important for rural females, consisting of no more than 12 percent of total female employment there in both years.⁵ Thus, particularly for urban females, the trend and composition of wage employment is worthy of detailed analysis.

Wage employment encompasses employment in the public and the private sectors, with the public sector consisting of the government and state-owned enterprises (SOEs). Despite the cuts in public expenditures during the 1988-1998 period, government employment continued to grow at nearly double the rate of overall employment growth, or 4.8 percent per year. This was partly offset by an absolute decline in SOE employment, at a rate of 2.6 percent per year. The growth in government jobs benefited women slightly more than men so that their share in this sector increased from 28.7 percent to 30.8 percent (see Table 1). At the same time, the share of women among private sector wageworkers fell from 13.5 percent to 9.5 percent. The reduction in SOE employment also hit women harder than men, so that the female share of that sector's labor force fell from 14 to 12 percent. As a result of these trends, female wageworkers are increasingly

concentrated in the government, with 71 percent of them in government compared to 38 percent of their male counterparts.

**** INSERT TABLE 1 APPROXIMATELY HERE****

Although private sector wage employment increased at a relatively healthy pace during the decade under consideration (3.3 percent per year), most of that increase benefited male wage workers, whose ranks increased at the rate of 3.7 percent per year, compared to a mere 0.5 percent per year for females. Similar trends prevail for the SOE sector as well. There is therefore a marked de-feminization of wage employment in the private and SOE sectors.

The increased female employment in the government sector has partly compensated for the anemic growth of female wage employment in the private and SOE sectors. However, with continued emphasis on public sector cutbacks, the prospects of further growth of the civil service are dim. With women limited to a stagnating public sector, and relatively healthy male employment growth in the private sector, there is no question that a growing gender gap in access to wage employment opportunities is developing in the Egyptian labor market.

The preceding analysis tells us little about which groups of women are the most affected by this worsening labor market outlook. We therefore proceed by looking at female employment ratios by age and educational attainment in various sectors of the economy, while maintaining our focus on wage work. We also distinguish between rural and urban females, who clearly face very different employment prospects.

Figures 1 and 2 show female employment ratios by age for urban and rural areas, respectively.⁶ In each case, the ratio of the relevant employed population to the total population of the group is plotted against age for 1988 and 1998 and then a fifth order polynomial curve is used to get an estimated age profile for each year. An examination of the curves for urban females

reveals a clear pattern of delayed exit from wage employment for older females and a decline in wage employment for younger females. A comparison of the wage employment curve and that of employment in the public sector or the government reveals that these trends essentially reflect what is happening in the public sector. The delayed exit is essentially taking place in the government and the reduced rate of employment for younger females is happening in both the government and SOE sectors. While the government has begun to cutback on hiring young workers, older female civil servants are responding by holding on to their secure civil service jobs, as they realize that these opportunities are becoming increasingly scarce. Therefore, the overall increase in the share of government employment observed above is not due to increased hiring on the part of the government, but rather that government hiring has not been reduced sufficiently to counter the greater persistence of female civil servants on public payrolls.

**** INSERT FIGURES 1 AND 2 APPROXIMATELY HERE ****

Wage employment ratios for urban females in the private sector appear to be stable at all age groups, indicating that the private sector is not expanding its female hiring to compensate for the reduction of public sector employment opportunities for young women. In both years, there is a sharp reduction in private sector employment at about age 30, the age at which most women would be married in Egypt. Thus, unlike in the government, where married women are more able to reconcile their marital responsibilities with their work duties, marriage and the added responsibilities it entails is incompatible with private sector employment in Egypt.

A comparison with urban males (Figure 3) shows that although public sector employment opportunities have been curtailed for younger males as well, the private sector seems to be taking up the slack in their case. Age-specific public sector employment ratios for urban males under 45

are significantly lower in 1998 than in 1988, especially in SOEs, but private sector employment ratios are higher for males between the ages of 20 and 45.

We now move to the examination of the employment prospects of rural females. While similar trends can be discerned, the striking difference between them and their urban counterparts is the relative importance of non-wage labor in the employment mix (Figure 2). While over 60 percent of rural females are employed at the peak employment age of 40, only 12 percent are employed for wages at the peak wage employment age of 30. Overall employment rates have declined somewhat between 1988 and 1998 among younger rural females below age 20, but increased somewhat for females in the prime working ages of 25 to 35 and also for older females above age 50. Again, the observed changes in wage employment ratios appear to result mainly from what is happening to government employment. The delayed exit of female workers from the government workforce observed in the urban sub-sample is not apparent here. We simply observe an upward shift in government employment rates for prime-age rural females. The poor prospects rural women have in both the private and SOE sectors are readily apparent. SOE employment does not even register beyond a few percentage points for rural women, so the trends are fairly unreliable. Private sector wage employment appears to be actually declining among prime age rural females, although the relatively small samples in this case as well prevent us from being entirely certain about that trend. The options for rural women are therefore limited to either government employment or non-wage work, mostly in subsistence agriculture.

Again for comparison, young rural males face similarly declining opportunities in the public sector, but, in contrast to their female counterparts, their prospects in the private sector have improved (Figure 4). A 25 year-old rural male is now more likely, on average, to get paid

employment in the private sector than in the public sector, which is clearly not the case for his female counterpart.

**** INSERT FIGURES 3 AND 4 APPROXIMATELY HERE

We move next to an examination of employment ratios by educational attainment in the main sectors of the economy (Table 2). We first note the relatively low levels of total employment for urban women with less than secondary (intermediate) education. It turns out that employment for these lesser-educated women in either urban or rural areas is mostly made up of non-wage work. Fewer than 5 percent of females with less than a secondary education in either urban or rural areas participate in wage employment and there is little change in this pattern between 1988 and 1998. In essence, the wage labor market in Egypt is closed for women who have not attained a secondary degree. An examination of the third and fourth panels of Table 2 indicates that the public sector is entirely closed to these women and the private sector is only marginally more open to them. Female wage employment rates increase dramatically once a secondary school certificate is achieved, with the public sector being responsible for the bulk of that increase.⁷ We note however, that wage employment ratios for those with secondary and post-secondary degrees, the fastest growing educational categories, have declined significantly from 1988 to 1998, an indication of the slowing pace of government hiring at these levels. Wage employment for female university graduates have increased in urban areas but declined in rural areas. Although much of the change in employment ratios for educated females is due to how they are faring in public sector employment, their prospects in the private sector are anything but bright. In all cases, the already low employment ratios of educated females in the private sector have either declined or, at best, remained the same. Educated rural females, in particular, are facing very bleak employment

prospects, with declining employment rates in the public sector and vanishing rates in the private sector.

**** INSERT TABLE 2 APPROXIMATELY HERE ****

A comparison with males is again instructive. Public sector employment ratios are declining for most categories of educated males in both urban and rural areas. Unlike females, however, their private sector employment ratios have increased significantly at nearly every educational level and in both urban and rural areas, save for those with post-secondary degrees in urban areas. This provides fairly conclusive evidence that, while males and females are equally affected by the public sector cutbacks, females are severely disadvantaged by their limited and declining access to the private sector, irrespective of their educational level.

Gender disparities in access to wage employment have always been present in Egypt for lesser-educated workers. What structural adjustment is doing is to restrict the employment options of educated young women by reducing public sector employment opportunities without concurrently opening up opportunities for wage work in the private sector.

VI. DE-FEMINIZATION OF WAGE EMPLOYMENT IN THE EGYPTIAN ECONOMY

The limited set of market opportunities for women that we identified in the previous section necessitate a closer look at the types of wage employment available to women in Egypt, outside government. Figure 5 shows the female share in various types of jobs for wage employees outside of government in 1988 and 1998. We created these job types by combining occupation and industry information to highlight types of jobs where women are disproportionately represented. The “other” category represents all the job types where the share of female employment was below average in 1988. A comparison between 1988 and 1998 reveals a pattern of de-feminization in most of these job types, including the “other” category, which indicates that

there is no evidence that female employment is spreading out into the rest of the economy. The only two exceptions are blue-collar workers in textile manufacturing and professional and managerial workers in financial services, where the female share is stable. The decline in female share is particularly dramatic for agricultural wageworkers, clerical workers, workers in retail trade and workers in domestic and personal services.

Figure 6 shows the growth of non-governmental wage employment (both male and female) in each of the job types shown in Figure 5. Only four job types have experienced above-average growth rates, namely blue-collar other than textile manufacturing, retail trade, domestic and other services, and professional and managerial jobs in financial services. Three of these experienced significant de-feminization, thus counteracting any potential increase in demand for female labor that such growth would entail. The only job type to have grown faster than average and to have maintained a stable share of female employees is professional and managerial jobs in financial services. The “other” category, which captures the male-dominated job types experienced relatively fast growth between 1988 and 1998.

**** INSERT FIGURES 5 AND 6 APPROXIMATELY HERE ****

It follows that there are two aspects to the deteriorating environment women face in the Egyptian labor market. First, the evidence indicates that even job types where women are disproportionately represented are becoming de-feminized, contrary to the trend in adjusting countries in Latin America and Southeast Asia. Secondly, employment growth was fastest in parts of the economy where the prevalence of female employment is very low.

VII. GENDER WAGE DIFFERENTIALS

When women’s access is restricted to a few “gender appropriate” job types, overcrowding can occur in these accessible labor market segments, putting downward pressure on wages in these

segments and leading to growing overall gender differentials in wages. To test this hypothesis, we examine changes in gender wage differentials over the 1988-1998 period.

Observed differences in average wages combine two distinct pieces of information, which need to be disentangled before we can draw correct conclusions on the evolution of the underlying pattern of compensation. First, differences in average wages reflect differences in the composition of the male and female work forces in terms of characteristics that are rewarded in the labor market, such as education, experience, and location. Second, they reflect differences in the returns to these characteristics by gender and over time. For our purpose, it is crucial to isolate the differential that is due to the second component since it is that component that reveals how the underlying structure of rewards for individual characteristics evolved over time for males and females. For example, if the male-female differential in average wages fell over time, it would be wrong to conclude that the position of females has improved in the labor market, since this change may simply be due to the fact that the average "productive" characteristics of female wage employees have improved faster than those of males.⁸ The latter could in fact be the result of worsening access to the wage labor market for uneducated females, which is an indication of worsening rather than improving conditions.

We undertake two sorts of adjustment to the crude gender wage differentials.⁹ First we adjust for the fact that male and female characteristics are different in a given year, by using the average female characteristics in that year to predict male wages and use those to calculate the gender differential. We refer to wage differential corrected in this way as Correction I (C I).¹⁰ The second adjustment is needed because the average characteristics of female workers also change over time. Thus, comparing gender wage differentials that use each year's female characteristics to predict male and female wages potentially introduces another source of error. If,

for example, returns to productivity related factors were constant for both years, but the “productive” characteristics of female workers improved more than those of males, female compensation for a given set of characteristics would falsely appear to be catching up. We control for this by using the average female characteristics in one year, say 1988, to predict male and female wages for both years. We refer to this sort of corrected wage differential as Correction II (C II).¹¹ C II wage differentials provide the most direct measures of the changes in the return to human capital characteristics for women and men and will thus be the most useful in our discussion of the relative position of women and men in the wage labor market.

To calculate the wage differentials described above, we draw on wage equation estimates reported in Said (2001). The covariates used in the regressions include educational attainment, experience, experience squared, region of residence, marital status, unionization status, stability of employment, whether the work takes place inside or outside an establishment, the size of establishment (less than or greater than 50 employees), whether the worker is a blue or white collar worker, and the sector of economic activity. Twelve wage equations were estimated for males and females, for 1988 and 1998 and across the government, state-owned enterprises (SOE) and the private sector.¹² This regression design allows us to compare gender wage differentials across sectors, urban and rural location, different educational attainments and experience, as well as between irregular and regular wageworkers.¹³

Gender wage differentials by sector of ownership immediately reveal the importance of isolating the different effects contained in the uncorrected data (see Table 3). Although the uncorrected differentials suggest a declining overall gender wage differential from –19 percent to –9 percent, C II wage differentials are constant over time at 11 percent, and the trend in C I differentials is somewhere in between. Thus what would have appeared as a nearly 60 percent

decline in the gender wage differential over the decade if we just compared average wages, turns out to be a relatively constant differential over time, when differences in “productive” characteristics are controlled for.

**** INSERT TABLE 3 APPROXIMATELY HERE

Since most female wageworkers in Egypt (71 percent in 1998) work for the government and since the government is more egalitarian in its pay practices, it is useful to disaggregate these differentials by sector. Table 3 indeed reveals that wage differentials in the government sector are small and relatively constant over time. In the SOE and private sectors, however, corrected wage differentials (CII) have increased from 14 percent to 26 percent, and from 22 percent to 30 percent, respectively. It thus appears that one of the consequences of structural adjustment and the accompanying increased autonomy that was granted to SOEs, is that the SOEs wage setting behavior is increasingly converging on that of the private sector and away from the relatively centralized government wage setting rules. Regular private sector workers, who made up nearly 80 percent of the female private sector workforce in 1998, had the largest differentials. Irregular workers had smaller differentials in 1988, but experienced the largest relative increase over the decade.

Comparing the crude differentials with the C I differentials for all wageworkers reveals how male and female characteristics differ in each year. The fact that C I differentials are smaller than the crude differentials indicates that women's “productive” characteristics are on average “inferior” to those of males in both years, so that correcting for these characteristics reduces the magnitude of the overall differential. We can see, however, that this is true only in government in 1988 and in the private sector in both years.

A comparison of the C I and C II differentials allows us to ascertain how fast women's characteristics have improved compared to those of men. The fact that C II differentials are larger than C I differentials in 1998 shows that women's "productive" characteristics improved faster than those of men over the decade. This is apparent in all sectors, but is especially true for the SOE and the private sectors. Rather than being an indication of an improving female position in the labor market, this is more likely the result of younger and/or less educated women finding it more difficult to enter the wage labor force in 1998 compared to 1988, thus raising the average experience and/or education of the female wageworkers sub-sample.

Disaggregating gender wage differentials in each sector by educational attainment allows us to further isolate the group of females that is most disadvantaged in the Egyptian labor market (Table 4). We present information for three representative education levels, that among them comprise 70 percent of female wageworkers. The gender gap in wages for university graduates is not only small to start with, but also shrinks over time, in both the government and private sectors. In contrast, wage differentials among commercial vocational secondary graduates in the private sector are much larger, a symptom of the surplus of workers with those educational qualifications. Enrollment in commercial vocational schools is essentially driven by the fact that it is the lowest educational threshold that would allow an individual to be eligible for the long-standing but now suspended public sector employment guarantee. The skills they acquire are essentially clerical skills, with little use outside the bureaucracy. With the slowdown in government hiring in recent years, an oversupply of people with these skills developed. This glut is manifested by very high unemployment rates, low wage rates, and negative returns to education in the private sector (See Assaad 1997 and Rizk 1999 for further discussion of this issue). Illiterate workers also face relatively large and growing differentials in the private sector. The poor and worsening wage

prospects for illiterate female workers are compounded by the very limited access these women face in the wage labor market.

**** INSERT TABLE 4 APPROXIMATELY HERE ****

The fact that gender wage differentials are largest for the sector that is most exposed to market forces and smallest in the government, the least exposed sector suggests that the source of the differential is not pure wage discrimination, where a male and a female of identical characteristics working in identical jobs are being paid different wages. It suggests instead that the source of the differentials is entry discrimination resulting from gender typing of jobs or other barriers to entry that restrict female wageworkers to a few labor market segments. Such narrowing of options results in overcrowding and depressed wages in these segments. Limited geographical mobility further restricts women's job search possibilities and employment options, which could also lead to lower wages.

VIII. GENDER DIFFERENCES IN GEOGRAPHIC MOBILITY

Our objective in this section is to examine male and female commuting patterns to determine whether males and females have significantly different rates of geographical mobility in the labor market. Geographical mobility is an important mechanism of labor market adjustment in times of economic restructuring. The differences in outcome that we observe could very well be due to differences in the ability of males and females to respond to the changing geography of employment opportunities. We opt to examine commuting patterns from home to work rather than migration patterns as our measure of geographical mobility for two reasons. First, migration is usually undertaken by entire households at a time, so it is practically impossible to tell whether a female member of a household has moved in response to her job requirements rather than to those of her husband or father. Second, rates of migration have been quite low in Egypt in recent years

due to constraints in the housing markets, so that much of the adjustment to job markets is taking place on the commuting front. According to the ELMS 1998, only 6.3 percent of individuals who ever worked moved their residence in the ten years previous to the survey, whereas 20 percent of workers worked in a different city or district from the one where they resided in 1998.

We chose to look at two different measures of commuting. The first measure is average one-way travel time from home to work. The second is the proportion commuting to a different geographical agglomeration from the one in which they live to get to work. Since our main concern is with individuals who commute to access wage employment, we limit our attention to employed individuals in urban areas because the sample of rural women engaged in wage work is fairly small. We also exclude from consideration women who are exclusively engaged in non-wage work in agriculture. In the urban context, the vast majority (95%) of these women are engaged in animal husbandry and poultry breeding, exclusively for domestic consumption.

Table 5 presents the average travel time to work for males and females in urban areas in 1998. The table also includes the number of observations in each cell and an indication of the statistical significance of a t-test of the difference in average commuting times between males and females.

**** INSERT TABLE 5 APPROXIMATELY HERE ****

For every category of workers, average travel time to work for women is significantly lower than it is for men. Because selection into the working sample is more likely to be a factor in the female workforce than in the male workforce, employed women are likely to be even less mobility constrained than those who are not working. These estimates therefore underestimate the true extent of how mobility constrained women are. Note also, that commuting time for regular wageworkers in the private sector, the vast majority of private sector workers, is clearly above

average for both men and women. Therefore, the need to commute seems to be highest in a sector that we have already identified as being relatively closed to female employment and one that is being promoted by structural adjustment policies.

We now turn to gender differences commuting rates among different agglomerations for urban residents. Our data sets contain information about job and residential location down to the district level, with further distinction between the urban and rural area of a district when relevant. In Egypt, a governorate is the largest administrative unit below the national level, with each governorate subdivided into a number of districts. We detect commuting by testing whether there is a difference between the job location and the residence location down to the district level. Since such a method relies on changes in administrative jurisdictions rather than commuting distance, it would treat movements across administrative boundaries within the same city as commuting if the city is large enough to contain multiple districts. We therefore distinguish further between changes that involve crossing an administrative boundary within the same urban agglomeration and ones that take place between different agglomerations. We consider only the second type of movement to be commuting by our definition, so that movements across administrative boundaries within the same metropolitan area are not considered commuting for our purposes.

Table 6 shows commuting rates for urban males and females in 1988 and 1998. The number of observations (N) for each category is also shown to provide a measure of the reliability of the estimates. Additionally, the statistical significance for tests of the differences in mobility rates across genders and across years for the same gender is indicated. The commuting rates for all urban workers shown in the last line of the table present a very clear-cut picture by gender. Working women are clearly less mobile than working men. In fact, in 1988 men were almost twice as likely as women to commute to work in a different agglomeration than they one in which

they live (6.5 percent vs. 3.3 percent), and the difference is highly significant statistically. By 1998, the gender difference in commuting rates had widened, as male commuting rates increased, and female rates remained nearly constant.¹⁴ It therefore appears that structural adjustment has resulted in an increased need to commute on the part of men, but that women were unable to accommodate such an increase. This could very well explain the decreasing female access to private sector wage employment we noted above.

**** INSERT TABLE 6 APPROXIMATELY HERE ****

When examined for different age groups, commuting rates appear to differ the most between males and females over age 30, because female commuting decreases significantly after that age, whereas male commuting decreases only slightly. This is clearly due to the fact that most Egyptian women would be married by that age. The significant increase in domestic responsibilities that comes with marriage clearly constrains their ability to work far from their homes. This is confirmed by the large difference in commuting rates between single and married women shown in Table 6. Conversely, marriage was associated with an increase in commuting for men in 1988, but the gap between single and married men virtually disappears by 1998.

Although both young men and young women under the age of 30 have had to significantly increase their commuting rates during the 1988-1998 decade, the difference across time is only significant for young men.¹⁵ Contrary to its effect on women, marriage is associated with an increase in commuting for men in 1988, but the gap between single and married men virtually disappears by 1998. This is a further indication that commuting is increasingly required for new entrants to the labor market during the structural adjustment period.

Commuting rates also differ significantly by education. Men with secondary education or above have the highest commuting rates. Commuting rates increase with education for women as

well, but the gender gap also increases with education. The only educational group to have experienced significant increases in commuting over time is men with basic education.

When examined by sector of employment, gender differences in commuting appear to be largest for regular waged workers, whether in the public or private sectors. Male waged workers in the public and private sectors had similar commuting rates in 1988, but female waged workers in the private sector had to commute considerably more than their public sector counterparts. This pattern appears to indicate that public agencies attempt to accommodate women's needs to work close to their homes through relocations or job transfers, a privilege not available to women working in the private sector. The fact that commuting rates have increased significantly only for males in the private sector shows that the increase in commuting noted above is limited to that sector, contributing to its increased inaccessibility to women.

IX. CONCLUSION

In many respects, the evidence from Egypt confirms the findings in the international literature on structural adjustment and gender, but also contradicts them in some important ways. As predicted in the literature, the gender gap in wages has indeed increased in Egypt over the adjustment period and new job opportunities in the public sector for young new entrants have dwindled. However, the feminization of the paid labor force that has accompanied economic crises and structural adjustment in many Latin American and Asian countries has not materialized in Egypt. In fact, structural adjustment was accompanied by a de-feminization of private sector wage employment in Egypt. It appears that any increased labor supply effect due to household income shortfalls were overcome by significant barriers to entry into private sector wage employment for women. On the demand side, the labor-intensive, export-oriented industries,

which account for the feminization of employment in other countries, appear not to have materialized to any significant extent in Egypt.

Although a number of factors undoubtedly contribute to barriers to paid employment for women in Egypt, including the reluctance of employers to hire them because of their higher turnover rates, the long working hours associated with such employment, social norms that discourage women from working in certain occupations and working environments, we opted to focus in this paper on constraints to geographical mobility as a major obstacle to private sector wage employment in Egypt. We show that young male new entrants, and in particular those with intermediate and higher education levels, have had to significantly increase their commuting over the 1988-1998 decade to obtain private sector employment. Educated young women on the other hand have not been able to increase their commuting rates to the same extent, a factor that we suggest has contributed to their reduced access to private wage employment. Less educated women, who have always lacked the qualifications to enter the public sector, are even more mobility constrained, further limiting their employment options in the private sector. They have and continue to be confined to either non-wage work, much of it in subsistence agriculture, or domestic work.

Barriers to female wage employment in the private sector, either because of employer attitudes, predominant social norms, or mobility constraints results in the crowding of female labor in a small number of labor market segments, which in turn, results in depressed female wages. Women with a vocational secondary education, who were deprived of their guaranteed access to public employment, but who have few marketable skills, are the ones who are in the greatest excess supply, and who have therefore seen their wages fall the most relative to those of their male counterparts.

Women's confinement into a limited number of "gender appropriate" job types and their relative geographical confinement within their local labor markets puts them at a significant disadvantage during periods of crisis and structural adjustment. Women's more limited ability to respond to the changing sectoral composition and geography of employment brought about by structural adjustment is clearly a major determinant of the growing gender gaps that we documented.

It is likely that it will take a long time for these gender gaps to narrow. The private sector will only become more hospitable to female employees if social norms concerning the proper place of women in the economy change. This is certainly a slow process. Geographical mobility constraints are often connected to the same social norms about household responsibilities and gender roles and are therefore also unlikely to loosen soon. However, some short-term measures are possible. Any measures that result in a growing manufactured export sector are likely to improve women's access to paid employment in the short-term. Moreover, efforts to encourage the location of private economic activity close to where people live rather than the current trend toward the encouragement of specialized industrial towns, would reduce the need for commuting and thus improve employment chances for women. Finally more accessible housing in the new industrial towns and better transportation would also help.

¹ For a discussion of ERSAP and the preceding stabilization and reform experiences see Abdel-Khalek (2001).

² The sampling and questionnaire design of the LFSS 1988 is described in detail in Fergany (1990) and that of the ELMS 1998 is described in Assaad and Barsoum (1999).

³ The excluded governorates are Red Sea, New Valley, Matruh, North and South Sinai. They constituted 1.4 percent of the population in 1996.

⁴ However, if we exclude unpaid work in agriculture, which for women consists mostly of subsistence agricultural work, the female participation rate was essentially stable, going from 18.5 percent in 1988 to 18.2 percent in 1998.

⁵ Non-wage employment includes employers, self-employed individuals, and those working for a family enterprise at no wage. According to the extended definition of employment used here, it includes those engaged in subsistence agricultural and animal husbandry activities.

⁶ Similar charts for males are shown in Figures A1 and A2 in Appendix A.

⁷ A secondary school certificate is the threshold educational level at which the public sector employment guarantee for graduates comes into effect in Egypt. See Assaad (1997) for a detailed discussion of the effect of this long-standing policy on the Egyptian labor market.

⁸ We enclose the term "productive" in quotation marks because it may refer to institutional factors that determine wages, such as unionization or industry, as well as to productive characteristics like education and experience. Having said that, we will use the phrase "productive characteristics" in the sequel as a shorthand to refer to any of the observed characteristics (except gender) that determine wages.

⁹ The crude gender wage differential is defined as difference between the average log hourly wage for women and the average log hourly wage for men.

¹⁰ To carry out the correction we rely on wage equation estimates by gender for each of the two years for which data is available. Correction I is defined as the difference between the average predicted log hourly wage for females in a given year using the female parameters and their predicted log hourly wage using the male wage equation parameters.

¹¹ Correction II is similar to Correction I, but uses the average female characteristics in 1988 to carry out the predictions in both years. It therefore fixes the characteristics for females and males for both years allowing us to focus on the difference in the parameters. It follows that Correction II is identical to Correction I for 1988.

¹² The sectoral regressions were not corrected for non-random selection into the three sectors.

¹³ Regular work is relatively continuous work with a single employer, even if it is for a specified period. Irregular work is seasonal or intermittent employment, possibly with many different employers.

¹⁴ Female commuting rates increased from 3.6 to 3.8 percent, which is statistically insignificant. To make sure that the tests are not affected by sample sizes, we assigned the males sample sizes to the females and redid the test. the difference was still insignificant.

¹⁵ Differences across time in the female sample are almost always statistically insignificant because of the relatively small sample sizes involved.

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Table 1: Distribution of Wage Employment by Sector & Sex, 1988, 1998. Row and column percentages.

	Government		State-Owned Enterprises		Private		Other		Total	
	1988	1998	1988	1998	1988	1998	1988	1998	1988	1998
Male	<i>33.1</i>	<i>37.9</i>	<i>18.1</i>	<i>10.5</i>	<i>48.4</i>	<i>51.4</i>	<i>0.4</i>	<i>0.2</i>	<i>100</i>	<i>100</i>
	71.3	69.2	86.0	88.0	86.5	90.5	55.2	66.4	80.5	80.8
Female	<i>55.2</i>	<i>70.9</i>	<i>12.2</i>	<i>6.0</i>	<i>31.3</i>	<i>22.6</i>	<i>1.3</i>	<i>0.5</i>	<i>100</i>	<i>100</i>
	28.7	30.8	14.0	12.0	13.5	9.5	44.6	33.6	19.5	19.2
Total	<i>21.7</i>	<i>31.0</i>	<i>9.9</i>	<i>6.7</i>	<i>67.1</i>	<i>61.2</i>	<i>1.3</i>	<i>1.1</i>	<i>100</i>	<i>100</i>
	100	100	100	100	100	100	100	100	100	100

Source: Author's calculations from ELMS 98 and LFSS 88 data.

Note: Row percentages are in italic

Table 2: Employment Ratios by Educational Attainment, Sector, Sex, and Urban/Rural Location, 1988, 1998 (Ages 15 to 64)

Educational Attainment	Urban				Rural			
	Males		Females		Males		Females	
	88	98	88	98	88	98	88	98
Total Employment								
Illiterate	84	79	17	25	89	84	55	60
Read and Write	84	81	10	15	91	86	47	56
less than intermediate	48	50	9	10	48	48	26	36
intermediate	59	58	37	30	62	61	46	44
higher than intermediate	76	81	61	50	81	86	76	65
university	84	85	60	64	81	81	59	60
post-graduate	94	91	--	--	--	--	--	--
All	70	66	24	28	77	68	52	53
Wage Employment								
Illiterate	51	48	4	3	40	48	3	2
Read and Write	58	52	4	3	50	58	4	4
less than intermediate	35	37	6	4	25	31	3	2
intermediate	50	47	36	24	46	44	36	16
higher than intermediate	65	68	61	49	74	67	74	54
university	68	71	59	61	72	67	58	43
post-graduate	86	89	--	--	--	--	--	--
All	52	50	16	17	41	46	6	7
Public Sector Employment								
Illiterate	17	12	1	1	9	9	0	0
Read and Write	31	22	1	1	24	28	2	1
less than intermediate	17	14	3	2	11	13	2	1
intermediate	32	25	30	20	32	25	31	14
higher than intermediate	45	49	54	41	70	52	74	54
university	52	51	46	51	67	59	50	42
post-graduate	79	74	--	--	--	--	--	--
All	29	26	12	14	19	21	3	5
Private Sector Wage Employment								
Illiterate	34	36	3	2	31	40	3	2
Read and Write	27	30	3	2	26	30	2	3
less than intermediate	18	23	3	2	14	18	2	1
intermediate	18	22	6	4	14	19	4	2
higher than intermediate	21	19	7	7	4	16	0	0
university	17	21	12	10	5	8	8	2
post-graduate	7	15	--	--	--	--	--	--
All	22	24	4	4	23	25	3	2

Source: Authors' calculations based on data from LFSS 1988 and ELMS 1998.

Notes: Employment ratios are expressed as a percentage of the population of the relevant subgroup.

-- indicates that results for cells with fewer than 20 observations are suppressed.

Table 3: Crude and Corrected Gender Wage Differentials by Sector (percentages), 1988, 1998.

	Crude		C I		C II	
	1988	1998	1988	1998	1988	1998
Government	-0.08	0.01	-0.03	0.03	-0.03	-0.03
SOE	-0.15	-0.05	-0.14	-0.10	-0.14	-0.26
Private	-0.36	-0.31	-0.22	-0.21	-0.22	-0.30
Private – regular	-0.46	-0.32	-0.34	-0.24	-0.34	-0.36
Private – Irregular	-0.23	-0.17	-0.08	-0.07	-0.08	-0.21
All wage workers	-0.19	-0.09	-0.11	-0.04	-0.11	-0.11

Source: Author's calculation based on regressions reported in Said (2001)

Table 4: Gender Wage Differentials by Educational Attainment and Sector, 1988 and 1998

Sector	Educational Attainment	Crude		C I		C II	
		1988	1998	1988	1998	1988	1998
Gov.	Illiterate	-0.20	-0.26	-0.04	-0.17	-0.04	-0.21
	Commercial vocational secondary	-0.27	-0.18	0.01	-0.06	0.01	-0.04
	University	-0.27	-0.11	-0.01	-0.04	-0.01	0.00
SOE ¹	University	-0.43	-0.19	-0.27	-0.09	-0.27	-0.24
Private	Illiterate	-0.34	-0.42	-0.18	-0.29	-0.18	-0.30
	Commercial vocational secondary	-0.48	-0.43	-0.36	-0.30	-0.36	-0.31
	University	-0.29	-0.19	-0.11	0.01	-0.11	-0.02
Total	Illiterate	-0.29	-0.27	-0.13	-0.16	-0.13	-0.21
	Commercial vocational secondary	-0.35	-0.25	-0.14	-0.12	-0.14	-0.13
	University	-0.30	-0.14	-0.08	-0.03	-0.08	-0.02

Source: Author's calculation based on regressions reported in Said (2001)

Note: ¹ Sample sizes in the illiterate and white-collar secondary category were too small, i.e. less than 20 observations for women.

Table 5: Average One-Way Travel Time to Work (in minutes) by Selected Characteristics for Urban Males and Females, 1998

	Males		Females		Δ^1
	Mean	N	Mean	N	
Age					
15 to 29	29.1	797	25.1	212	**
30 to 44	31.4	1055	22.1	450	***
45 to 64	29.4	884	22.7	232	***
Educational Attainment²					
Illiterate	25.1	294	10.5	60	***
Basic	29.1	811	22.9	59	**
Secondary	31.5	1628	24.1	774	***
Marital Status					
Single	30.2	917	24.1	313	***
Married	30.0	1819	22.3	581	***
Sector of Employment					
Public Sector	28.7	954	22.8	638	***
Regular Private Wage Sector	37.5	1068	27.8	194	***
Irregular Private Wage Sector	25.8	120	16.0	5	**
Private Non-Wage Sector	18.0	594	8.6	57	***
Total	30.1	2736	23.0	894	***

Source: Authors' calculations using data from ELMS 1998.

Notes: ¹Statistical significance of gender difference in average travel time is marked: 1% (***), 5% (**) and 10% (*).

²Basic: includes primary and lower secondary; Secondary: includes upper secondary, post-secondary, university and post-graduate.

Table 6: Commuting Rates for Employed¹ Urban Males and Females by Selected Characteristics, 1988, 1998

	1988					1998					1988-1998	
	Males	N ²	Females	N ²	Δ ³	Males	N ²	Females	N ²	Δ ³	Δ Males ⁴	Δ Females ⁴
Age												
15 to 29	4.7	860	4.3	322		8.6	999	6.3	218		***	
30 to 44	8.1	1049	4.1	335	**	8.2	1276	3.3	465	***		
45 to 64	6.5	800	1.8	127	**	8.2	1004	2.8	238	***		
Educational Attainment⁵												
Illiterate	3.9	706	3.2	161		3.6	417	0.0	74	*		
Basic	4.9	927	3.1	78		6.7	1097	4.8	63		*	
Secondary and above	9.4	1076	4.1	545	***	10.3	1781	4.1	783	***		
Marital Status												
Single	5.3	647	4.9	300		8.2	1156	5.0	326	**	**	
Married	7.3	1941	3.1	481	***	8.4	2143	3.1	595	***		
Sector of Employment												
Public Sector	8.6	724	3.2	416	***	10.1	975	3.0	646	***		
Regular Private Wage Sector	8.6	988	6.0	218		11.4	1214	6.7	194	**	**	
Irregular Private Wage Sector	1.9	226	0.0	15		2.4	323	0.0	10			
Private Non-Wage Sector	2.7	767	0.5	130		3.1	787	2.4	71			
Total	6.5	2709	3.6	784	***	8.3	3299	3.8	921	***	***	

Source: Authors' calculations based on data from LFSS 1988 and ELMS 1998.

Notes: ¹Excludes female non-wage workers in agriculture, most of whom are engaged in animal husbandry and poultry raising at home

² Indicates sample size for the relevant category of individuals

³Statistical significance of gender difference in rates is marked 1% (***), 5% (**) and 10% (*).

⁴Statistical significance of difference between 1988 and 1998 is marked 1% (***), 5% (**) and 10% (*).

⁵Basic: includes primary and lower secondary; secondary and above: includes upper secondary, post-secondary, university and post-graduate.

Figure 1: Employment Ratios by Age – Urban Females

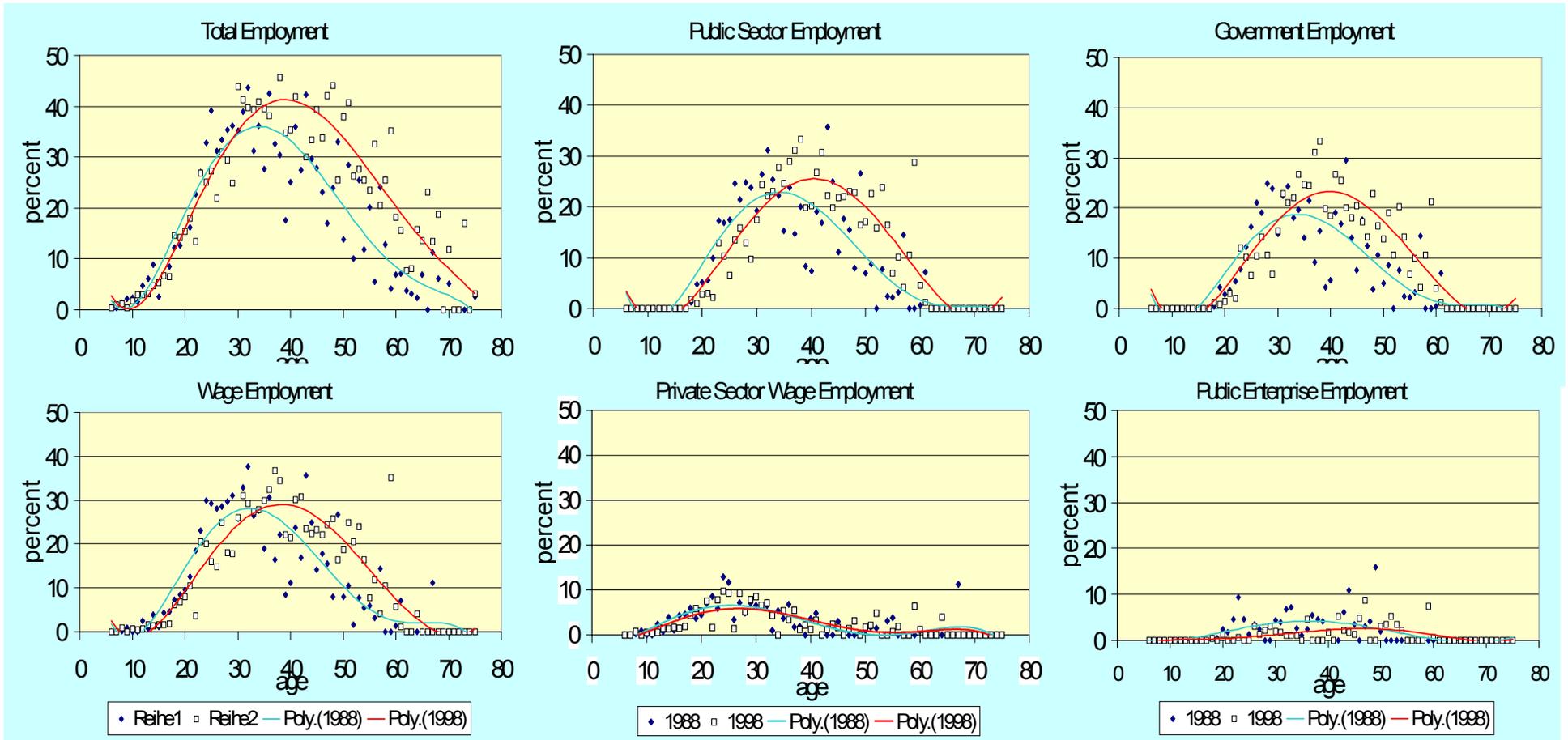


Figure 2: Employment Ratios by Age – Rural Females

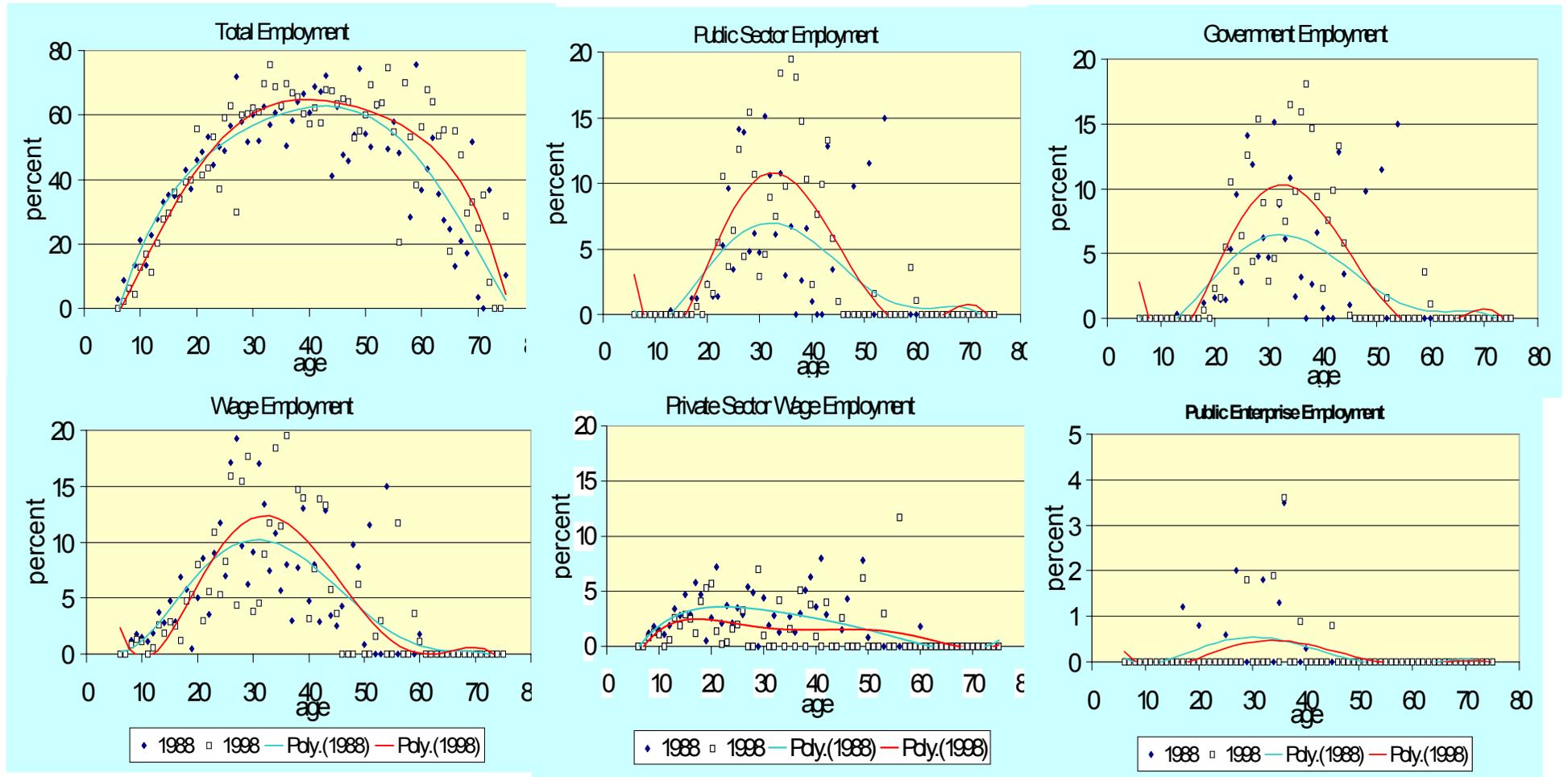


Figure 3: Employment Ratios by Age -- Urban Males

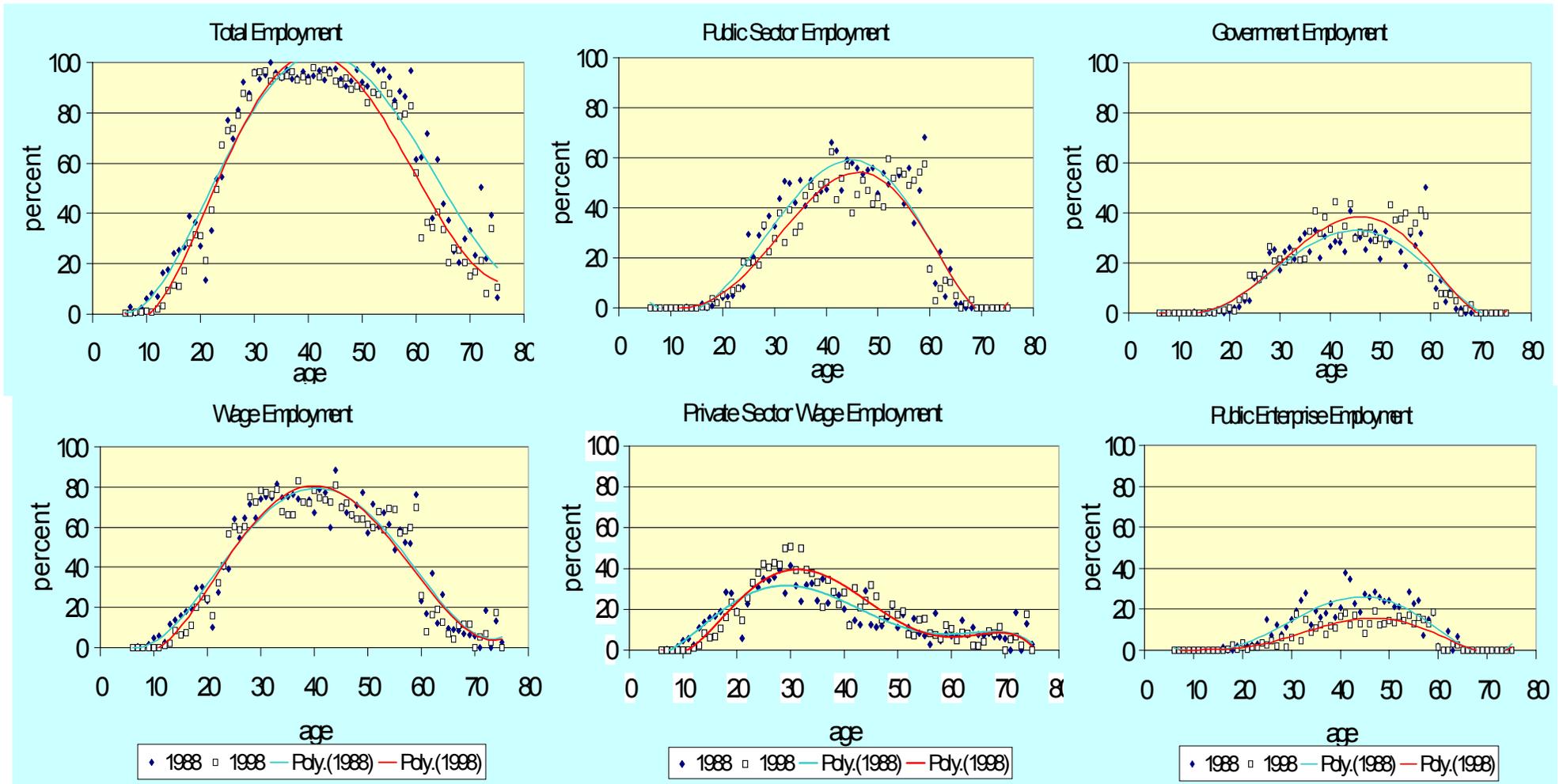


Figure 4: Employment Ratios By Age – Rural Males

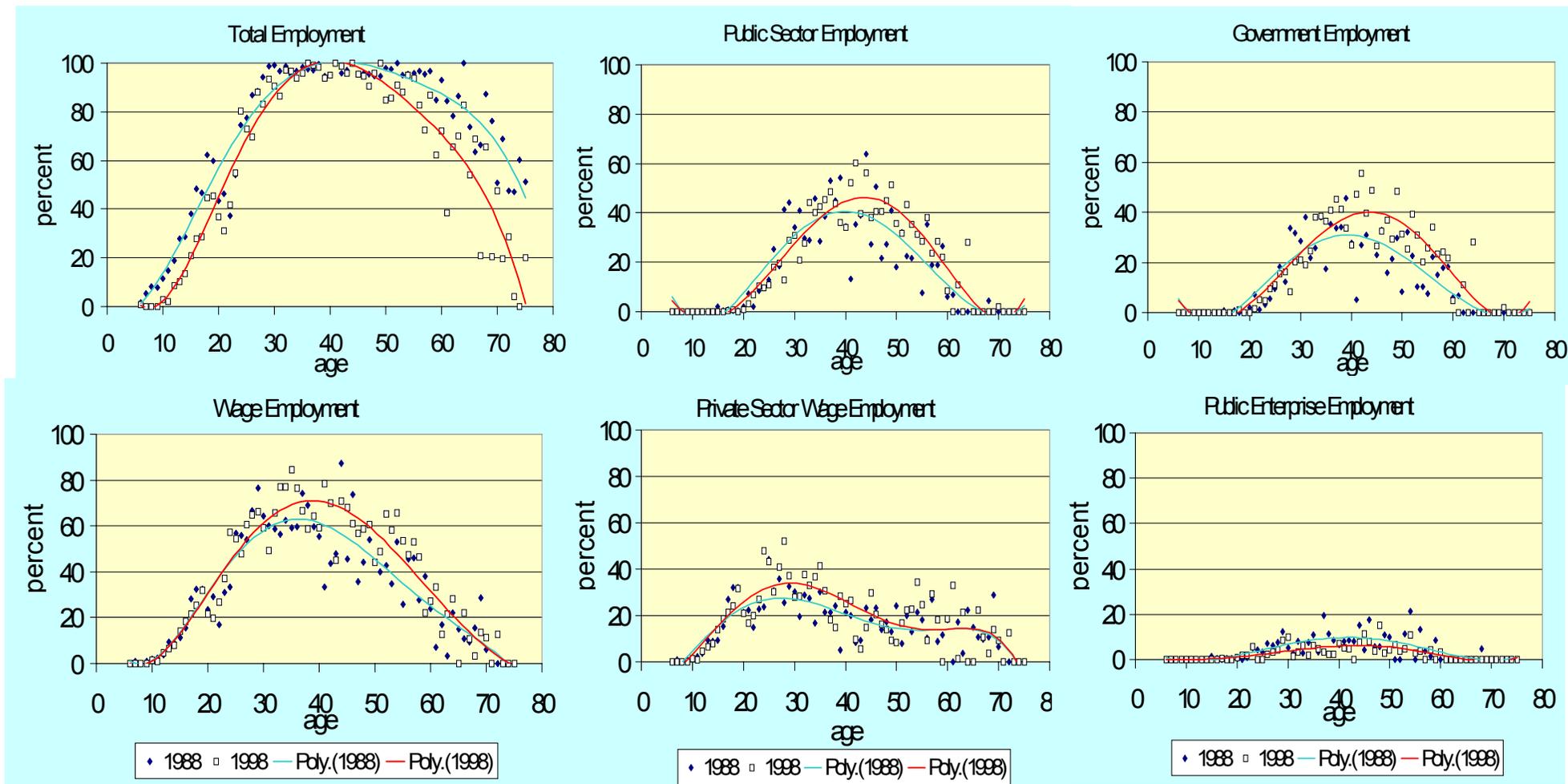


Figure 5
Share of female employees in various kinds of non-governmental wage employment, 1988, 1998

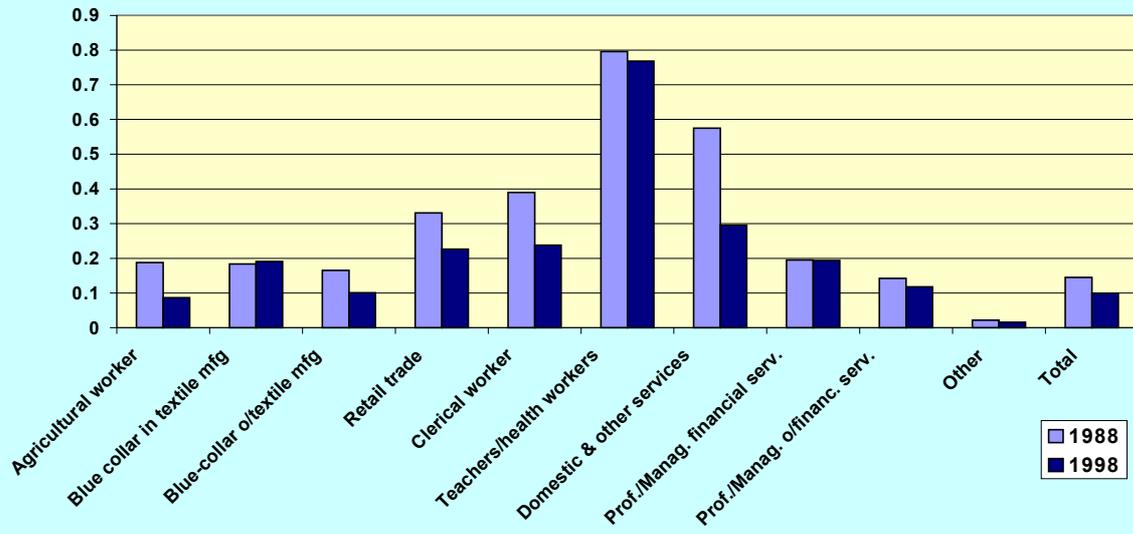


Figure 6
Growth in Non-Governmental Wage Employment by various Types of Jobs, 1988-1998

