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THE EFFECT OF MINIMUM WAGE CHANGES ON LOCAL WORKERS EMPLOYMENTIN THE PRIVATE SECTOR IN A UNIQUE ENVIRONMENT

Sami Al Kharusi[*]

Abstract: *This study examines the effect of government minimum wage increases on local workers in the private sector and employment in a unique environment where a quote system between local and foreign workers is used in different industries. The results suggest that the increase in minimum wage by 16. 67% causes a declinein employment among local workers by 2. 7%, 8. 3%, 9. 6%, 7. 6% and 2. 8% in technical support and infrastructure jobs in IT sector, technicians in telecom sector, car rent in the travel and tourism sector, accountants in the consultancy services sector, and nonacademic in private education, respectively.*

JEL classification: *J38*

Key Words: *Minimum wage, private sector, elasticity, Omanization, labor market.*

INTRODUCTION

The Fair Labor Standards Act of 1938 implemented the first federal minimum wage. There has been a wide spread debate in the literature about the effects and merits of minimum wage laws. Earlier studies concluded that a 10% increase in minimum wage decreased teen employment by 1% to 3% (Brown *et al.* , 1982). In contrast, a growing set of research papers find that the increases in minimum wage do not significantly lower employment among youth. This paper investigates the effect of a government mandate minimum wage[1] in the private sector in Oman. It identifies the impact of the minimum wage law on the employment of Omani youth labor in the private sector. In Oman, The private sector normally offers lower levels of overall benefits compared to the public sector, so most Omanisprefer to work in the public sector.

The reminder of this paper is organized as follow. Section 2 and 3 presents the literature review and overview of Oman Economy and the characteristics of Oman

[*] Co-Director of Academic Innovation Assistance Program, Assistant Professor, Economics and Finance Department, Sultan Qaboos University, Oman. *E-mail: ksami@squ.edu.om*

labor market, respectively. Section 4 discusses the data and methodology used in this study. Section 5 outlines the statistical and empirical results and the section 7 provides conclusions.

LITERATURE REVIEW

Katz and Kruger (1992) find that fast-food restaurants in Taxes decreased part time employment and increased full-time employment when federal minimum wage rose in 1991. Gramlich (1976) suggests that adult female shift from part time to full time employment when the minimum wages rises, and adult males move from full time to part time jobs.

Another study by Rama (1996) analyzed the consequences of doubling the minimum wage in Indonesia, which depends heavily on exports of labor-intensive products. He found that doubling the minimum wage would lead to a 10% increase in average wages, a 2% decrease in wage employment and 5% decrease in investment. The results show that the effect of a minimum wage on small business would be more significant than for the large firms. Rama believes that the increase in minimum wage level reflects an improvement in labor market conditions, rather than representing a threat to employment. The minimum wage should provide enough incentives to employer to apply them and raise the salary for their Omani workers. Moreover, Alatas and Camerson (2003) obtained similar finding. Furthermore, Wellington (1991) found no effect of the minimum wage on employment of young adults aged 20 – 24. However, a less than 1% decline noticed in the teen employment when minimum wage increased by 10%.

Neumark and Wascher (2002) found that the lower skilled workers are not better off as a result of the increase in the minimum wage. Sabia and Burkhauser (2010) predict that if the federal minimum wage is increased, from the current level of $7. 25 to $9. 50, 1. 3 million low skilled workers will lose their jobs. The Neumark and Wascher conclusion is that the lower skilled workers as a group will be affected while Sabia and Burkhauser argue that many skilled workers are hurt but they are not overall as a group is going to be hurt. Brown, Gilroy and Cohen (1982) found that the elasticity of teen-ager employment in United States is between –0. 1 to –0. 3 with respect to minimum wages. This means that if the minimum wage increases from 1 to 2, the teen ager employment would fall by 10 to 30 percent. This result is more likely to be different in developing countries especially if law enforcement is weak. In Oman, the law enforcement is strong but some employers may still find ways to get around the law in terms of the recruitment ratios between Omanis and foreigners.

Montenegro and Pagés (2003) find that a 10 percent increase in the minimum wage decreases employment rates among youth by around 0. 5 percent in Chile. Furthermore, Bell (1995) suggest that there is no effect when minimum wages are too low to be binding in the formal sector, but the effects is negative when they are close to mean wages Mexico and Columbia. In the same region, Latin America, Maloney and Mendez, (2003) argue that in developing countries the effects of minimum wages may be magnified throughout the labor market, both by acting as a signal to the informal sector and by influencing the wage distribution.

Al Lamki (2005) reports the role of private sector in Omanization in the banking industry that the success in implementing Omanization in the banking sector should be used as model for other private sector industries. This success is due to the proper training, development and planning by the government and the cooperation with the Central Bank of Oman. Close monitoring was essential since the banking sector was dependent on foreign labor and the results of Omanization would affect not only the financial sector but the economy in general. The banking sector in Oman achieved around 90% Omanization, which is one of highest in the private sector.

Al Lamki (1998) studied the barriers to Omanization in the private sector. She believes that Omanization will be successful if cooperation and coordination between the government, private sectors and the labor market are implemented. The government needs to provide incentives to employers before imposing Omanization since the cost of recruiting Omanis is higher than foreigners who are normally cheaper and skilled. However the government is trying to attract young Omanis to enter the private sector work force by increasing the minimum wage, which ultimately will harm employers who may pass the cost to consumers or cut back production.

OMAN LABOR MARKET: BRIEF DESCRIPTION

Oman is one of the oil producing countries that is not a member of Organization of Petroleum Exporting Countries (OPEC). The average daily oil production is estimated to be around 0. 94 million barrel per day in 2014. Oman oil production is lower than the other oil producing countries in the Gulf Cooperation Council (GCC) except for Bahrain. The average daily production for Saudi Arabia, Kuwait, UAE and Qatar is 8.2 million, 2.3 million, 2.2 million and 1.1 million respectively in 2009. Before the discovery of oil the economy in Oman was exclusively based on fishing, agriculture, traditional handicrafts and trade. Since 1970, Oman has experienced a dramatic change in its economy and labor market due to the oil discovery in 1964. Starting in 1970, the government began implementation of five year development plans with goals in education, health, human development, infrastructure and economic growth, based on expected revenue to be generated from oil and other resources. Oman is still heavily depends on oil as the main source of revenue. In 2014, oil represented around 75% of the government's total earnings.

Oman, like other GCC countries, still depends on the use of foreign workers to support its economy. This high level of economic activity and the modernization the GCC governments are looking to achieve cannot be implemented without a large supply of foreign labor. The current estimated population in the GCC is around 43 million, and it is expecting to grow to 58 million by 2030, making it one of the fastest growing regions in the world. In 2009, expatriates made up around 42% of the region's population. These countries all have largelocal population of young adults entering the labor force, which puts pressure on their governments to create jobs and find adequate resources to maintain and increase the standard of living. In Oman, around 50% of the Omani population is under the age of 19. The percentage of population in the GCC less than 15 years of age was estimated at around 29% in 2008. Most of the GCC countries started localization programs, which attempt to replaceforeign workers with domestic workers. These programs set deadlines for specific jobs to meet a certain percentage of domestic labor.

Oman has been a member of the International Labor Organization (ILO) since 1994. In 2003, Oman passed a new labor law allowing the creation of worker representative committees (labor unions) removing the 1973 law that prohibits worker strikes. This law includes provisions for collective bargaining, settlement of labor disputes, and calls for strikes. The number of worker representative committees in Oman increased from 24 in 2006 to 55 in 2009. Also, thenew labor law increased the minimum age of employment from 13 to 15 years to conform to the international standard. The new law is applied equally to men and women and prohibits the dismissal of women during pregnancy and maternity leave. Overall labor unionsin Oman are new and their role in the labor force is not significant. No labor strike has been recorded in the country and most disputes between employees and employer are settled in the court.

The normal working week in Oman is five and a half days in the private sector and five days in the public sector. Foreign workers, especially in the retail sector work for 6 to 7 days a week. The maximum number of hours per day is 9 with 48 hours per week for both domestic and foreign workers. In 1998, the Oman labor code laid out the minimum wage as OMR 120 per month, normally applicable only to Omanis,but not for foreign workers. Many foreign workers in managerial positionare paid more than Omanis at the same position because of skills level and productivity, but others with low skills are paid less. In 1990, the Ministry of Man Power set an Omanization[2] plan for different sectors. All companies are required to meet specified percentagesof Omani labor by specified dates, under the penalty of being shut down. The government achieved 100% Omanization in some occupations such as sales and marketing in the informational technology, Assistant Engineers in some power plants and clerical in accounting firms. In addition, the government replaced 90% of the banking sector, 35% in the manufacturing sector and 25% in clothing factories. The complete list of Omanization plan is attached at the end of this paper.

Table 1 shows the distribution of employees working in the private sector by economic activities including both Omanis and foreigners. The data show that the majority of workers currently are working in construction. This is in line with the growth and expansion in the infrastructure in Oman, which requires a large number of foreigners who mostly occupy these jobs.

Table 1
The top 5 economic activities of private sector labor force in Oman including both foreign and domestic

Economic Activity	*2008*	*2007*	*2006*	*2005*	*2004*	*2003*	*2002*	*2001*	*2000*	*1999*	*1998*	*1997*
Construction	38%	35%	31%	28%	27%	29%	25%	24%	24%	24%	24%	21%
Wholesale, Retail Trade & Car Repairs	15%	16%	18%	20%	23%	28%	27%	28%	28%	30%	31%	34%
Domestic Services	12%	10%	13%	13%	12%	14%	12%	12%	12%	11%	10%	10%
Manufacturing	11%	11%	11%	12%	12%	14%	13%	13%	14%	14%	14%	15%
Agriculture and Fisheries	N/A	N/A	10%	11%	11%	N/A	12%	12%	12%	11%	11%	11%

Sources: Ministry of National Economy, Oman

The second highest economic activity occupied by workers currently is wholesale,retail trade and car repair. The construction and wholesale, retail trade and car repair represent almost 50% of economic activities in Oman for any single year from 1997 to 2008. The other three economic activities are domestic services, manufacturing, and agricultural and fisheries, which represents almost one third of the labor force in Oman.

Table 2 shows the percentage of Omani employees working in the private sector who are registered with the Public Authority for Social Insurance (PASI)[3] based on the wages during the period of 1997 to 2008. In 2008, the government implemented a monthly minimum wage law of OMR 140, which illustrates the reason why no Omanis are paid OMR 120 or less. The majority of Omanis in the private sector are still paid the minimum wage. Almost all Omanis working in the private sector receive less than or equal to OMR 300. In 1997, 94% of Omanis in the private sector received less than OMR 300 compared to 92% in 2008. This percentage is relatively high and it is a challenging task to convince more Omanis to join the private sector if salaries remain this low.

Table 2
The distribution of Omani labor force in the private sector from 1997 – 2008 monthly salary

Wages Group[4]	*2008*	*2007*	*2006*	*2005*	*2004*	*2003*	*2002*	*2001*	*2000*	*1999*	*1998*	*1997*
120 or less	0[5]	48%	54%	57%	60%	59%	53%	53%	50%	N/A	47%	37%
121 - 140	49%	13%	11%	11%	9%	8%	11%	11%	11%	N/A	11%	12%
141 - 160	15%	11%	9%	8%	7%	8%	9%	9%	10%	N/A	14%	17%
161 - 180	7%	5%	4%	4%	3%	4%	4%	5%	6%	N/A	6%	7%
181 - 200	5%	3%	3%	3%	3%	4%	3%	3%	4%	N/A	4%	4%
201 - 300	16%	13%	14%	14%	11%	12%	14%	14%	14%	N/A	14%	17%
401 - 500	3%	2%	2%	2%	2%	2%	2%	2%	2%	N/A	2%	2%
501 - 600	4%	4%	2%	2%	4%	3%	3%	2%	3%	N/A	2%	2%
More than 1,000	1%	1%	1%	1%	1%	1%	1%	1%	1%	N/A	1%	1%

Source: Ministry of National Economy, Oman

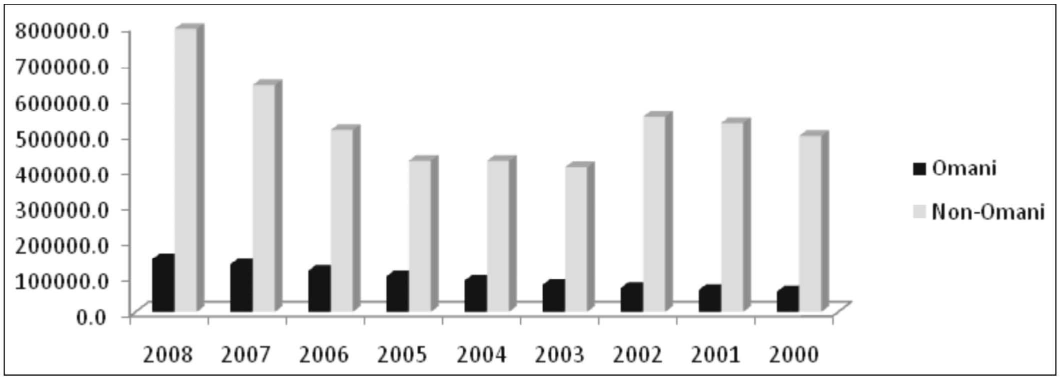

Figure 1: The total number of Omani and foreign workers in the private sector from 2000-2008

Source: Ministry of National Economy, Oman

Figure 1 shows the total number of Omani employees working in the private sector who are registered with the PASI from 2000 to 2008. The number of Omanis continues to increase, growing 62% from 2000 to 2008, which is in line with the government effort for Omanization. At the same time, the number of non-Omanis working in the private sector has increased since 2005, after a decline in 2003.

Although the ratio of Omanis to non-Omanis working in the private sector is increasing, it is relatively small. In 2000, Omanis represented around 11% of the private sector labor force compared to 18.5% in 2008. Even, these low percentages maybe inflated due to the fact that there are foreign workers who are working without valid labor cards or visas. What is more important, however, is the trend of total Omanis working in the private sector, which is increasing, in accord with government's goal.

DATA AND METHODOLOGY

This paper tests how minimum wage regulation imposed by the government in the private sector in Omanaffects the employer. The elasticity of substitution between Omani and foreign workers will be used in calculating the effects of minimum wage. The analysis assumes that employers in Oman have the right to recruit as many foreigners as they want as long as meeting a specific percentage of Omanis and they are profit maximizing firms. The isocost curve is used to represent all combinations of inputs (Omani and foreign workers) that result in a given level of total cost. The substitution effect shows that an increase in the wage of an Omani worker, because of the increase in the minimum wage, reduces the demand for them and causes foreigners to be substituted for them. The higher the minimum wage for Omanis will result in a higher average and marginal costs of production to employer. This increases the equilibrium price of the product, which reduces the equilibrium quantity demanded. This leads to decrease the number of Omanis and foreigners in the firm, which is the scale effect.

The mathematical formulas for measuring the effect of minimum wage on employer are illustrated in the following sections:

$$Y = f(M, F, K) \tag{1}$$

Where

M = Omanis

F = Foreigners

K = Capital

a = Number of foreigners required for each Omani

W_M = Wage of Omani

W_F = Wage of Foreigners

r = cost of capital

p = price of output

There are two conditions that apply if employer is free to choose the number of foreigners and Omanis freely, which are

$$pf_M(M, F, K) = W_M \tag{2}$$

$$pf_F(M, F, K) = W_F \tag{3}$$

or

$$\frac{f_M}{f_F} = \frac{W_M}{W_F} \tag{4}$$

But we know that the law constrains

$$F \leq AM \tag{5}$$

This constraint will be binding in the case where

$$\frac{f_M(M,\ aM, K)}{f_F(M, aM, K)} < \frac{W_M}{W_F} \tag{6}$$

If this legal constraint is binding, then we know that:

$$F = aM \tag{7}$$

And for every Omani hired,foreigners are hired, so the cost of hiring such a unit is:

$$W = W_M + aW_F \tag{8}$$

This is the price of a unit of labor, consisting of one Omani and foreigners. The productivity of this unit is:

$$\frac{\partial F(M, aM, K)}{\partial M} = F_M + aF_F \tag{9}$$

To simplify lets define

$$G(M, K) = F(M, aM, K) \tag{10}$$

We know that

$$G_M(M, K) = F_M + aFF \tag{11}$$

$$F_M(M, aM, K) + aF_F(M, aM, K) \tag{12}$$

This allows us to view the production function as having just two inputs, M and K.

$$\frac{\partial \ln \ln M}{\partial \ln \ln W_M} = -(1 - S)\sigma_{MK} - S\eta \tag{13}$$

Where

$$S = \frac{W_M}{W_M + rk} = \frac{W_M M + W_F aM}{W_M M + W_F aM + rK} \tag{14}$$

s_{MK} = Elasticity of substitution between M and K in $g(M, K)$

η = Elasticity of demand

$$\eta = \frac{\partial \ln \ln \mathrm{Y}}{\partial \ln \ln \mathrm{P}} \tag{15}$$

Note that we can consider the effect of an increase in W_m

$$\frac{\partial \ln \ln W}{\partial \ln \ln W_M} = \frac{W_M}{W} \frac{\partial W}{\partial W_M} = \frac{W_M}{W_M + aW_F} \tag{16}$$

Using the chain rule

$$\frac{\partial \ln \ln M}{\partial \ln \ln W_M} = \frac{\partial \ln \ln M}{\partial \ln \ln W} \frac{\partial \ln \ln W}{\partial \ln \ln W_M} = \frac{\partial \ln \ln M}{\partial \ln \ln W}\left(\frac{W_M}{W_M + aW_F}\right) \tag{17}$$

Finally combining the previous equations:

$$\frac{\partial \ln \ln M}{\partial \ln \ln W_M} = -\left(\frac{W_M}{W_M + aW_F}\right)\left[(1 - S)\sigma_{MK} + S\eta\right] \tag{18}$$

Since the expression in parentheses on the right is the normal elasticity of demand for labor in general, we can adjust this by

$$\left(\frac{W_M}{W_M + aW_F}\right) \tag{19}$$

RESULTS

This paper studies the effect of the increase in the monthly minimum wage to Omani labor from OMR 120 to OMR 140 in 2008. It is expected that this increase in the monthly minimum wage will differ widely between different industries due to the large difference in Omanization requirements by government, which range from 9% in senior management job occupation in IT sector to 100% in sales and marketing and other job occupations. Ideally knowing the wages for each industry for both Omani and foreign labor will perfectly answer the question of how this increase in the monthly minimum wage affect the demand for Omani labor for each industry given the government Omanization requirement. Unfortunately, this information is not publically available, and the analysis is based on using national aggregate data for wages for Omani labor in the private sector.

Using the national figures for the monthly wage distribution of Omani labor force in the private sector given in table 2 the overall impact on the increase in the monthly minimum wage from OMR 120 to OMR 140 is calculated. Table 3 summarizes the results of applying model (1). In table 3, five different occupations are selected randomly from different sectors to test the impact of the increase in the monthly minimum wage in Omani labor from OMR 120 to OMR 140. These occupations are technical support and infrastructure from the IT sector, technicians from the telecom sector, car rent from the travel and tourism sector, accountants from the consultancy services sector and nonacademic from the private education sector. Also, table 3 shows the Omanization requirements for each job occupation, the percentage change in the average Omani labor wages, the average monthly salary of Omani and foreign labor, the elasticity of demand for labor and the results.

The increase in the monthly minimum wage from OMR 120 to OMR 140 in 2008 causes the average Omani wage to increase from OMR 191.4 to OMR 212.2, which is an increase of 10.87%. The result shows that the expected increase in the minimum wage in technical support and infrastructure jobs in IT sector decreases the demand for Omani labor by 2.7%. In technicians in the telecom sector, car rent in the travel and tourism sector and accountants in the consultancy services sector where the ratio between Omani and foreign labor is very low the elasticity is 8.3%, 9.6% and 7.6% respectively. For the nonacademic in the private education sector the elasticity is 2.8%. The conclusion is that the lower the foreign percentage requirement in a specific jobs the lower the elasticity between Omani and their wages and *vice versa*. In another words, when the government increases the Omanization requirement, the increase in the minimum wage decreases the demand for Omani labor by a higher percentages.

Table 3
The elasticity between Omanis labor and wages

Sector	*Job Occupation*	*Ratio (M-F)*	*% change MW*	*Omani Wage*	*Foreign Wage*	*Elasticity*	*Result*
IT	Technical Support and Infrastructure	5. 667	0. 1087	201. 8	100	0. 93	0. 027
Telecom	Technicians	0. 429	0. 1087	201. 8	100	0. 93	0. 083
Travel and Tourism	Car Rent	0. 111	0. 1087	201. 8	100	0. 93	0. 096
Consultancy Services	Accountants	0. 667	0. 1087	201. 8	100	0. 93	0. 076
Private Education	Non Academic	5. 250	0. 1087	201. 8	100	0. 93	0. 028

CONCLUSION

This paper attempted to examine the effects of minimum wage law in the private sector in Oman. The increase in the minimum wage is enforced to improve the standard of living and to attract young Omanis to join the private sector. The Omani workers know that they are going to be paid a minimum salary even if the marginal benefit they provide to employer is less than the marginal cost. Table 2 showed that 50% of Omani labor receiving the minimum wage.

This raises the question of whether Omani workers are as productive as their foreign workers. This might create a moral hazard, which requires additional cost by employer to monitor the Omani workers. However, the foreign workers work diligently because of the competition in recruitment, given that a limited number can be employed. In this case, the employer faces two scenarios. First, scenario assumes that the employer will cut back the number of workers and utilize the most efficient and productive foreign workers in response of minimum wage and the loss in productivity by hiring Omanis to maintain the same level of profitability. Second, since the employer total operating cost will increase because of higher minimum wages for Omanis, the employer would pass the cost to consumers who are going to pay a higher price for the product. Finally, for successful Omanization and replacement of foreign workers the country needs to continue their massive investment in education and training.

Notes

1 Minimum wage defined here as the minimum monthly payment stated by government that employer must pay to local workers.

2 Omanization is a localization program initiated by the government since 1988 to replace foreign workers with Omani workers in their effort to reduce unemployment, decrease the dependency on foreign workers and reduce the demand for public sector jobs. The government created a timeline for employers to replace their foreign workers in order to meet a specific percentage in each economic sector.

3 The Public Authority for Social Insurance is a government entity that provides insurance coverage for foreign and domestic labor in the private sector.

4 The Omani Rial is pegged to the dollar (1 Omani Rial = 2.5 US dollars).

5 Effective in 2008 the monthly minimum wage increased from OMR 120 to OMR 140.

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