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Research Paper

Diversity and wage inequality in the UAE labor market

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Abstract. The rapid increases in the international migratory flows of workers are poised to play an important part in reducing global inequalities by shortening the gaps in salaries and incomes of comparable workers from different countries. This paper presents a different case in which a workforce comprising almost entirely of migrant workers in the private sector has maintained the high wage inequalities. Using labor records in the United Arab Emirates, we find that labor force diversity in the UAE comes at a price of high wage inequalities, and that a labor market full of migrant workers is unable to reduce inequalities on its own.

Keywords: Wage inequality, diversity, UAE, migrant workers, globalization, labor market.

INTRODUCTION

Diversity of the workforce and inequality in salaries are on rise in many parts of the business world (Gomez-Mejia and Palich, 1997; International Labor Organization (ILO), 2008; Milanovic, 2011), but few places have gone as far as in the oil-producing Gulf states (AlSahalawi and Gardener, 2004; Budhwar and Mellahi, 2006; Bibi and El-Lahga, 2011). The private sector in the Gulf region is composed almost entirely of foreign workers with different cultures; and there is a wide span of pay differences among workers. Most locals choose to work in the public sector that offers higher salaries and better job security. The United Arab Emirates (UAE) is just an example of how the Gulf model of labor market is comprised; with more than 98 per cent of the workforce in the private sector are foreigners (UAE Ministry of Culture, 2009). The reason for the rise in diversity and inequality is globalization (e.g., trade, investment and labor; Gulf businesses are no exception). However, in a way that is very characteristic of the Gulf, diversity and inequality have been pushed to their extremes.

This paper investigates diversity and wage inequality in the UAE. Drawing on the information of 1.7 million workers (out of a total of 4.2 million) registered in the UAE Ministry of Labor, we find that private firms in the UAE have an extraordinary high level of wage inequality in their workforces, and there is a hierarchical ordering of workers' pay along nationalities. Expatriates from OECD countries enjoy the highest pay premiums in the private sector, surpassing the UAE nationals. Following UAE nationals on the wage pyramid are Arab, East Asian, and South Asian expatriates, respectively. We discuss various economic and social forces behind the formation of this multinational yet unequal workforce consisting almost entirely of foreign guest workers, and conclude that the UAE's private labor market exemplifies a trajectory of globalization without equalization.

The paper is organized as follows: introduction of the UAE economy and labor market conditions; literature reviews on the Gulf's labor economics and politics; analysis of the ministerial data on workers' pay that we have obtained from the UAE Ministry of Labor in 2010; discussion of results; and conclusion of the paper.

THE UAE ECONOMY AND THE LABOR MARKET

The United Arab Emirates is a young country built on the federation of seven emirates, namely, Abu Dhabi, Dubai, Sharjah, Ajman, Ras al Khaimah, Fujairah and Umm al-Quawain. The federal system comprises of a supreme council, a cabinet, a federal judiciary, a federal national council (parliament), and a supreme court. The supreme council consists of the rulers of the seven emirates, and is the highest decision-making body in the UAE. The other federal authorities are represented by members from the seven emirates. The federal government is responsible for matters of national interests, e.g. foreign affairs, security, defense, immigration, currency, education, infrastructure development, and so on. The emirates, on the other hand, retain their self-governance through an autonomous engagement in internal affairs, economic and social development.

Oil was not exported in the UAE until early 1960s. Before oil, the UAE's economy was built primarily on agriculture, fishing and pearling in coastal areas, barely enough to sustain the local population. The discovery of oil has completely transformed the economic fortune of the country, especially after the UAE gained its independence from the United Kingdom in 1971. Since then, the rulers of the country have carried out massive development projects to modernize the country and to improve the standards of living. Huge investments in infrastructural and institutional developments have boosted growth in sectors like trade, logistics, tourism, real estate, and services. The UAE economy has grown 200-fold between 1971 and 2013 (UAE Yearbook, 2013). Though oil still plays an important role in UAE exports and government revenue, the percentage of oil revenue in GDP has declined to around 42 per cent in 2012, and is expected to fall even further as the economy diversifies to non-hydrocarbons. Nowadays, the UAE is among the wealthiest nations in the world with per capital GDP at above USD 39,000 in 2011 (The World Bank Development Indicators, 2014).

Abu Dhabi is the largest in territory and richest with respect to revenues generated from its massive oil reserves. The other emirates rely on Abu Dhabi to finance the federal budget and substructure initiatives. Dubai has managed to build a vibrant metropolitan city through processes of open markets, liberal policies, good leadership, and entrepreneurship. The 2009 debt crisis has brought Dubai's excessive spending to a sudden halt. The impact of the crisis was temporal due to the foundational works laid down in the past two decades' development in Dubai that includes a world-class infrastructure, a cosmopolitan culture, a pro-business reputation, and excellent services. The rest five emirates have benefited from growths in Abu Dhabi and Dubai to varying degrees, but the further away they are from the south, the smaller the spill-over benefits are.

Citizens of the UAE, (as called “Emiratis”), are descendants of a few tribal groups who have lived on the eastern shore of the Gulf for centuries, and who share a common language, religion and culture with other Arabs from the Arabian Peninsula. Their size is small, compared to the number of foreigners residing in the UAE. According to recent figures, there are around 947,000 Emiratis and 7.3 million foreigners in the country at the end of 2010 (The UAE National Bureau of Statistics, 2011). The population is expected to grow at over 3 per cent for the locals and over 6 per cent for the foreigners in next few years (The UAE Yearbook, 2009). As foreign population growth outpaces local population growth, the ratio of nationals to non-nationals may decline further in the future.

Most foreigners came to the UAE for work rather than for settlement. The UAE government has taken a firm stand on immigration, and rarely granted citizenships or permanent residencies to foreigners living on the UAE soil. Foreign residents in the UAE have to renew their visas every 2-3 years, including many who have lived in the country for years or even generations. Foreigners come from many different countries, not limited to neighboring Gulf or MENA states. The largest groups of foreigners come from South Asian countries: India, Pakistan, Bangladesh and Nepal. At least 65 to 70 per cent of the UAE populations are South Asians. There are large numbers of Iranians and Philippinos too. Arab expatriates in the UAE come primarily from non-GCC countries like Egypt, Jordan, Syria, and Palestine. Among OECD countries, the British are the largest group.

Economic and social developments in the UAE have created a lot of job opportunities in public and private sectors. Most nationals prefer to work in the public sector because of higher salaries, better benefits, and higher social status of working for the government and government enterprises. However, even as they fill up government posts, UAE nationals still hold less than 10 per cent of government jobs (The UAE Yearbook, 2009), excluding defense.

In the private sector, the imbalance of national versus non-national workers is worse than that in the public sector. The percentage of locals in the private sector is reported to be less than 1.3 per cent (The UAE Yearbook, 2009), and they are encouraged by the government to take managerial posts in a few strategic industries as part of an initiative to upgrade national talent pool and to nationalize the workforce. Foreign workers, on the other hand, do all sorts of work that keep businesses running. They range from the lowest-paid construction workers and domestic servants to the highest paid chief executive officers of large companies.

Most foreign workers have negotiated and signed their employment contracts before arriving at the borders, and once getting in, their job mobility is restricted by the requirements for employer-sponsored visas and labor permits, which may weaken workers' bargaining powers with employers (McLaurin, 2008). Another constraint on workers' bargaining powers appears to be the lack of organizational rights. Workers in the UAE, whether national or foreign, do not have the rights to form unions or the rights to strike. Nor is there an explicit wage protection policy, such as minimum wages, for foreign workers in the country (Keane and McGeehan, 2008).

For now, the UAE government plays no active part in the hiring decisions of the large number of firms in the country with different recruiting needs, labor accesses and compensation schemes. The socioeconomic profile of the UAE labor force thus results from a complex interplay of market forces at international, regional and local levels; the dynamics behind which has not been fully understood yet.

LABOR ECONOMICS AND POLITICS IN THE GULF

The UAE is not alone in terms of its reliance on foreign workers. The other oil-exporting Gulf States also rely to a high degree on foreign workforce for economic development (Kapiszewski, 2006). Such reliance on foreign workers is an integral part of an economic paradigm that is unique to the region but hard to replicate elsewhere. The said paradigm is built on two pipelines: the oil pipeline and the pipeline of cheap laborers from neighboring Asian and Arab countries (Arnold and Shah, 1986). The two pipelines have enabled Gulf States to lift their countries out of poverty, bypass the slow process of capital accumulation otherwise necessary for economic development, and leapfrog to build modern infrastructures, industries, and social welfare systems, all within a few decades' time.

The actual working of the system is a bit more complicated. In standard economic theories, population and its demographic features are endogenous to economic models in that the stock of human capitals of an economy is fixated by an indigenous population which changes only slowly over time, depending on the natural birth and death rates. The demographic features of that indigenous population, such as age, gender, education, health, intelligence, and mentality, determine the productivity of the nation and the competitiveness of its economy. The consumption patterns and saving habits of the indigenous population, in turn, determine the available amount of capital for investment and growth. The cross-border migrations of capitals and labors may complicate the basic model to some extent but not its fundamental rationale.

But the endogeneity assumption of human capital in standard economic theories does not hold true in the Gulf for two reasons. On the capital front, the Gulf economy has not been fueled by savings of local population via their normal economic activities but by massive oil and gas export revenues, which bear little relationship to the amount and productivity of local human capital. The international oil market decides the amount of oil fortune of the region and subsequently, the nations' short-term and long-term investment capitals. On the labor front, the Gulf States' small local population cannot meet the labor demand generated by unprecedented development needs, hence there is the need to import a large quantity of foreign workers, whose size and structure can change rather quickly with economic circumstances. Whenever there is a shock to the economy, whether externally or internally generated, the employers may react by shrinking or inflating the size of workforce, or changing its structures[1], without directly affecting local population, which is often a blessing to the Gulf States and their nationals. The downside of the system, however, is the underdevelopment of domestic consumption and savings, as foreign workers send large amounts of remittances home instead of spending them in the economy (International Monetary Fund, 2010). As a result, the system tends to perpetuate itself in terms of its reliance on investment-driven growth. Opening up to international trade, investment, and tourism may help the Gulf countries alleviate some of the problems inherited in their economic systems, but as we see from Dubai's 2009 debt crisis, the fluctuations of international market may prove to be too risky to small Gulf economies.

There have been plenty of works by economists to examine the economic rationale of the Gulf model of labor markets (Birks and Sinclair, 1979; Chemingui and Roe, 2008; Berrebi et al., 2009). By all accounts, the benefits are huge. A recent study shows that unskilled labors have actually contributed more to economic output in the UAE than high-skilled workers do, after controlling for their costs of labor (Al Awad, 2010). On the other hand, there are some concerns with labor market structures in the Gulf. The concerns are that restrictions on foreign labor mobility and the dual labor markets installed between nationals and non-nationals may not be economically efficient (Elbadawi and Vazquez-Alvarez, 2010).

Compared to economic concerns, a more pressing issue is the social and political impact of a large number of foreign workers on the nations. From the host countries' point of view, the large inflows of foreign workers disrupt the demographic balance of the local population, post potential hazard to national security, threaten national culture and identity, and put stresses on public services and infrastructure (Kapiszewski, 2006; Louer, 2008). From labors and labor-sending countries' point of view, labor migration generates income for workers and their families, reduces unemployment at home, and increases foreign currency remittance to the home countries, but lack of protection of workers' rights overseas often causes concerns (Agenor et al., 2007; Keane and McGeehan, 2008). Despite efforts to improve labor protection standards, the labor laws in Gulf States have been criticized by international labor organizations for being inadequate and poorly enforced (Ahn, 2004; McLaurin, 2008; Arif, 2009).

At the individual level, foreign workers have been found to develop various strategies to cope with the complexities and hardships associated with migration. Lacking formal rights and formal protection, migrant workers have resorted to informal social safety nets built on kinship, friendship and family network in order to survive or thrive in a new country. Such coping mechanisms

[1] Demands for types of skills and other human capital characteristics is also driven and fluctuates by economic conditions.

sometimes require low-status foreign workers to take job downgrades, suffer discrimination at work, or endure long separation from families (Khalaf and Alkobaisi, 1999). Local workers, on the other hand, while being privileged at work and in society, have to cope with an uneasy status of being a minority in the workplace and the ensuing tensions with foreign colleagues due to conflicts of interests, cultures and social status (Suliman, 2006). This is especially the case after governments in the Gulf passed nationalization policies intending to replace foreign workers with nationals in both public and private sectors, for instances, the Omanization policies in Oman, Qatarization in Qatar, Saudization in Saudi Arabia, and Emiratization in the UAE (Rees et al., 2007)[2].

Not all foreign workers are disadvantaged. The Gulf States also rely on a large number of foreign professionals, managers and engineers to run economies, due to shortages in domestic supplies of skilled workers. The sourcing of high-skilled workers differs a lot from that of low-skilled laborers in terms of recruiting channels and methods (Forrest, 2004). Many of them are expatriates sent by their companies to do work in the Gulf. Some are self-initiating expatriates whose motives to work in the Gulf tend to be more diverse than those on the lower echelon of skill ladder. They are also treated differently in terms of pay and benefits, as well as on visa rules and job freedoms. The countries of origin of high-skilled workers are more diverse too. The Western developed countries have traditionally been the main source of elite expatriate workers, but in recent years, more educated personnel from developing countries have joined the high-end expatriate labor market. In the Gulf, many come from neighboring Arab and Asian countries.

Gender imbalance has been a very salient feature of workforce in the Gulf. The labor participation rate for women in the region is perhaps the lowest in the world. A number of reasons have contributed to that. Generally speaking, all Gulf countries have maintained a conservative culture against women working outside the home at different degrees. A couple of small states, like Qatar and the UAE, have relaxed traditional customs to the extent that they have actually taken measures to encourage women to work. But women continue to face hurdles in seeking a formal job. Lack of proper education or training, family responsibilities, social customs are often quoted as reasons for women in the Gulf to stay out of work. The gender imbalance in the Gulf has been further exacerbated by selective labor-importing policies of governments and companies: more men have been recruited to work in the Gulf than women. Moreover, women who are working often report discrimination at work (Farrell, 2008).

Overall speaking, the Gulf workplaces are among the most globalized in the world in terms of employees' nationalities, ethnicities, languages, cultures, religions, and social customs. The formation of these workforces has resulted from the functioning of market forces in their most dynamic, unbridled format.

DATA AND ANALYSIS

The WPS data

The Wage Protection System and Administrative Database (WPS) is a UAE Ministry of Labor's initiative to regulate work payment process in the private sector in order to curb pay delays or frauds. Under the system, all private businesses in the UAE are requested to pay their workers electronically via a monitored bank transfer system. The system was implemented in 2010, first in large establishments, and gradually expanded to all firms. The dataset analyzed in this paper was retrieved from the ministerial data base in March, 2010; it contains information of 1.7 million private sector workers, including their age, gender, nationality, education, occupation (skill level)[3], contract wage, and actual payment. Since the dataset has a company identifier, we are able to assemble human resource information for every firm included in the database, making it possible to analyze firm-level practices that are difficult to study otherwise.

Excluded from the MOL records are domestic household workers (servants and maids) and workers in economic free zones. The total number of workers registered in the MOL in March 2010 is 4.2 million; hence our sample covers 40 per cent of the population. The sample is biased towards medium and large enterprises, as many small firms had not joined WPS when the data were retrieved. In the analysis, we exclude all micro businesses with less than 10 employees, which reduces the total number of firms from 16,132 to 13,136, and total number of workers from 1,765,750 to 1,751,637 (18 per cent and 1 per cent reduction respectively). In doing so, we reduce the small-sample bias to which measures of diversity and inequalities are often susceptible (Deltas, 2003) (Table 1).

Summary statistics – diversity

Overall, the UAE private sector has a diverse but unbalanced workforce, with the majority of them being males (93.4 per cent), uneducated (55 per cent below high-school), unskilled (77.2 per cent), young (60 per cent under 35), coming from South Asian countries (80.4 per cent), and working in construction (50.1 per cent),

[2] For example, Emiratization targets in the UAE private sector are set at annual cumulative rates of 5%, 4% and 2% in the insurance, banking and trade sectors, respectively.

[3] We use four occupations (skill levels) as they are defined in the Ministry of Labor's database: unskilled (handyman and limited working skills), semi-skilled (vocational occupations), professional (technical and specialist) and managers.

Table 1. The distribution of firms by size.

Headcount	WPS (March 2010)				Nationwide (2008)			
	No. of firms	%	No. of employees	%	No. of firms	%	No. of employees	%
1	414	2.57	414	0.02	50,335	19.39	50,335	1.23
4 - 2	1055	6.54	3119	0.18	103,271	39.79	295,399	7.24
9 - 5	1527	9.47	10580	0.60	53,891	20.76	347,492	8.52
49 - 10	7895	48.9	198550	11.2	42,668	16.44	844,498	20.70
99 - 50	2466	15.3	171081	9.7	5,477	2.11	379,942	9.31
499 - 100	2198	13.6	457620	25.9	3,093	1.19	631,583	15.48
999 - 500	319	1.98	220731	12.5	407	0.16	287,044	7.04
+ 1000	258	1.60	703655	39.9	394	0.15	1,243,160	30.47
Total	16132	100	1,765,750	100	259,536	100	4,079,453	100

Source: Calculated from the WPS dataset; The UAE Ministry of Labor 2008.

Table 2. The social-demographic profile of the UAE workforce.

Parameter	N	%	Parameter	N	%	Parameter	N	%
Education			Nationality			Industry		
Illiterate	8472	0.5	East Asia	159560	9.1	Agriculture	11731	0.7
Read & write	363587	21.6	GCC	1110	0.1	Oil	37642	2.2
Elementary	134643	8	MENA	136000	7.8	Mining	1324	0.1
Preparatory	450473	26.7	OECD	25682	1.5	Manufacturing	187485	10.7
Secondary	518482	30.7	Rest of Asia	7721	0.4	Utilities	3067	0.2
Post-secondary	26171	1.6	Africa	6909	0.4	Construction	875851	50.1
University	175544	10.4	South Asia	1402171	80.4	Trade	252730	14.5
Above University	8977	0.5	UAE	5658	0.3	Hotel and Restaurant	32789	1.9
						Transportation and communication	81826	4.7
						Financial Services	26942	1.5
						Real estate and business services	169387	9.7
						Social and personal services	67888	3.9
Total	1686349	100	Total	1744811	100	Total	1748662	100
Age			Gender			Occupation		
15-34	1054285	60.2	Female	114780	6.6	Unskilled	1353053	77.2
35-54	649616	37.1	Male	1636857	93.4	Semi-skilled	206893	11.8
55 and above	47736	2.7				Professional	158933	9.1
						Manager	32733	1.9
Total	1751637	100	Total	1751637	100	Total	1751612	100

Source: Calculated from the WPS dataset

trade (14.5 per cent) or manufacturing (10.7 per cent) industries. The Arabs, including Emiratis, GCC nationals and non-GCC MENA countries' nationals, are only 8.2 per cent of the workforce. Foreign workers from East Asia and other parts of Asia constitute another 9.5 per cent. Around 1.5 per cent of workers come from OECD countries (Table 2).

There is a strong correlation between the type of businesses and the type of employees a firm hires. For instances, construction firms hire more unskilled workers than financial firms do; women are more likely to work in the services sector than in the construction or the manufacturing sectors. In our dataset, three of the twelve industrial sectors that have very high levels of unskilled workforce are mining (91.7 per cent), construction (90.6 per cent), and hotels and restaurants (90.2 per cent). Sectors with the highest female participation rates are social and personal services (43.9 per cent) and financial services (24.4 per cent).

The cross-national distribution of workforce is of a special interest in the UAE. The major concern is that some industries may be monopolized or dominated by workers of certain nationalities. In a few other sectors, the government is particularly interested in increasing the presence of nationals. For example, the UAE nationals have a high concentration ratio in the financial industry, an industry that has been identified by the government as being “strategic” to the nation, thus targeted by Emiratization policies. The other two groups that have a disproportionally higher presence in finance industry are workers from non-GCC Arab countries and from OECD countries. These two groups also have a higher degree of representation in sectors like real estate, business, social and personal services. Jobs that are not favored by the previous three groups are taken up by workers from South and East Asia. Workers from the Indian sub-continent, due to the sheer size of their population, are the majority of the workforce in all industries, including finance and service industries, but their percentages in agriculture (85.38 per cent), manufacturing (83.82 per cent) and construction (88.91 per cent) are even higher than their population ratio of 80.37 per cent.

Occupational skills are strongly correlated to nationalities. Workers from the OECD countries are better educated, and therefore, have the highest percentages of professionals and managers. They are followed by workers from the MENA Arab countries. In contrast, 90 per cent of the South Asian workers are unskilled and 75 per cent of Emirati workers are semi-skilled. Workers from East Asia are bettered educated and more skilled than South Asian workers in general, but very few of them have made it to managers. Across all occupational levels, India, Pakistan, Egypt and Syria stay on the “top 10” list of the largest countries of origin.

Female workers have a few different national characteristics compared to the majority male population on the other hand. The largest group of women is not from India but from the Philippines. Emirati and British females are among the top ten largest groups in the female workforce while the percentages of their male compatriots in the workforce are negligible. The overall distribution of females across nationalities tends to be more balanced than that for the males.

At the firm level, the average number of nationalities in the UAE firms is 6.48. The number is bigger in large companies. For example, one of the largest firms has employees coming from seventy-eight different countries. But over 63 per cent of firms also have a dominant nationality group, i.e., having more than 50 per cent of their employees coming from one country, most likely, India, Pakistan or Bangladesh. Firms that are dominated by employees from one of the minority groups, such as the Emiratis or the OECD countries are few. Ninety per cent of the firms have no Emirati employees at all. For firms that do hire nationals, the percentage is as low as 2.7 per cent. Only three firms in the dataset have a majority national workforce.

Similarly, only 21 per cent of all firms have employees coming from one of the OECD countries, and the average percentage of OECD employees in these firms is 9.7 per cent. Ninety-five firms are dominated by employees from the OECD countries. Workers from MENA Arab and East Asian countries are more widespread than those from the UAE or the OECD countries. One-fifth of these workers work in places where they constitute the majority group, but the rest are spread out in other firms. On average, the largest nationality group in a UAE firm constitutes 59 per cent of the firm’s population; the second largest group is 20 per cent; and the third largest group is 9 per cent.

To have more accurate measures, we calculate Herfindahl Index for educational, occupational, and cross-national diversity[4].

$$Div = 1- \sum(n_i/N)^2$$

i is the i^{th} largest national group of the population N

This is a commonly used measure of heterogeneity in socioeconomic research. The value of the measure depends on two factors: 1) the number of different groups in the population, 2) whether the population is evenly distributed across groups. The more groups we have in the population, the higher the measure would be. Given the number of groups in a population, the more evenly distributed it is, the higher the measure would be. A high diversity score occurs when a population has many groups and is evenly distributed across groups. In our dataset, there are eight educational groups, 4 occupational groups, but 174 different nationalities. Instead of using information of all nationalities, we use only the top ten largest nationalities to calculate cross-national diversity.

In addition to cross-national, occupational and educational diversities, we calculate age and tenure diversity by their standard deviations. The mean values of these diversity measures and their correlations with each other are reported in Table 3.

Summary statistics – wage inequality

The WPS dataset contains two sets of information on wages: wages as specified in employment contracts and wages actually received by workers through WPS transfer system. In general, actual wages are higher than contract wages, the reason for which can be pay raises since the contracts were signed or additional compensations not specified in contracts such as bonus or overtime pay.

Contract wages and actual wages may have slightly different theoretical connotations. When contracts are signed, employers and employees may not have an accurate assessment of the worth of work that employees would provide on the jobs, hence contract wages may reflect the “average” or “prevailing” wages for the kind of jobs or job candidates on the market. By contrast, actual wages, especially those received after a certain period of

[4] This index may perform better that other measure, such as the concentration ratio, since shares are squared which means that larger groups have more effect on the value of the index compared to the numerous number of smaller groups.

Table 3. The mean and correlation matrix of diversity measures.

Parameter	Mean	1	2	3	4	5
Cross-national diversity	.53					
Occupational diversity	.29	.19***				
Educational diversity	.47	.141***	.421***			
Percentage of females	.10	.232***	.292***	.036***		
Standard deviation of age	7.85	.057***	.238***	.287***	-.076***	
Standard deviation of tenure	1.86	.055***	.246***	.335***	-.015	.491***

*p < .05; **p < .01; ***p < .001

work, may be a more accurate assessment of workers' labor values or productivity.

Keeping the differences in mind, we calculate average wage levels in the dataset. Both mean and median wages are reported, but we focus on median numbers in the analysis because of skewed distributions of wages. Overall, a worker in the UAE makes a median contract wage of AED 900 (USD 1 = AED 3.68) per month, but is actually paid AED 1500. Wages increase sharply as a worker's skill level goes up. The median contract wage for a manager (AED 16800) is 22 times higher than that of an unskilled worker (AED 750); the gap for actual wages is 16 times. A professional worker makes around 38 to 43 per cent of a manager's pay, and a semi-skilled worker makes around 20 per cent (Table 4).

Note that for unskilled laborers, their actual wage is 65 per cent higher than their contract wage, but the ratio goes down as skill level increases: 29 per cent for semi-skilled workers, 34 per cent for professionals, and only 19 per cent for managers. We believe the reason for that is low-skilled workers are more likely to be paid on a contingency basis while high-skilled workers are paid stable salaries due to a more complex nature of their jobs.

The overall Gini coefficient calculated from the monthly actual wages in the data set is 0.62, which is way above the levels in other countries in the world (International Labor Organization 2008). At the firm level, we calculate Gini coefficients for each and every firm in the sample. They are normally distributed around a mean value of 0.33.

Impact of diversity on inequality

To investigate whether diversity has an impact on inequality, we did two sets of regression analysis, at the individual worker level and at the firm level respectively. We expect that skill- and experience-related measures of human capital diversity, such as age, tenure, education and occupation, would be closely associated with wage dispersion, while gender and nationality would not, assuming that they are not directly related to productivity.

First, we run fixed-effect OLS regressions of individual workers' contract wages and actual wages in logs on their age, education, occupation, tenure and nationality, controlling for firm-specific factors. We run separate regressions for males and females to better filter out the effect of gender from the effects of other characteristics. The separation of the regressions for males and females is supported by the Chow test. It is important to mention here that by construction, our model ignores the unobserved determinants of education and skills that may also influence wages. In the case, the two variables act as a super-proxy for human capital. This may bias estimated coefficients on education and skills to some degree[5], but is less likely to significantly affect the nationality coefficients, which serves as the ultimate objective of our work.[6]

Two most important measures of human capitals, education and occupation (skill-level), both have significant, positive effects on wages: the more education and skills they have, the more wages workers make in the UAE firms. Tenure has a positive effect too: the longer one works for a firm, the higher the actual wages are. The effect of age also fits into a positive relationship with wages.

The more interesting finding is the impact of nationality on wages. After controlling for differences in age, education, and occupation, there are still significant cross-national wage gaps among workers for both males and females. Using actual wages for males, workers from OECD countries are paid far higher than all other nationality groups. The second highest paid group is UAE nationals, which is followed by GCC countries, other Arab (non-GCC MENA), Asian and African workers. For females, the overall order holds except that wages of non-GCC Arab females exceed those from the GCC, and South Asian females' wages exceed those from Africa and East Asia. The latter is also observed for females when using actual wages. The order for males is identical except that contract wages for GCC nationals exceed those for UAE nationals in the private sector. Differences of observed actual wages and contracted wages for UAE nationals may be explained by the speed of wage

[5] Remember that more than 77% of workers in the sample are unskilled and less that 11% have a university degree or above.

[6] The dataset also does not contain any variable that may be used as an instrument for human capital variables which limit our choices in testing for endogeneity.

Table 4. The mean and median wages across occupations.

Parameter	Contract wage (AED/M)	Actual wage (AED/M)
Overall		
Mean	2610	3957
Median	900	1500
Unskilled		
Mean	1108	2000
Median	750	1240
Semi-skilled		
Mean	4168	5689
Median	3100	4000
Professional		
Mean	9349	13131
Median	6500	8710
Manager		
Mean	21995	29262
Median	16800	20031

Source: Calculated from WPS dataset.

increases for this group by private sector companies attempting to retain them to meet Emiratization targets.

Overall, it seems that males and females have different wage determination models, especially on the impact of nationality. This could be attributed to the fact that the averages working females, regardless of nationality, is educated more than the average working male[7], in addition to the concentration of most females of all nationalities in the services sectors[8]. Comparing the regressions of males and females using actual wages, it is evident that the average wage for females is higher than that for males when ignoring all other factors (higher constant term). However, education pays more for males compared to females as shown by the coefficients on education is both regressions. The same can be observed for tenure and skill levels. For nationality, only females from the rest of Asia and Africa make more than their males' counterparts, which is not the case in other nationalities (Table 5).

We ran additional regressions to include nationality-occupations and nationality-gender interactions using the log of actual wages[9]. It turns out that even through the differences of wages for all nationality groups from the reference South Asian group are significant; those differences shrink at different degrees as we move into the higher occupational levels. The exception is the wage gap between UAE nationals and South Asians that is not narrowing down as they move up on the occupational skills. We may argue that this is caused by the protected nature of the UAE national workforce in the private sector that guarantees higher wages to increase the rate of retention. For guest workers, however, labor markets for more skilled workers tend to be less discriminative on a relative scale, although cross-national wage inequality still exists in an absolute term.

The results of the interaction between gender and nationality confirm that, wage gaps in favor of males exist for OECD, UAE nationals, Arabs and East Asians. The widest gaps exist among the highest paid groups in the private sector, OECD and UAE national workers, which agrees with the results in the previous regression (Table 6).

Our next set of regressions examines inequality differences across firms. The dependent variable is the Gini coefficient we have calculated for each firm while independent variables include various diversity measures as well as firms' size, location, industry, and median wage level.

The results confirm that diversities of age, education, and occupation are all positively related to firm-level wage inequalities, of which occupational diversity has the greatest impact. Tenure diversity, on the other hand, appears to be insignificant. The regressions also confirm the significant and positive impact of gender and cross-national diversities. In addition, we find that the size of

[7] Nearly 40% of females have received post-secondary education compared to 11% of males.

[8] Remember that household maids and other household workers are not included in the sample.

[9] Other interaction terms were dropped after testing for Multicollinearity.

Table 5. Within-firm wage determination for individual workers by gender.

Variables	Actual wage		Contract wage	
	Male	Female	Male	Female
Age	0.018***	0.03***	0.01***	0.021***
Age^2	-0.00004***	-0.0003***	0.0001***	-0.0001***
Tenure	0.031***	0.028***		
Education (Base: secondary)				
Illiterate	-0.313***	-0.206**	-0.377***	-0.156**
Read & Write	-0.207***	-0.104***	-0.278***	-0.105***
Elementary	-0.204***	-0.126***	-0.251***	-0.163***
Preparatory	-0.143***	-0.07***	-0.162***	-0.094***
Post-secondary	0.29***	0.03**	0.322***	0.035***
University	0.418***	0.172***	0.431***	0.186***
Above university	0.527***	0.364***	0.53***	0.417***
Occupation (Base: low-skill)				
Semi-skilled	0.584***	0.423***	0.68***	0.478***
Professional	0.884***	0.657***	0.975***	0.724***
Manager	1.311***	1.048***	1.44***	1.141***
Nationality (Base: South Asia)				
East Asia	0.142***	-0.184***	0.139***	-0.146***
GCC	0.652***	0.164	0.874*	
Non-GCC MENA	0.410***	0.228***	0.406***	0.288***
OECD	0.901***	0.582***	0.938***	0.664***
Rest of Asia	0.158***	0.165***	0.161***	0.194***
Africa	0.112***	-0.164***	0.135***	-0.137***
UAE	0.703***	0.459***	0.512**	
Constant	6.741***	7.032***	6.576***	6.973***
R square	0.7274	0.7933	0.7751	0.8813
N of objects	1567684	106784	1546015	80561
F statistics	64377***	2934***	43736***	2197***
Chow test	F(21, 1674436) =1759.39		F(41, 1626534) = 840.5	

*p < .05; **p < .01; ***p < .001, Wages are in log values.

workforce matters too: large firms tend to have greater inequalities. The average wage level of firms, after controlling for all the other firm- and industry-related factors, tend to be negatively correlated to wage inequality, that is, high-pay firms also pay more equally. Apparently, construction and mining are the most unequal industrial sectors in terms of labor pay in the UAE. The service sectors such as finance, transportation, social and personal services are the more equal, on the other hand (Table 7).

DISCUSSION

Are wages high or low in the UAE, compared to other countries, especially those where most foreign workers come from? One would expect that part of the reasons the UAE has attracted so many foreign workers is because this country offers higher wages for the same kind of jobs. Testing the hypothesis is beyond the reach of this paper. However, just to gain some general idea, we have collected wage information in India, the Philippines, United Kingdom and United States from the ILO's wage database, and compare them with wages of expatriates from these four countries in our dataset. We choose India and the Philippines because nationals from these two countries constitute two of the largest groups in low-skill and semi-skill occupations in the UAE, respectively. And we choose UK and US because their nationals are popular in high-skill occupations (Table 8).

Table 8 jobs in the UAE do appear to pay much higher wages than those in home countries. For examples, low skill workers in India barely survive at USD 77 per month while low-skill Indian expatriate workers in the UAE make

Table 6. Within-firm wage determination for individual workers with interactions (actual wages).

Variables	Coef.	Variables	Coef.
Age	0.018***	GCC*Professional	-0.266
Age2	-0.00004***	GCC*Manager	-1.655***
Tenure	0.030***	MENA*Semi-skilled	-0.170***
Nationality (Base group: South Asia)		MENA*Professional	-0.131***
East Asia	0.216***	MENA*Manager	-0.273***
GCC	1.255***	OECD*Semi-skilled	-0.441***
Non-GCC MENA	0.480***	OECD*Professional	-0.855***
OECD	1.603***	OECD*Manager	-1.155***
Rest of Asia	0.133***	Rest of Asia*Semi-skilled	0.050**
Africa	0.136***	Rest of Asia*Professional	0.181***
UAE	0.585***	Rest of Asia*Manager	-0.103**
Education (Base group: Secondary)		Africa*Semi-skilled	-0.154***
Illiterate	-0.310***	Africa*Professional	0.000
Read and Write	-0.207***	Africa*Manager	-0.049
Elementary	-0.201***		
Preparatory	-0.142***	UAE*Semi-skilled	0.024
Post-secondary	0.237***	UAE*Professional	0.234
University	0.373***	UAE*Manager	0.053
Above university	0.496***	Female	-0.037***
Occupation (Base group: low-skill)		East Asia*Female	-0.092***
Semi-skilled	0.654***	GCC*female	0.242
Professional	0.953***	Non-GCC MENA*female	-0.099***
Manager	1.510***	OECD*female	-0.264***
East Asia*Semi-skilled	-0.195***	Rest of Asia*female	0.070***
East Asia*Professional	-0.277***	Africa*female	0.018
East Asia*Manager	-0.303***	UAE*female	-0.154*
GCC*Semi-skilled	-0.688**	Constant	6.746***
R square	0.738	F statistics	28639
N of objects	1674468		

*p < .05; **p < .01; ***p < .001, Wages are in logs.

a median wage of USD354 per month. Semi-skilled Philippine workers such as cashiers and receptionists make less than USD176 a month at home, while in the UAE, they make from USD 570 to 900. In cases of the US and the UK, the average wages at home (USD3448 and USD3256 respectively) are also less than half of the amount their expatriate counterparts make in the UAE (USD7324 and USD7535). After controlling for purchasing power parities, the UAE wage levels are about doubling the levels at home for expatriate workers from these countries. Such comparisons have a lot of limitations, of course. Monetary wages do not capture differences in non-monetary benefits, career paths, as well as social, emotional and family costs of relocation. Overall, however, it seems fair to say that jobs in the UAE pay better financially.

The variation of wage levels across nations helps explain the pattern of diversity and inequality in the UAE's expatriate labor market: expatriates from developing countries dominate the lower echelons of job pyramids while those from developed countries concentrate in high-pay jobs. A natural explanation is the difference of reservation wages held by workers from different countries. For the same kind of jobs, wage levels in developing countries are far lower than in developed countries, a fact that employers in the UAE can take advantage of. It is also for this reason, UAE nationals would not accept a wide range of occupations dominated by foreigners as the wages offered for them are extremely below their expectations, or their reserved wages which are determined by public sector wages. In some cases, UAE nationals consider some occupations to be socially unacceptable regardless of the wages offered to them.

However, significant wage stratification by nationality exists in low-skilled occupations as well, where politics and culture may have played a part too. Although an Arab country by law and constitution, the UAE has attracted workers mostly from the Indian sub-continent, instead of from fellow Arab states that share the same

Table 7. Determination of wage inequalities across firms.

Variables	M1	M2	M3	M4	M5
Cross-national diversity					.09***
Occupational diversity				.361***	.354***
Educational diversity			.146***	.044***	.038***
Female percentage			.017	.012	-.016*
Std deviation of age			.011***	.007***	.007***
Std deviation of tenure			-.0004	-.002	-.002
Log of business headcount		.023***	.020***	.025***	.021***
Log of median salary		.045***	.032***	-.007***	-.011***
Industry (Base group: Construction)					
Agriculture	.074***	.059**	.043*	.035*	.029
Oil	.056***	.001	-.013	-.031**	-.028**
Mining	.094**	.061	.047	.074**	.062*
Manufacturing	.035***	.024***	.014***	.0003	-.001
Utilities	.028	.006	-.0003	-.054**	-.054**
Trade	.020***	.0003	-.001	-.048***	-.048***
Hotel and restaurant	-.046***	-.033***	-.019***	-.006	-.013**
Transportation and communication	-.046***	-.074***	-.081***	-.085***	-.078***
Financial services	.011	-.05***	-.049***	-.08***	-.082***
Real estate and business services	.011*	-.036***	-.031***	-.043***	-.046***
Social and personal services	-.002	-.042***	-.060***	-.099***	-.086***
Emirates (Base group: Dubai)					
Abu Dhabi	-.011***	-.009**	-.024***	-.014***	-.022***
Sharjah	-.062***	-.041***	-.046***	-.034***	-.035***
RAK	-.10***	-.067***	-.085***	-.061***	-.066***
Ajman	-.086***	-.059***	-.056***	-.047***	-.050***
Fujirah	-.058***	-.039***	-.043***	-.032***	-.039***
Umm al-Quawain	-.094***	-.071***	-.080***	-.065***	-.070***
Constant	.341***	-.083***	-.117***	.148***	.148***
R-square	.0623	.1427	.2151	.3609	.3792
N of obs	13073	13073	13073	13073	13073
F statistics	52.1	115.48	156.74	308.62	320.32

language, religion and customs with the UAE. The main reason seems to be the costs of labor, as Asian workers are paid cheaper than Arab workers, for which our study has provided evidence. But some have argued that the predominant Asian workforce in the Gulf has resulted from deliberate government policies attempting to divert away from Arab expatriates in favor of more disciplined and efficient Asian expatriates who are less of a political concern to the Gulf States than the Arabs are (Kapiszewski, 2006). Our empirical analysis shows that if there is such a political consideration among the policy-makers, the policies have generated concerns on the nation's economic and political security too, as the percentages of a few South Asian country nationals have reached alarmingly high levels. Of course, the majority of Asian workers in the UAE are low-educated, low-skilled who may be gradually phased out from the country when construction work is done and the infrastructure is in place.

If differences in reservation wages have left most low-skill jobs to workers from poor countries, they have not generated the same strong impact on high-end jobs. At the professional and managerial levels, the workforce is more diversified as more Arab and Western expatriates join the rank. As diversity increases with occupational level, the economic rationale gets more complicated too. One notable finding of this study is the high amount of cross-national pay differences among skilled workers. The expatriate managers from OECD countries and Emirati managers are paid way above the levels of managers from other parts of the world. This is also the case for professionals. Our regression analysis shows

Table 8. Compare wages in the UAE with wages in home countries.

Country	ILO wage (various years)			Expatriates in the UAE	WPS wage (2010)		
	Local currency	Nominal ($/m)	PPP ($/m)		(AED/m)	Nominal ($/m)	PPP ($/m)
India	**IR 3526/m (2006)**	**77**	**233**	**India**	**1538**	**418**	**499**
Cloth weaver	IR 139.5/d (2007)	77	198	Unskilled	1303	354	423
Electrical technician	IR 121.5/d (2008)	56	165	Semi-skilled	3950	1073	1282
Philippines	**P.Peso 313/d (2009)**	**151**	**293**	**Philippines**	**3000**	**815**	**974**
Hotel receptionist	P.Peso 8371/m (2006)	176	379	Unskilled	2098	570	681
Retail cashier	P.Peso 7999/m (2006)	168	362	Semi-skilled	3300	897	1071
United Kingdom	**BP 12.07/hr (2009)**	**3448**	**3308**	**United Kingdom**	**26951**	**7324**	**8750**
Bank accountant	BP 677.1/w (2008)	4408	4232	Professional	23880	6489	7753
Insurance agent	BP 357/w (2008)	2325	2231	Manager	38268	10399	12425
United States	**US$ 18.5/hr (2009)**	**3256**	**3256**	**United States**	**27728**	**7535**	**9003**
Petro and natural gas engineer	US$ 56/hr (2007)	9856	9856	Professional	20900	5679	6786
Office clerk in media industry	US$ 11.4/hr (2007)	2006	2006	Manager	40397	10977	13116

Source: Calculated from WPS dataset and International Labor Organization's LABORSTA database.

that cross-national pay differences cannot be fully accounted for by differences in workers' human capitals.

One potential explanation would be the productivity differences across nationalities. Except for the energy and construction sectors, the UAE economy is very much service-oriented and open to international trade, investment, and tourism. Depending on the segments of markets or the types of customers they are serving, UAE firms may have widely different profit margins even in the same industrial sectors, which in turn affect labor productivity levels across firms. In the analysis, we observe that expatriates from OECD and MENA Arab countries tend to concentrate in the real estate and financial services sectors where wages are the highest, and where there are a lot of wealthy Arab and Western clients too. Unfortunately, our data set does not contain information on business revenues or labor productivity. We leave this to future studies.

Another factor that may have contributed to excess cross-national wage differences is the often talked about but rarely documented issue of discrimination. For long the Middle Eastern societies are known for having a "mosaic" structure, as opposed to a melting pot, in which people have formed their identities based on various social, political, economic, cultural, racial, tribal, or sectarian affiliations and their combinations. In the Gulf, the situation is worsened by the large inflow of migrant foreign workers. This may have negative influences on businesses as well.

Women face particularly difficult situations in the UAE as they constitute an absolute minority in the workforce, and their countries of origins are different from males. Firms benefit from the gender, educational, and cross-national diversities their female employees have brought in, but do not appear to reward them with the same amount of wages offered to their male colleagues. Again we do not have enough information to investigate the nature of gender relationship in the UAE workplaces, but it is certainly a subject deserving future investigations.

The UAE nationals are a rare, protected minority group in the private sector, in spite of the government's effort to nationalize the workforce. Few of them work as unskilled laborers or professionals; most (75 per cent) are semi-skilled; some (11 per cent) are managers. Hiring a UAE national is costly for firms but not as costly as hiring a Western expatriate. The opposite is true when public sector workers are included in wage analysis in Dubai (Assaad and Ramadan, 2009), which explains why so few nationals are willing to work in the private sector.

CONCLUSION

The UAE private firms are unique places to study the globalization of workplaces where the influences of domestic workforce are reduced to a minimum as very few nationals join the private sector. This is in contrast to many immigrant-receiving countries in North America, Europe and the Oceania. The motives for foreign workers to come to work in the UAE tend to be simpler. Since permanent immigration is not an option, most foreigners are attracted to work in the Gulf for economic considerations; their incentives tend to be short-term rather than long-term oriented as the average tenure of workers in firms is around 3.7 years. The jobs available in the UAE cover a broad range of sectors and occupations that attract workers from diverse backgrounds, not limited to particular occupational groups or geographic regions. Thus, the UAE labor market is very open to job seekers from around the world.

However, a majority of the UAE firms have a dominant nationality group in their workforces, mostly from India, Pakistan, and Bangladesh. For firms that have a truly diverse multinational workforce, the wage inequality tends to be higher too, that is, diversity comes at a price of inequality. This is the same case in gender diversity as in cross-national diversity. The close relationship between nationality and wages suggests that the forces of globalization have failed to narrow down income gaps for expatriate workers from different countries in the local market, despite that the UAE has successfully attracted a global workforce to work in the country. While on a global scale, international migration of labor might provide a solution to global inequalities as predicted by some theorists (Milanovic, 2011), our empirical survey of the UAE labor market suggests that labor migration alone would not work, especially when migration is in a temporary nature and when the market is composed almost entirely of migrants. What is most illuminating about the UAE case is the importance of social-political institutions behind market forces which define the rights of stakeholders (national or non-national), shape their expectations (long-term or short-term), and align their interests with respect to jobs and globalization. The UAE approach to workforce globalization can hardly be replicated in other countries outside the Gulf; nevertheless, it constitutes an interesting and special case of high labor migration without wage equalization.

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