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The robust growth of the United Arab Emirates (UAE) economy over the past decade has significantly raised the standards of living in the country, and has created remarkable economic and social transformations. However, there is growing concern that output expansion has yet to translate into strong jobs growth for UAE citizens, outside the public sector and among the youth. Such concern is warranted because the youth form the foundation of long-term growth, particularly in light of the young age structure of the local population. The recent political events in the Middle East have heightened the interest in youth issues, not only on the part of social scientists, but also and especially among policymakers. Governments are allocating more resources towards understanding and handling youth problems, either for the sake of satisfying youth aspirations or to prevent the emergence of the same conditions that have led to the youth-driven political and social change that has radically transformed some neighboring countries.

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The objective of this paper is to link the overall labor-market experience of Emirati youth to the main characteristics of the UAE labor market. The source of data is the 2009 round of the UAE Labor Force Sample Survey (LFS).[1] The focus will be on the determinants of youth unemployment and labor market participation. The analysis is conducted along key characteristics such as gender, marital status, education, and region of residency, frequently comparing the youth experience to that of older workers. Section 1 of the paper examines youth participation whereas Section 2 addresses unemployment. In Section 3, a probit model of the probabilities of participation and unemployment is estimated, in which the the determinants discussed in sections 1 and 2 are jointly assessed. Section 4 focuses on the role of incentives and other qualitative features that seem to strongly influence youth unemployment. Section 5 concludes.

1   Youth participation

Table 1 presents key UAE labor market indicators, derived from the 2009 LFS. In that year, about 73 percent of the UAE's working-age population was economically active. This overall average hides considerable variation by gender, age group (youth versus adults), and nationality (Emiratis versus others). The labor force participation rate among Emiratis, at 47 percent, was only 59 percent that

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[1]The definition of youth is not uniform across countries. The Commonwealth's definition refers to individuals in the 15-29 years age bracket, whereas the United Nations' definition is limited to persons between the ages of 15 and 24. We use the first definition because the transition from education to work (duration of unemployment) can be long and, in some countries such as the UAE, young people overwhelmingly enter the job market after they complete their studies (part-time jobs and temporary transitions between full-time study and full-time work are not common). Furthermore, UAE data are scarce and have a short time span (The LFS survey is about five years old), and one year of data will not allow exploiting the time series dimension of the issue at hand.

of expatriates. This nationality gap extends to both sexes. The fraction of UAE women who were in the labor force did not exceed 29 percent, and was 19 percentage points below that of expatriate women. The gap between Emirati and foreign men was also wide. Almost 94 percent of expatriate men were active, compared to about 65 percent for Emirati men. The reason for such high participation rate of foreign men is that they are essentially guest workers. With few exceptions, having a job is a prerequisite for extending and renewing UAE residency to adult expatriates. Furthermore, and with the exception of household workers, immigrants to the UAE are predominantly men who are either single or have immediate dependents outside the country. Among expatriate families in the UAE, it is more common for the husband to sponsor his economically-inactive wife than vice versa. As a result, the labor force participation rate of foreign women, 48 percent in 2009, is lower than that of foreign men.

Shifting the focus to the economic activity of UAE citizens, young and old, the data reveal that, compared to men, women have limited labor market engagement. The participation rate of young men was almost twice that of young women (55.7 versus 28.5 percent). Among older workers, Emiratis aged 30-64 years, the ratio of men's to women's participation was even higher, at 2.7 (79.4/29.3). These figures indicate that the male-female gap, though still large, is narrowing over time.

Lower youth participation rates is the norm because most people do not complete full-time tertiary education before the age of 22. Participation rates increase significantly as individuals move from the 15-19 age group into the 20-24 group, and then from the latter group into the 25-29 group (Table 2). Such pattern is observed among UAE men and women, suggesting higher educational attainment. It is worth noting that participation of Emirati men peaks in the 25-44 age group

(93 percent), and drops afterwards, mainly due to early retirement. For Emirati women, participation is highest in the younger 25-29 age group (53 percent), and falls more rapidly, compared to men, for those over 30 years of age.

The male-female timing difference in participation suggests that UAE women's attachment to the labor market is more recent. The participation rate of more recent birth cohorts of Emirati women, the 25-44 age group, is significantly higher than that of older cohorts. In fact, labor market activity was almost non-existent for those aged 55 years or more (early retirement). In 2009, the percentage of women 30 years or younger in the female labor force was 57.5 whereas the corresponding percentage for men was 50.1, even though the share of youth in the Emirati working-age population was roughly the same across gender, at about 58 percent. These figures are reported in Table 3. The share of women in the youth workforce (33.9 percent) was higher than the corresponding share for the 30-64 year old group (27.6 percent). Both shares are considered low by international standards. The contribution of women to the Emirati youth workforce was highest in the 25-29 age group at 37.9 percent (Table 4).

Young Emiratis are, on average, more educated than their older compatriots. Slightly more than 40 percent of Emirati males aged 30-64 years had below secondary education, compared to about 25 percent for males aged 25-29 years. With respect to tertiary education, the generational effect is absent among males. About 30 percent of men acquired post-secondary education, regardless of age (25-29 versus 30-64 years). The story is different for Emirati women. Young women are significantly more educated than older women at both the secondary and post-secondary levels. As a result, the percentage of women holding below secondary diplomas was 15 percent in the age group 25-29 and 51 percent in the 30-64

group. Therefore, higher educational attainment in the UAE is recent, and is driven mainly by increased college attendance among females.

Although the age-participation profiles of men and women are more or less similar in shape, they are very different in levels. The male-female participation gap reported above is significant throughout all age groups, reflecting the fact that Emirati women allocate considerable amount of time to non-market activities, especially childbearing. Household budget survey data indicate that the average number of children per woman in Emirati households was 4.8 in 2007-08, a rather high number. In 2009, 95 percent of young Emirati men and 66 percent of young Emirati women reported full-time student status as reason for being out of the labor force. In addition, about 30 percent of inactive young Emirati women, and 92 percent of inactive adult women were so because of household responsibilities (Table 5). In contrast, early retirement explained 70 percent of adult economic inactivity for Emirati men (Table 6).

The data reveal the expected positive association between educational attainment and labor force participation (Table 7). We don't focus on the educational profile of the 15-24 year olds, because individuals in this group are not in steady state with respect to education. In 2009, the percentage of 15-19 year olds who gave full-time student status as reason for not working or searching for work was 95.4. The figure decreased to 70 percent for the 20-24 group, and to 16 percent for the 25-29 group. In order to informally control for the effect of age on education (without regression analysis), we look at the participation rates of Emiratis whose diplomas are likely to be terminal, those who are at least 25 years old. As the level of education rises, so does labor force participation. For young women (25-29), participation increased from 25 percent for those with below-secondary education, to 38 percent

among holders of the secondary school certificate, and to 76 percent for those with post-secondary (including university) degree. And the same pattern was observed among older women or men, although for the latter group, the positive impact of education was strongest at lower levels of education. The impact of education on the economic activity of young males (25-29 year olds) was negligible though.

The overall increase in educational attainment impacts participation in two major ways. Higher education is usually associated with higher market wage, which raises the opportunity cost of not working. In addition, higher education tends to develop preferences for working and contributes to lower fertility, so that more women become economically active. More education years delay marriage and pregnancy and make women better informed on how to control or regulate fertility. Also, higher education is associated with reduced emphasis on the number of children in favor of improving the quality of their lives (the quantity-quality trade-off). The UAE household budget survey data point to the interaction between fertility and education. The number of children per Emirati woman decreases from 6.2 for women with below secondary school diploma to 4 for those with a university degree (HBS figures).

Marriage may affect female labor force participation independent of fertility. If seeking work is an intra-household (joint) decision, husbands' attitude towards work is expected to significantly affect the participation rate of married women. Table 8 does not control for the number of children. However, it shows a large gap in participation between married and unmarried women. The participation rate was almost three times higher for unmarried (never-married) women in the age group 30-64 (73 percent, versus 25 percent for married women). For Emirati youth (25-29 years old), the participation rate of unmarried women (80 percent)

was almost double that of married women (39 percent). Therefore, marriage negatively affects the participation of women, directly or indirectly (via fertility), with smaller but still important impact on younger women.

It should be noted, however, that the common presence of domestic helpers in Emirati households tends to lessen the impact of household responsibilities on women's labor market involvement, although such presence may not lead to substituting household chores for market work, but rather to replacing work with leisure. Furthermore, in a traditional family setup, strong childcare support may come from other members of the extended family (mother, mother-in-law, etc), thus releasing time for possible job-related activities. At the same time, such setup gives (older) relatives more say with respect to personal decisions regarding work and fertility, which tends to reduce participation.

As for men, marriage is positively associated with labor market participation. The rates for married men 30 years and older were about 6-10 percent higher, depending on the age group, likely pointing to the cost effect of establishing and maintaining a family (Table 8). These male-female differentials reflect the still-dominant traditional form of household organization in the UAE, according to which the man earns the money and the woman takes care of home and children. Men are expected to work. Women are not. Therefore, female employment is not, from a social view, as essential as male employment. Cultural norms go a long way in explaining the differences in participation rates between men and women.

In sum, the higher education attainment of UAE youth partially explains both the low labor force participation rates in the age groups 15-19 and 20-24, as well as the higher rates in the 25-29 group. In addition, lower fertility and changing

attitudes towards women's work are reasons for the increased labor engagement of female youth, relative to that of older birth cohorts. Rising education-based economic opportunities and slowly-changing cultural norms explain the recent, slow decrease in participation gap between men and women.

2 Youth unemployment

According to estimates derived from LFS, the overall unemployment rate in the UAE was 4.2 percent in 2009 (Table 1). The rate was significantly higher among Emiratis (14.4 percent versus 2.8 percent for other nationalities). The low rate for expatriates reflects the fact that foreign-household residency in the UAE is conditional upon employment. Most foreigners are required to leave the country no later than six months after job separation. The Emirati unemployment rate is mainly driven by female unemployment (28.9 percent). In addition, the unemployment rate among the youth was 21.4 percent, and they represented 78 percent of unemployed Emiratis, implying that unemployment in the UAE is also a youth issue. As a result, young women suffer the most, with 40 percent unemployment rate. Women's shares in youth and adult unemployment counts were, respectively, 63 and 56 percent, rising to 76 percent in the age group 25-29 (Table 4).

At 12 percent, the unemployment rate among young UAE men was also high in 2009, although it was about 30 percent that of young UAE women (Table 1). The ratio of older men's unemployment rate to that of older women was close to 30 percent also (4 to 14 percent). The male-female gap in unemployment persists in all age groups but becomes much narrower starting at age 45 (Table 2). Furthermore, as men and women become older, their unemployment rates drop considerably, to

about 4-6 percent for the 45-64 year olds, although female economic activity is almost absent for individuals aged 55 years or more. Because the unemployment rate drops significantly as young men move beyond the formation (education) years, male unemployment seems to be related to insufficient educational attainment. In contrast, the unemployment rate remains relatively high even as young women move into the 25-29 age group, reflecting the effect of additional, mainly cultural factors, as explained above.

Table 9 further explores the unemployment-education link. Among men, youth unemployment decreases as educational attainment rises. For the 25-29 year olds, the 2009 unemployment rate was 12.9 percent for those with below secondary school diploma versus 3.5 percent for holders of post-secondary diplomas. And the same pattern was observed among men aged 15-29 years. However, for women between 25 and 29 years, the unemployment rate increased initially with education level then dropped for those with post-secondary higher degrees, albeit remaining high at 30 percent. In addition, the 25-29/30-64 (or youth-adult) unemployment ratio was high across all educational levels. As an example, about 20 percent of the economically active youth were unemployed, compared to almost 7 percent for older (30-64 year-old) workers (Table 1). In 2009, for any education level or age group, female unemployment rates were significantly higher than those of males. In other words, female unemployment rates are high in absolute and relative terms.

Although labor supply changes are important, they cannot alone explain unemployment. Joblessness is determined by supply and demand interactions in the labor market. Because the demand for workers is a derived demand, employment creation depends on output growth. Over the past two decades, the UAE has experienced, on average, a strong output expansion which has led to substantial

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transformation in the structure of the economy. This robust growth has relied to a large extent on imported labor, as well as on the accumulation of domestic and foreign-financed capital. The discussion of labor demand remains at the macro level due to the lack of firm-level micro data.

It is possible to directly link part of the increase in UAE unemployment to the explosive inflow of workers from abroad, if Emiratis and foreigners compete for the same occupations. The data show that many jobs conducted by non-Emiratis are avoided by Emiratis (data on skilled and unskilled occupations). Given their high reservation wage, Emiratis can afford to decline low-paying jobs as well as those that are considered too demanding because pay does not compensate enough for effort or other non-pecuniary aspects of the job.

Moreover, Emirati women face additional limits on career choices. Due to cultural and religious reasons, some industries and occupations are considered inappropriate for women. Many UAE females cannot take jobs that require night-time or late-hour work schedules. Also, they generally avoid jobs that demand frequent travel or permanent relocation. These restrictions raise the cost of hiring female labor. As a result, private employers tend to favor male employment, especially when society regards male employment as more important, as explained earlier. It is interesting that because of these adverse conditions, Emirati women who succeed in the labor market are likely to to be more motivated than the average person.

Table 10 shows the distribution of the UAE workforce, by nationality and occupation. Almost 23 percent of Emiratis are in the police and armed forces sector (occupation group 1). In addition, unskilled occupations (occupation groups 7 to 10) employ almost 30 percent of all foreign labor but only 4 percent of Emirati

workers. On the other hand, Emiratis are more or less evenly distributed across the remaining occupation (2-6), and Emirati and non-Emirati shares in these occupations are very close. Therefore, in principle, there is room replacing foreigners in semi-skilled and highly-skilled occupations.

In light of the demographic and economic reality of the UAE, reducing reliance on foreign workers is unlikely to happen. The small domestic population base is not capable of satisfying the increased demands of such a high-growth economy. However, high growth is capable of creating enough vacancies to accommodate the local demand for jobs, even if the share of Emiratis in total employment falls. Current diversification efforts away from hydrocarbons, a capital-intensive sector, and into labor-intensive industries such as trade, tourism, construction, and services will also increase the employment impact of growth. The real challenge, therefore, is how to make Emiratis both qualified and attracted to the new jobs.

Youth unemployment in the UAE is, to a large degree, the result of waiting for the right job. And for almost all Emirati youth, the right job is located in the public sector. In comparison to the private sector, the public sector offers higher wage and non-wage benefits as well as more attractive working conditions. As a result, young Emiratis strongly favor public employment over private-sector jobs. When asked about their preferred sector of employment, almost 95 percent of young unemployed Emiratis chose the public sector, with the remaining 5 percent favoring the mixed sector (companies with large or majority government ownership). (Table 11)

Wages are significantly higher in the public sector. In 2009, The median in-cash salary of Emiratis working for the public sector was AED 18000, or 1.8 folds the

corresponding figure in the private sector. This median wage gap was the same for the younger Emirati workers (15-29 year olds) (Table 12). Moreover, Emiratis reported average weekly work hours that were longer by about three hours in the private sector (Table 13). Other public sector benefits include a relaxed and less competitive work environment, better job security, more holidays, and a convenient work schedule that starts early and ends late afternoon. As a result, over 85 percent of Emiratis worked for the federal or local government, and 6 percent more held jobs in the mixed sector. The favorable conditions in the public sector, and its ability thus far to accommodate the employment needs of the vast majority of Emiratis, set the expectations for the unemployed youth, of eventually joining their fellow citizens.

In addition to offering inferior work-related benefits, the private sector presents a socially different environment in which Emiratis are a small minority (although there are exception such as the banking sector). Private sector employment is particularly unattractive to UAE women because it is dominated by men, who represent 87 percent of the sector's workforce. Thus, the small representation of Emiratis in the private sector makes joining its workforce an unattractive option to Emiratis, thus compounding the problem.

Youth unemployment is complicated by the fact that public sector employment seems to have reached a saturation point, and therefore is unlikely to grow enough in the future to accommodate the new entrants to the labor market, unless underemployment, in the form of unproductive jobs, is allowed to rise (a common outcome based on the experience of many other countries such as Egypt). Despite being the main or perhaps the only source of future growth, the private sector has been unable to create enough jobs that Emiratis consider suitable. Therefore,

youth employment policies ought to squarely focus on how to link private sector needs to youth qualifications and incentives.

3   Youth employability: A regression analysis

The data analysis so far is exploratory, relying on two-way tabulations to identify the determinants of youth participation and unemployment. The current section simultaneously accounts for these determinants via regression analysis, shedding light on their relative contributions in explaining participation and unemployment among UAE youth. In particular, the likelihood of being unemployed and the likelihood of being part of the labor force each is assumed to depend on the person's age, gender, education, marital status, and region of residency:

$$P(Y_i) = f(X_i) + \epsilon_i$$

where $P(Y_i)$ is the probability of unemployment or participation for individual i, and ϵ is the standard disturbance term. In the employment equation, Y equals 1 if an individual is unemployed and 0 if the individual is employed. For the participation equation, Y is set to 1 if the person is inside the labor force and to 0 if the person is outside the labor force. Because the dependent variable is categorical, a nonlinear probit estimation is applied. All the explanatory variables enter the two equations as factors (the vector X). 'Married' equals 1 if the person is married and 0 otherwise. In addition, each of the following age groups is represented by a dummy variable: 15-19 years, 20-24 years, 25-29 years, and 30-64 years. The omitted dummy variable represents either the 30-64 year olds or, in the youth-specific regressions, the 20-24 year olds. Tables 16 and 17 show

regional variation in the unemployment rate. Therefore, five regions are identified and controlled for: Abu Dhabi - Urban (the cities of Abu Dhabi and Al-Ain), Abu Dhabi - Rural, Dubai, Sharjah, and the Northern Emirates. Educational levels are classified into three groups: Below secondary school education, secondary school diploma, and above secondary school diploma (tertiary education). The dummy variables representing Abu Dhabi - Urban and secondary school diploma holders are omitted. The regression results, which are limited to Emiratis, are reported in Tables 18-22. For now, the following discussion is limited to the youth-regression results (columns 4-6 in Tables 18 and 19). The other results are not different. Many of the estimated coefficients are significantly different from zero, and many are statistically significant at the 1 percent level. Given that the estimation is nonlinear, the marginal effects of the regressors on the probabilities are not equal to the reported coefficients. However, the qualitative results can be derived from the signs of the estimated coefficients.

With respect to the determinants of labor market participation (Table 18), the results show that, unsurprisingly, participation increases with age, so that participation is highest in the age group 25-29, when it is very likely that educational outcomes are in steady state (the highest educational level is defined as above secondary school). In other words, investing in education explains the positive association between age and economic activity for 15-29 year olds, a group with rather limited work experience. This association is strong for both men and women, suggesting equal access to education and narrowing (perhaps non-existent) gender gap in educational attainment.

Education has an additional direct effect on participation. The higher the education level among 15-29 year olds, the higher the participation rate, reflecting to

some extent the higher opportunity cost of remaining economically inactive, in the form of forgone remuneration. It is interesting to note that the male education coefficients are smaller in absolute size than the corresponding female coefficients, suggesting that female participation is more sensitive to educational attainment.

One clear result from Table 18 (column 4) is that the likelihood of belonging to the labor force is substantially lower among young women. Men and women also differ when it comes to the marital status factor. Marriage raises labor market participation of young men but decreases the participation of young women, a strong indication that the traditional division of labor within the household is the norm in the UAE, with women specializing in household activities and men in market activities. In other terms, women tend to depend economically on the husband who is responsible for generating household income. Finally, the regional effects show that, relative to urban Abu Dhabi, youth participation is lower in Sharjah irrespective of gender, and is higher among men in rural Abu Dhabi, Dubai and the Northern Emirates.

Tables 21 and 22 translate the regression coefficients into specific quantitative effects. Each reported marginal effect is the difference between the probabilities that result when one regressor is changed from zero to one, holding the other regressors constant. The base case represents an unmarried 20-24 year old man with secondary school education who lives in urban Abu Dhabi. Table 21 clearly reveals that it is much more likely for women and teenagers to be economically inactive (50 and 55 percentage point decrease in the probability of participation, respectively). Although acquiring education is the main explanation for the age effect, two other reasons might also contribute. The first is that society in the UAE does not expect students to work before they complete their studies. The

second reason is institutional in that the UAE labor market rarely allows part-time work contracts, thus creating very limited opportunities for students to partially or seasonally join the labor force. As for education, a young Emirati with tertiary education has a significantly higher probability (24 extra percentage points) of either being at work or searching for one. These results are in line with the conclusions the bivariate tables have revealed.

Switching now to the unemployment equation, columns 4-6 of Table 19 display some now-familiar pattern. Women are more likely to be unemployed (column 4). The separate regressions for men and women (columns 5 and 6) show that acquiring more education does not always lower the probability of unemployment. That is, the relationship is not monotonic. For young women, the benefit of education occurs later as the likelihood of unemployment significantly drops only when tertiary education is reached. There is no significant difference in the probabilities of unemployment between women with less than high school education and those who hold a high school degree. On the other hand, young men who complete high school are significantly less likely to be unemployed than men with less than high school education, but the difference in probabilities between secondary and tertiary educated men is not statistically significant.

Another gender-related difference is the effect of marriage. Being married lowers the probability of unemployment for young men only. As for the age factor, youth unemployment is significantly higher among teenagers but is significantly lower among the 25-29 year olds, compared to the base group (20-24 year olds). Because education is controlled for, age differences could reflect the experience effect or a labor market setup that discourages the hiring of the youngest (teen) job seekers. Finally, there are no important regional differences in youth unemployment rates.

Representative quantitative effects on the unemployment rate are reported in Table 21. For the combined sample of young men and women, increasing attainment from secondary to tertiary education lowers the unemployment rate by about 5 percentage points whereas being married decreases the rate by 4 points. The effects of age and gender are much larger. The unemployment rate is almost 50 and 15 points higher among young women and teens, respectively, in comparison to the benchmark rate.

A note on estimation is warranted. Because the unemployment and participation equations share the same explanatory variables, no gains could be realized through joint estimation. In fact, given the current specifications, the two equations cannot be distinguished from each other. An alternative approach is to assume that at least one regressor affects only one of the two dependent variables. Marital status seems to be a good candidate for such regressor. Marriage clearly affects labor market attachment due to the trade-off between market and non-market hours (in the UAE, marriage is a necessary condition for having children). However, there seems to be no strong market-based rational for marriage to impact the chance of obtaining or losing a job, because workers' qualities do not systematically vary with their marital status. In this case, the participation equation becomes a selection equation because labor market entry is a prerequisite for employment status. Of course, non-market reasons can link unemployment and marital status. For example, total pay (wage plus benefits) in some countries tends to depend on the number of children in the family. Also, when society favors traditional gender roles, the social benefit of hiring a married man can be considered higher than the private benefit. In any case, the results do not change when the variable Married is dropped from the unemployment equation and a joint Heckman-style estimation is adopted (Table 20). The conditional unemployment

probabilities (Table 22) are not different from the unconditional ones (Table 21). Better candidates for identifying the selection equation might produce different results. Variables such as the number of young children in the family, non-labor income, spouse income and education, and access to domestic help among other detailed household data, are not part of the information set that labor force surveys usually provide. A possible extension of this paper would rely on data from the UAE household budget survey.

4 Private sector employment: Lack of skills or lack of incentives

In this section, the discussion is extended to other factors that are likely to have a significant impact on youth unemployment in the UAE. These factors are more difficult to capture due to lack of data or to diffculty in quantifying the intrinsic value of data. The constant influx of foreign labor creates strong competitive pressures that shape employment and pay in the private sector. Because public sector benefits are nationality-based, UAE citizens working for the government are well protected from these competitive conditions and continue to enjoy considerably better wages and benefits. The private-public sector segmentation mirrors a dual labor market defined by nationality since less than 10 percent of Emiratis work for the private sector (Table 14). Given the high reservation wage of Emiratis, which is conditioned on public sector compensation, and the stronger link between productivity and pay in the private sector, only highly skilled jobs in the latter sector are likely to generate interest among Emiratis. The issue, therefore, is whether Emirati job seekers have the qualifications and skills to compete for high-value added vacancies in the private sector. In any case, these jobs are likely to require a good amount of experience and on-the-job training, and therefore are not going

to provide solutions to youth unemployment.

There is considerable talk about a mismatch between the skills of young Emiratis and job market needs. Both employed and unemployed young Emiratis recognize the importance of education in finding a job. At the same time, employers regularly complain that young Emiratis are not equipped with practical, market-oriented qualifications. Given that education attainment is already high, although too many men drop out of secondary and tertiary education, policy makers ought to focus on assessing and improving the quality of education. One particular aspect of education that seems to be in short supply is English proficiency. There is a genuine need to improve the instruction of English as a second language in public schools, for English has become the lingua franca in business. Training programs to update the skills of school and university graduates are also moves in the right direction. However, efforts to bridge the gap between the supply and demand for skills are likely to fall short unless public policy addresses the incentives problem.

The UAE government has long been committed to ensuring a decent standard of living to Emirati citizens. Emiratis enjoy free health care and education at all levels. They receive free or subsidized services. Public sector salaries, to a large extent, are not based on productivity considerations. The pay scale is highly structured, depending essentially on the level of education (the diploma effect). Public-sector salaries clearly reflect the central redistributive role of the government which has assumed an obligation to guarantee UAE citizens a minimum, high level of well-being in return for their support. Thanks to substantial oil wealth, and a small local population base, the government has been successful in maintaining this commitment, despite an income tax-free environment. However, these generous benefits have had a negative effect on motivation. Emirati youth

have reacted to the state's considerable support by rationally selecting to decrease effort. For example, if a post-graduation job is guaranteed, students will have little incentive to compete or excel at school or university. Furthermore, because salaries are significantly higher in the public sector, UAE youth have no incentive to seek private sector employment, even when they possess the right skills. Private employers realize that young Emiratis who accept to work in the private sector are likely to quit as soon as they secure jobs in the public sector. To further protect the welfare of Emiratis, the government has banned the layoff of nationals except in very unusual circumstances that are unrelated to economic conditions (the business cycle). Consequently, firms have fewer incentives to favor hiring young Emiratis when it is more difficult to fire them in times of need. Because of distorted incentives, UAE workers are not attracted to private employment, while firms find them more costly.

One major way to face the youth unemployment challenge is to re-design government support programs with the goal of reducing the negative effects on the incentive to work and compete. A wage subsidy program aimed at reducing the gap between private and public salaries would make private sector employment attractive to young Emiratis. Such program would be more productive and efficient than a welfare program aimed at providing benefits to unemployed Emiratis, because the benefits received under the wage subsidy program would be conditional upon accepting a private sector job.

Supplementing the incomes of Emiratis working in the private sector would be costly. Such plan could be financed via a system of corrective taxes on firms. It is less costly to rely on taxes and subsidies, instead of regulations, in order to align private (individual and firm) incentives to social goals. A tax is as effective as

a quota in achieving a particular employment target. However, the tax is more efficient. Currently, Emiratization quotas require firms in the private sector to achieve a minimum target of Emirati employment. These quotas tend to apply uniformly on each firm within the industry. An appropriately designed tax can achieve the same total employment target at the industry level, and will allow firms to vary their target of Emirati employment. Companies that find Emirati workers more costly will hire fewer Emiratis and pay more taxes, whereas firms that can hire Emirati workers at a lower cost will respond by paying less taxes and hiring more. In addition, under Emiratization, firms have no reason to increase the Emirati workforce once they have satisfied the quota. By contrast, taxes give firms an incentive to accommodate more Emiratis because doing so lowers the tax the employers have to pay.

5 Conclusion

Unemployment in the UAE is mainly a youth problem, and youth unemployment is highest among young women. Young workers make a disproportionate share of the unemployed, as more than three quarters of the unemployed were below the age of 30 years in 2009. Among young female workers, four in ten were unemployed, which was nearly four times the 12 percent unemployment rate for young males. In comparison, the overall unemployment rate was slightly below 7 percent for 30-64 year olds. A large labor force participation gap exists between Emirati men and women. At 29 percent, the participation rate for young women was almost half the rate for young men. Among the young population, it is much more likely for teenagers (15-19 year olds) to be economically inactive, mainly due to the pursuit of education, but also because teenage work is socially uncommon and

part-time job contracts are rare. In addition, there is a positive relationship between a person's educational level on the one hand and the person's probabilities of participating in the labor market and of securing a job. However, the negative association between unemployment and education is not monotone. Education improves employment prospects only when young men complete secondary school, whereas for young women, the positive impact of education on unemployment only occurs when tertiary education is reached. Marriage significantly lowers female labor supply but raises that of men, confirming the dominance of the traditional division of household labor in UAE society. Furthermore, being married lowers the likelihood of unemployment for men. Probit esitmates of the marginal effects of gender or age on unemployment and participation are considerably larger than the marginal effects associated with marriage or education.

Youth unemployment in the UAE appears to be essentially the result of waiting for the right job. And for many young Emiratis, the right job is in the public sector. The public sector offers superior wage and non-wage benefits. In addition, the private sector presents a socially different environment in which Emiratis are a small minority. Private sector employment is particularly unattractive to UAE women because the sector is dominated by foreign men.

The UAE government has long committed to ensuring a decent minimum standard of living for Emirati citizens via public sector employment and other benefits. However, these generous benefits have had a negative impact on motivation and efficiency measures, and have set the expectations of young citizens high. As public sector employment is reaching a saturation point, future job creation lies in the private sector. Under current conditions, UAE citizens are not attracted to the private sector, even when they possess the right skills, while private firms find

hiring them more costly, both monetarily and otherwise. The policy challenge, therefore, is how to make Emiratis both qualified and attracted to private sector vacancies.

One major way of dealing with this challenge is to re-design government policy with the goal of reducing the negative effects on the incentive to work and compete. A wage subsidy conditional upon accepting a job independent of its location, coupled with tax incentives is likely to be a better policy bundle than the current mix of direct benefits and Emiratization quotas, if the objective is to reduce the consequences of the public-private labor market segmentation. Other policy dimensions include assessing and improving the quality of education, for achieving high educational attainment does not necessarily imply acquiring the right job market skills. A public-private partnership aimed at linking education and training to private sector needs could be a productive move. Policies to encourage mobility across regions could help alleviate regional unemployment. However, these various initiatives are likely to be of secondary importance if the large effect on incentives of the public-private wage gap is not addressed.

In light of the long term social, economic, and even political cost associated with youth unemployment, it is important for policy makers to better understand its causes. Hence, a well-designed and executed survey of UAE youth of different groups - employed, unemployed, and students - would be a useful tool in understanding and dealing with youth aspirations and expectations. Such survey would allow quantifying much of the discussion in section 4 of this paper, and would provide the basis for addressing and perhaps influencing expectations and attitudes, particularly when high unemployment and low participation are strongly dependent on social factors.

6   Tables

Table 1: Labor market indicators by gender, nationality, and age group (weighted percent)

	UAE			Other			All		
Gender	Youth	Adult	Total	Youth	Adult	Total	Youth	Adult	Total
Participation rate									
Men	55.7	79.4	65.4	82.4	99.3	93.9	76.0	97.4	89.7
Women	28.5	29.3	28.9	49.0	47.1	48.0	42.3	43.2	42.8
All	42.1	54.0	47.0	69.1	85.1	79.3	61.7	81.0	73.2
Unemployment rate									
Men	11.9	4.0	8.0	3.9	1.0	1.8	5.3	1.2	2.4
Women	40.0	13.8	28.9	9.0	5.4	7.1	15.7	6.7	11.1
All	21.4	6.8	14.4	5.3	1.6	2.8	8.3	2.1	4.2
Employment-population ratio									
Men	51.6	73.1	60.2	71.3	97.5	92.2	72.0	96.2	87.5
Women	16.6	25.3	20.5	44.8	44.6	44.6	35.7	40.3	38.1
All	33.1	46.4	40.2	65.5	77.1	77.1	56.6	79.3	70.1

Source: Author's calculations from LFSS (2009).

Table 2: Participation and unemployment rates of Emiratis, by age group and gender (percent)

	Participation rate		Unemployment rate	
Age group (years)	Men	Women	Men	Women
15-19	12.5	2.5	43.4	90.2
20-24	71.1	32.7	12.7	50.1
25-29	93.3	53.2	5.8	31.0
30-44	92.9	41.2	4.1	14.6
45-54	65.9	10.8	3.8	5.8
55-64	44.2	1.0	4.5	-
15-29	55.7	28.5	11.9	40.0
30-64	79.4	29.3	4.1	14.0

Source: Author's calculations from LFSS (2009).

Table 3: Contributions of Emirati youth (percent)

	Men	Women	All
Youth share in*:			
Working-age population	58.9	58.2	58.6
Labor force	50.1	57.5	52.4
Employment	48.0	48.5	48.1
Unemployment	74.7	79.7	77.8

* Ratio of 15-29 year old Emiratis to 15-64 year old Emiratis.

Source: Author's calculations from LFSS (2009).

Table 4: Contributions of Emirati women (percent)

Women's share in *	25-29	Youth (15-29)	Adult (30-64)	All
Working-age population	51.7	50.0	50.7	50.3
Labor force	37.9	33.9	27.2	30.7
Employment	30.9	25.9	25.1	25.5
Unemployment	76.4	63.3	56.2	61.7

* Percent of Emirati totals.

Source: Author's calculations from LFSS (2009).

Table 5: Main reasons for being out of the labor force (percent of total): Emiratis by gender and age group

	Youth	Adult	25-29	Total
Men				
Full-time student	95.4	-	72.8	72.3
Women				
Housewife	29.6	92.0	51.5	55.5
Full-time student	66.1	-	42.7	39.0

-: Less than 1 percent. Source: Author's calculations from LFSS (2009).

Table 6: Main reasons for being out of the labor force (weighted percentages): Adult men by nationality

	UAE	Other
Receiving non-work income	10.9	29.4
Unwilling to work	6.1	21.6
Early retirement	70.4	23.6
Temporary disability	2.1	9.0
Unable to work (disability)	9.5	8.4

Source: Author's calculations.

Table 7: Labor force participation rate of Emiratis by education, gender, and age

Highest education	15-29	25-29	30-64
Men			
Below secondary	37.5	92.3	64.5
Secondary	64.2	93.2	87.5
Above secondary	84.9	94.5	91.6
Women			
Below secondary	6.8	24.7	4.4
Secondary	21.8	37.7	33.3
Above secondary	72.6	75.7	75.5
All			
Below secondary	24.2	66.5	30.7
Secondary	42.6	66.4	62.8
Above secondary	77.2	82.8	84.0

Source: Author's calculations from LFSS (2009).

Table 8: Participation rates of Emiratis, by marital status, age and gender (per-cent)

Marital status and age group (years)	Men	Women
Married, 15-29	93.7	33.4
Never married, 15-29	44.6	25.2
Married, 25-29	97.5	38.6
Never married, 25-29	88.4	79.6
Married, 30-64	79.3	24.6
Never married, 30-64	84.9	72.7

Source: Author's calculations from LFSS (2009).

Table 9: Unemployment rate of Emiratis by education level, gender, and age group

Highest education	15-29	25-29	30-64
Men			
Below secondary	20.5	12.9	7.3
Secondary	9.3	3.4	1.9
Above secondary	6.3	3.5	2.7
Women			
Below secondary	56.6	43.1	33.3
Secondary	53.9	48.9	23.8
Above secondary	29.5	22.1	7.3
All			
Below secondary	24.9	17.2	9.3
Secondary	20.9	15.9	7.1
Above secondary	19.9	14.1	4.6

Source: Author's calculations from LFSS (2009).

Table 10

Table 11: Desired sector of employment of unemployed UAE nationals

	Youth	Adult
Federal government	47.4	39.6
Local government	47.2	50.0
Joint (private-public) sector	5.0	8.2
Other sectors	0.6	2.2

Source: Author's calculations from LFSS (2009).

Table 12: Median monthly in-cash salaries of Emiratis, by sector (in AED)

	Youth	All
Public/Joint sector (1)	16000	18000
Private sector (2)	9000	10000
Ratio (1/2)	1.8	1.8

Source: Author's calculations from LFSS (2009).

Table 13: Weekly hours of work, by sector and nationality

	UAE		All	
	Median	Mean	Median	Mean
Public/Joint sector	40	40.8	40	41.9
Private sector	40	43.2	42	45.3

Outliers (highest and lowest 1 percent) removed. Hours range: 30-112.

Source: Author's calculations from LFSS (2009).

Table 14: Distribution of employment by sector of employment and nationality

	UAE	Other
Federal government	45.9	2.7
Local government	39.2	12.2
Joint (private-public) sector	6.0	3.8
Private sector	7.1	64.6
Household sector	-	14.6
Other sectors	1.8	2.1

Source: Author's calculations from LFSS (2009).

Table 15: Share of Emiratis in sectoral employment

	Percent
Federal government	68.1
Local government	28.4
Joint (private-public) sector	16.3
Private sector	1.4

*15-64 year olds. Source: Author's calculations from LFSS (2009).

Table 16: Emirati unemployment rates by region (in percent)

	Youth	All
Abu Dhabi (Urban)	19.8	12.2
Abu Dhabi (Rural)	22.7	18.9
Sharjah	24.0	15.3
Dubai	21.4	10.8
Northern Emirates	19.8	15.0

Source: Author's calculations from LFSS (2009).

Table 17: Distribution of unemployed Emiratis by region (in percent)

	Youth	All
Abu Dhabi (Urban)	16.4	17.3
Abu Dhabi (Rural)	24.7	24.9
Sharjah	19.6	18.8
Dubai	13.7	13.7
Northern Emirates	25.5	25.2

Source: Author's calculations from LFSS (2009).

Table 18

Probability of participation - Probit estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	All	Men	Women	Youth	Young men	Young women
	Coef./SE	Coef./SE	Coef./SE	Coef./SE	Coef./SE	Coef./SE
Age: 15-19	−1.437***	−1.108***	−1.302***	−1.565***	−1.622***	−1.198***
	0.057	0.070	0.102	0.061	0.069	0.105
Age: 20-24	−0.084**	0.315***	−0.328***			
	0.043	0.061	0.066			
Age: 25-29	0.550***	1.061***	0.286***	0.589***	0.650***	0.594***
	0.040	0.074	0.058	0.047	0.080	0.065
Woman	−1.424***			−1.364***		
	0.031			0.046		
Married	−0.162***	0.364***	−0.500***	−0.091**	0.762***	−0.536***
	0.034	0.054	0.047	0.045	0.090	0.065
Below secondary diploma	−0.724***	−0.652***	−0.979***	−0.197***	−0.145**	−0.342***
	0.032	0.041	0.063	0.048	0.064	0.086
Above secondary diploma	0.977***	0.401***	1.239***	0.934***	0.241**	1.208***
	0.044	0.067	0.051	0.059	0.101	0.065
Abu Dhabi-Rural	0.124**	0.157**	0.078	0.278***	0.417***	0.122
	0.049	0.066	0.074	0.069	0.102	0.098
Sharjah	−0.186***	−0.109	−0.252***	−0.300***	−0.289**	−0.218*
	0.059	0.077	0.089	0.091	0.121	0.127
Dubai	0.018	−0.016	0.073	0.180**	0.247**	0.129
	0.054	0.070	0.080	0.077	0.110	0.110
Northern Emirates	0.144***	0.170***	0.066	0.329***	0.487***	0.152
	0.048	0.065	0.071	0.068	0.100	0.096
pseudo R^2	0.368	0.284	0.374	0.401	0.432	0.352
N	12663	6293	6370	6890	3444	3446

Table 19

Probability of Unemployment - Probit estimation

	(1) All Coef./SE	(2) Men Coef./SE	(3) Women Coef./SE	(4) Youth Coef./SE	(5) Young men Coef./SE	(6) Young women Coef./SE
Age: 15-19	1.145***	0.815***	1.602***	0.607***	0.634***	0.672**
	0.111	0.135	0.309	0.104	0.118	0.308
Age: 20-24	0.617***	0.210**	0.990***			
	0.068	0.100	0.095			
Age: 25-29	0.312***	0.033	0.525***	−0.362***	−0.202**	−0.488***
	0.062	0.097	0.081	0.065	0.093	0.088
Woman	1.317***			1.495***		
	0.059			0.073		
Married	−0.296***	−0.575***	−0.160**	−0.239***	−0.494***	−0.046
	0.052	0.083	0.072	0.063	0.102	0.087
Below secondary	0.356***	0.497***	0.086	0.364***	0.504***	0.062
	0.060	0.073	0.129	0.075	0.087	0.169
Above secondary	−0.405***	0.017	−0.658***	−0.381***	0.006	−0.590***
	0.063	0.097	0.074	0.078	0.126	0.090
Abu Dhabi-Rural	0.162*	0.154	0.180	0.023	−0.059	0.163
	0.084	0.118	0.115	0.109	0.153	0.146
Sharjah	−0.075	−0.010	−0.211	0.004	0.072	−0.066
	0.108	0.144	0.145	0.147	0.197	0.190
Dubai	0.109	0.069	0.139	0.116	0.093	0.138
	0.091	0.128	0.127	0.121	0.164	0.167
Northern Emirates	0.025	−0.083	0.151	−0.015	−0.182	0.182
	0.082	0.120	0.110	0.107	0.153	0.142
pseudo R^2	0.212	0.125	0.152	0.199	0.110	0.093
N	5612	3911	1701	3010	2005	1005

Table 20

Determinants of youth unemployment and participation (Probit estimates - Heckman†)

	(1) Unemployment Coef./S.E.	(2) Participation Coef./S.E.	(3): Joint estimation Unemployment Coef./S.E.	Participation Coef./S.E.
Woman	1.487***	−1.364***	1.235***	−1.368***
	0.073	0.046	0.212	0.046
Age: 15-19	0.656***	−1.565***	0.323	−1.565***
	0.104	0.061	0.270	0.061
Age: 25-29	−0.416***	0.589***	−0.322***	0.581***
	0.063	0.047	0.091	0.048
Below secondary diploma	0.354***	−0.197***	0.321***	−0.191***
	0.075	0.048	0.080	0.049
Above secondary diploma	−0.385***	0.934***	−0.224	0.940***
	0.078	0.059	0.143	0.060
Abu Dhabi-Rural	0.029	0.278***	0.075	0.274***
	0.109	0.069	0.111	0.070
Sharjah	0.057	−0.300***	−0.003	−0.294***
	0.148	0.091	0.154	0.091
Dubai	0.127	0.180**	0.154	0.182**
	0.121	0.077	0.119	0.077
Northern Emirates	0.006	0.329***	0.063	0.327***
	0.107	0.068	0.110	0.068
Married		−0.091**		−0.076
		0.045		0.048
pseudo R^2	0.195	0.401		
N	3010	6890		

†: Column 3. Standard errors are in second rows.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 21

The effects of selected regressors (Change in probabilities, percentage points)*

Change in regressors	Unemployment	Participation
Age (20-24 to 15-19)	15.6	−54.6
Education (secondary to tertiary)	−5.5	23.6
Gender (man to woman)	49.4	−49.6
Marital status (unmarried to married)	−3.8	−3.3

* Reference case: An unmarried 20-24 year old man from urban Abu Dhabi holding a secondary school degree .

Table 22

The effects of selected regressors (Change in probabilities, percentage points)* - Heckman estimation

Change in regressors	Unemployment**	Participation
Age (20-24 to 15-19)	16.2	−54.6
Education (secondary to tertiary)	−4.2	23.7
Gender (man to woman)	50.2	−49.7
Marital status (unmarried to married)	−	−2.7

* Reference case: A 20-24 year old (unmarried) man from urban Abu Dhabi holding a secondary school degree. ** Conditional upon participation.