THE IMPACT OF SYRIAN IMMIGRATION SHOCK ON WAGES IN THE LEBANESE FAST-FOOD LABOR MARKET

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Abstract

Fast-food is one of the largest industries in Lebanon. However, it offers the lowest wages. The factors that have the greatest influence on wage determination in the Lebanese fast-food labor market are, but not limited to, the seasonality aspect of the fast-food industry, the elasticity of demand for unskilled labor and the substantial labor supply shock from Syria.

According to the economic theory, the marginal demand for unskilled labor, during the periods of high season, should shift the labor demand curve to the right and should, hence, increase wages. Unfortunately, this is not happening in Lebanon due to two main reasons: 1/the substitution effect due to minimum wage discrepancy; 2/ the surplus of unskilled workers (especially Syrians) who are not able to find jobs. In the presence of high own-wage elasticity that characterizes the demand for unskilled labor; wages were dropped and Lebanese workers have been easily substituted by Syrians.

This paper studies the impact of a substantial immigration shock from Syria on the Lebanese fast-food labor market. Our study shows that despite the high demand for unskilled labor in periods of high season, wages reveal a marked decrease. As a conclusion, it is not evident that a boost in unskilled-labor demand will raise wages especially that the supply curve of unskilled-labor for fast-food business is more inelastic than the demand curve.

Keywords: D04, D05, J02 Immigration Shock, Fast Food, Wages, Unskilled-labor demand

Introduction

The fast-food Industry is one of the largest in the world. Over years, the advancement in technology for the service of fast-food industry, the continuous improvements in the standardization of fast-food operating

procedures, as well as, the incessant learning through practice[97]have all contributed to an increase in the productivity of fast-food unskilled labor.

On the other hand, it is evident that all food-service establishments, regardless of their size or concept, share a common process of operation that is composed of the following stages: purchasing, receiving, storing, issuing, producing, selling and serving (Dittmer and Keefe 2006, 106). Fast-food operators have benefited from the remarkable evolution of the fast-food operation process at all levels (from purchasing to serving) to create shortcuts in food flow and to change job requirements with less dependency on skilled labor. Consequently, the demand curve for unskilled labors, who substituted the skilled ones, has gradually shifted to the right.

Although the demand for unskilled labor seems to be increasing, especially in periods of high season, a closer look at the unskilled-wage growth rate between 2011 and 2014 in Lebanon reveals a marked slowdown due to the large supply of unskilled Syrian workers. As no skills are required from fast-food employees, the supply of unskilled labor has always exceeded demand. The surplus of unskilled labor, willing and able to work at fast-food restaurants for low pay, has influenced their wages that are considered among the lowest. Worldwide, the growth of the fast-food market has not elevated the average wage paid to fast-food employees. From an economic point of view, the fast-food industry is affected more than any other hospitality sector by the wage elasticity of labor demand as wages are already minimal, while demand is considerably high, especially in periods of high season.

It is widely known that hospitality is a seasonal industry and fast-food industry is not an exception. Being a seasonal business, most fast-food restaurants in Lebanon (local and international, independent or franchise) increase their working power (working hours or labor force) in high seasons[98]through casual-unskilled workers who get an average pay of $2.30 per hour, compared to $7.25 in USA.[99]This category of labor is mainly composed of teenagers and high school students.

Like any other market, the equilibrium in the labor market is determined by the law of supply and demand. Thus, any shift in demand for labor causes wages to increase or decrease. According to the economic theory, an increase in demand for labor should be followed by an increase in wages. In the presence of high own-wage elasticity that characterizes the demand for unskilled labor, and a remarkable surplus of Syrian immigrants in Lebanon, wages have been decreasing instead of increasing.

[97] Refer to the concept of *learning by* doing (K.J. Arrow, 1962).

[98] The high season depends on location, menu, and market.

[99]According to World Bank (2014): the gross domestic product at purchasing power parity per capita in Lebanon and USA are 17.170 and 53.143 consecutively.

Recently, the incidents in Syria have been causing an escalating spillover of unskilled labor into the Lebanese labor market. In the absence of protective policies that should organize the employment of foreigners (other than Palestinians[100]) in Lebanon, minimum wages have always been determined by the law of supply and demand in a perfect competitive labor market. As supply of unskilled workers largely exceeds demand, the surplus of unskilled labor is also increasing at an increasing pace, causing a wide discrepancy between the legal minimum wage and the market equilibrium wage. For the sake of profit maximization, fast-food employers in Lebanon (especially local and independent establishments) find an advantage in substituting Lebanese for Syrians whose wages are much less. The consequences of this substitution have been tremendous on Lebanese unskilled workers who, in majority, have become unemployed[101].

Finally, this study aims to shed light on a serious social problem that threaten the lifestyle and the well being of a large labor segment of the Lebanese society, especially, unskilled workers. We have been trying through this study to illuminate the severe consequences of recruiting Syrian unskilled-workers on wages in the Lebanese fast-food market.

In order to focus on the Lebanese fast-food market and wage determination for unskilled workers in this sector, during periods of high and low seasons, several economic theories and principles have been reviewed (wage elasticity for unskilled-labor demand, cross-wage elasticity, substitution effect, the law of supply and demand, etc.); in addition to an empirical study that analyzed the experience of thirty two fast-food restaurants in Lebanon in 2014. Our choice of fast-food restaurants was due to: 1/ fast-food restaurants mainly employ unskilled labor-what responds to the needs of our study, 2/ The choice of fast-food industry as a pool to our study was due to its influential weight in the Lebanese economy, 3/ The feasibility and facility of data collection among fast-food staff.

At the end, this paper studies the low-wage effects of unskilled-labor demand (in other terms, the inverse functions of own-wage elasticity[102]). It presents new microeconomic evidence on the effect of substitution and labor surplus on wages, in the presence of high labor demand.

[100] Since 1948, Palestinians in Lebanon do not enjoy the same work privileges as Syrians. Only 1090 work permits were issued to Palestinians in Lebanon since 2006. (Azzi 2014)

[101] According to Sejan Azzi (2014), the population of Lebanon is around 4 millions. The unemployment rate in Lebanon is 20%, 324000 unemployed were registered during the Syrian crisis between 2011 and 2014.

[102] Own-Wage Elasticity = percentage change in labor demanded/percentage change in wage ($\eta_{ii} = \%\Delta L_i / \%\Delta W_i$).

The theory about wages and employment

With the rising pressure of labor unions and the ascending demand for increasing minimum wage, the studies of minimum wage effects on employment and on the economic performance have been accelerated lately. The review of available literature that study the relationship between wages and employment has driven us to various results, some of which are contradictory, based on the selected sample and the country under study.

While studying the fast-food sector in New Jersey and Pennsylvania, Card and Krueger (1994), found out that increasing the minimum wage has no effect on the total employment level and possibly has a positive effect. Although, employment may have risen or dropped in some individual fast-food restaurants, the key here, for Card and Krueger, is to have a moderate increase in the minimum wages thus improving the standard of living of workers with a minimal disturbance of the labor market equilibrium. The other point that the study of Card and Krueger revealed was related to working hours which were not affected by the increase of minimum wage. For them, this was clear for the restaurants in the lowest wage areas in the state and where the minimum wage increase was more likely to be a binding constraint. Consequently, they infer that a moderate and binding increase in minimum wages would possibly have a positive effect on the employment level.

Considering the case of the British economy, Dickens et al.(1999) found no evidence that an increase in minimum wages would reduce employment; this was accompanied with strong evidence that it compresses the distribution of earnings. According to these authors, the effect of minimum wage on employment is always estimated to be non-negative and in many cases to be positive. In consideration to the theoretical approach, the concave relationship between employment and minimum wages implies that moderate increase in minimum wages lead to a potential positive effect on employment whereas setting the minimum wages high would lead to a negative effect. Generally speaking, labor supply is not necessarily perfectly elastic, which means that employers may cut wages without necessarily loosing workers. Hence, the model presented by these authors allows employers to have monopsony power.

In an attempt to study the impact of reforms on the labor market in Germany, Peichl and Siegloch (2013) used information on firms' labor demand behavior and incorporated them into a structural labor supply model. By employing a newly developed demand model based on a detailed employer-employee data for Germany, their study revealed that labor demand is not at all perfectly elastic and ranges between -0.37 and -1.05. This result diminishes the assumption that labor demand is perfectly elastic;

consequently, labor supply effects are no longer equal to employment effects.

In fact, the calculation of labor demand elasticity is deemed necessary for the evaluation of the impact of labor-supply policy on employment and on wage levels. In their study, Peichl and Siegloch (2013) found Labor demand elasticity and its effects offset 25% of the positive impact of policy reform on labor supply. Hence, when studying the effect of policy reform on labor market dynamics, labor demand elasticity is to be taken into consideration due to the offsetting effects to supply-policy reforms attributed to the elasticity of labor demand.

On the other hand, Danziger (2009) addresses the common assumption that low-wage workers, as a group, benefit from an increase in their total wage income. More specifically, Danziger dwells on the role of demand elasticity when deciding how better off are these workers after an increase in the minimum wage. His study showed that low-wage workers are better off under the increase of minimum wages when the aggregate demand for labor is inelastic. Further on, they are best off when the minimum wage rate is set at a level where the aggregate demand for low-wage labor is unit elastic. As such, he concluded that the success of the minimum wage rate and the inelasticity of the demand for low-wage labor are closely related.

Finally, our reference to these papers is not to highlight the impact of minimum wages on the employment level but rather to extract the variables affecting the responsiveness of the Lebanese unskilled-labor market, as well as, the wage determination for the fast-food industry.

The low-paying industry

Seasonality is recognized as one of the most determinant feature of the hospitality industry. It has a profound impact on labor demand and wages, and it is held responsible for unemployment. The fast-food industry is not an exception.

Generally speaking, fast-food jobs do not require high skills or expertise, which is convenient to the unskilled-labor force. In high seasons, the business of fast-food restaurants booms, which posts an elevation in demand for unskilled labor. For some researchers like Batt, Lee and Lakhani, the most substantial factor that significantly affects wage levels is the customer segment that the restaurant serves. “Among front-of-house workers, those working in fast food make 73 percent less than those in upscale fine dining establishments” (Batt, Eun Lee and Lakhani 2014). However, in the presence of minimum skills requirements, fast-food restaurants pay low wages, compared to upscale restaurants, which increases the rate of turnover among their employees.

In some cases, fast-food restaurants have always benefited from the abundance of unskilled labor to keep wages down. Recently, we have seen fast-food strikes and protests for higher wage that have been growing in scope and gaining increased notice, especially in USA. Some economists assume that giving raises to low-paid fast-food workers, in USA, would stimulate the underperforming economy by increasing their purchasing power. Whereas other economists counter that the stimulus would be diluted when the raises force fast-food restaurants to raise prices, subtracting from other consumers' spending power. (Greenhouse 2013)

In Lebanon like in any other country, wages in the fast-food industry are among the lowest, even in periods of high season. What worsened this situation is the uncontrolled massive supply of the Syrian labor force[103] who work for long hours (increasing, thereby, the average product of labor) and for less pay (even less than the minimum wage guaranteed by law). In the presence of positive cross-wage elasticity that characterizes the unskilled labor market, wages have been dropped in periods of high season when labor demand is above average. Consequently, Lebanese workers in the fast-food industry have been easily substituted by Syrians, which has been translated into a high unemployment rate and an increase in poverty[104].

The influence of displaced syrians on labor in the lebanese fast-food market

As previously mentioned, fast-food restaurants employ unskilled labor. In Lebanon, the unskilled labor force that work for fast-food restaurants (local and international restaurants) is mainly composed of Lebanese and Syrians[105].Since March 2011[106], the mass arrival of Syrian refugees has capped work opportunities for Lebanese, causing a slump in wages.

The fact that Syrians in Lebanon work longer hours than Lebanese without benefiting from social security, and accept lower pay, has increased the competition between these two labor forces. Syrian workers get an

[103] According to Azzi (2014), Syrian labor force accounts for 47% from total labor force in Lebanon. In 2014, the total number of Syrian refugees in Lebanon is around 1600000. Among them 1000000 work in Lebanon and just 1195 of Syrian working force in Lebanon hold a working permit.

[104] According to Azzi (2014), 1170000 Lebanese are below the poverty line.

[105] According to our survey, local fast-food restaurants employ an average of 20% Lebanese workers. Whereas, International restaurants operating in Lebanon employ an average of 80% Lebanese workers due to social security restrictions. The reasons why local fast-food restaurants prefer Syrian refugees on Lebanese workers are: 1) to avoid the expenses and obligations of social security, 2) to avoid paying high salaries, 3to avoid paying the residence and working permit as these permits require an official entrance to Lebanon.

[106]The start of Syrian civil war.

average monthly income of $300 which is significantly lower than the minimum guaranteed wage of $450 in Lebanon. Our study revealed that average wages paid by fast-food restaurants to Lebanese workers ($556) decline in high seasons ($474) due to the excessive supply of Syrian works who accept wages lower than the 2007 poverty line, which is estimated at US$ 2.4 per capita per day. (UNDP 2012)

This fact is substantiated by FAO (2014) who affirmed the negative impact of Syrian labor force on casual labor market in Lebanon: "The influx of Syrians has impacted the casual labor market, causing up to a 60 percent reduction in daily wages". The reduction in daily wages of Lebanese workers in periods of high season where labor demand is high, as well as, the increase of unemployment rate among Lebanese is partially explained then by the excessive supply of low-wage Syrian labor. Besides that, some Lebanese employers (especially local fast-food restaurants) are substituting Lebanese workers with low-wage Syrians; it is relevant to mention that Syrian workers combine work for low salaries with the reception of aid from UNHCR[107]whereas most unskilled Lebanese workers find it hard to sustain a living standard with lesser salaries, which obliges them to quit their jobs.

Based on a study conducted by World vision (2013), around 90 % of Lebanese workers in Bekaa reported a decline in income, mainly due to competition from Syrian workers. In addition, the study unveiled readiness on the part of Lebanese workers to discuss lowering their wages and changing their work conditions before being laid off and substituted for Syrian workers.

According to BLOMINVEST (2014), "losses of Lebanon's economy prompted by spillovers from conflict in Syria are $7.5 billion, ($1.1 billion in 2012, $2.5 billion in 2013, and $3.9 billion in 2014). This is equivalent to 2.9% cut in GDP growth for each conflict year, and entails large losses in terms of wages, profits, taxes, private consumption and investment". As one economy cannot satisfy two nations, the continuous substitution of Lebanese unskilled workers for Syrians has obviously four direct consequences on the Lebanese economy:

1/Average wages will decline which leads to a decline in purchasing power among Lebanese workers.

2/ Investments will decrease.

3/Revenue from taxes will decline.

4/The immigration of Lebanese labor force will increase.

[107]The UN Refugee Agency.

The elasticity of substitution of lebanese for syrian unskilled workers

As previously presented, the diversified supply of unskilled labor in the Lebanese economy consists of both Lebanese and foreign unskilled workers. Given the fact that fast-food restaurants do not necessitate special skills, education or sometimes experience, unskilled Lebanese workers are being substituted with a cheaper foreign labor force (especially, the Syrian). This substitution has amplified the competition between the two labor forces, and has pushed the wages of Lebanese workers in a downward direction, especially during high season.

Referring to Hicks-Marshall rules of derived demand (Hicks 1932), the elasticity of derived demand for one factor of production (in a two factor framework) is higher in absolute value when: 1/ the higher the elasticity of substitution between the two factors is, 2/ the higher is the share of the factor in the cost of production, provided that the elasticity of product demand is higher than the elasticity of substitution, 3/ the higher is the elasticity of supply of the other factor, 4) the higher is the elasticity of demand for the output produced by the two factors. (James 1989)

Considering that Syrian and Lebanese unskilled workers are the only two production factors studied for fast-food restaurants in Lebanon, and based on the marginal productivity theory, the real wage paid to Syrian labor (W***s***) should be equal to their marginal product (MPL***s***) and the real wage paid to Lebanese workers(W***l***) should equal its marginal product (MPL***l***). Knowing that marginal products of Lebanese and Syrian unskilled workers are proportional to their average products, any increase in the number of Lebanese workers (L***l***) would decrease the MPL. On the other hand, increases in the number of Syrian workers (L***s***), should make Lebanese workers more productive at the margin.

As Syrian unskilled labor influx is very high, the demand for Lebanese unskilled workers should increase due to the increase of their marginal product. However, this conclusion neglects the effect of a similar increase in Syrian unskilled labor on Lebanese unskilled labor's share of output. In an attempt to study the elasticity of Lebanese for Syrian unskilled workers (**ϭ**), we will refer to the study of John Kennan (1998) about the elasticity of substitution.

According to Kennan (1998), under constant returns PQ = vK + wL (Where K is capital, with price v, and L is labor, with price w, and Q is output, with price p), labor share (***S***) is given by:

$$\boldsymbol{S = \frac{wL}{PY} = \frac{wl}{vK+wL} = \frac{1}{\left(\frac{vK}{wL}\right)+1}}$$

Kennan assumes in his manuscript that a change in ***S*** depends on the elasticity of substitution **ϭ.**

$$\sigma = - \frac{dlog\left(\frac{k}{L}\right)}{dlog\left(\frac{v}{w}\right)}$$

In our study of the elasticity of substitution of Lebanese for Syrian unskilled workers, we have mentioned earlier that Syrian unskilled labor are perfect substitutes to their Lebanese equivalent ($\sigma = \infty$). In other terms, when W***s*** decrease under (W***l***) which is usually the Lebanese minimum guaranteed wage, labor demand for Syrians increase and labor supply for Lebanese decrease.

$$\sigma = - \frac{dlog\left(\frac{Ls}{Ll}\right)}{dlog\left(\frac{ws}{wl}\right)} = \infty$$

Consequently, unskilled Lebanese labor share of output drops when W***s*** decrease. This explains why unskilled Syrian labor is replacing the Lebanese one in fast-food restaurants, especially in periods of high labor demand (high season).

Regretfully, managers of fast-food restaurants have always benefited from the surplus of unskilled labor to cut down wages. With the growing competition from Syrian unskilled labor in terms of working hours and wages, Lebanese unskilled workers had to choose between losing their jobs and accepting lower wages, at least during the period of high season.

Our study shows that most unskilled Lebanese workers, who haven't been substituted for Syrians in periods of high season, have accepted to work with lower wages (even lower than the minimum-guaranteed wage). Putting together the substitution effect of Lebanese unskilled workers and the labor surplus, the demand for unskilled labor has become more elastic.

In an attempt to visualize our observation and to provide a better understanding of the variables that affect the wages of fast-food unskilled labor, we adopted in our study the backward regression method using SPSS software in order to elaborate Linear Regression. Based on the data collected, the following linear regression is developed by running high season average wage on out-of-season average wage and summer seasonality. (Standard error in brackets)

W_H= 189.267-72.228 S+0.557 W_O, WITH AN ADJUSTED R^2 OF 0.527.

(67.250) (26.839) ** (0.116)*

W_H: Workers' wages during high seasons

W_O: Workers' wages during out of season periods (low season)

S: Seasonality effect

The results of our study have shown that during high season, unskilled workers have an autonomous wage of $189.267 (independent of the seasonality effect and of their original out-of-season wage received during the year). In addition, the high-season average wage (W_H) has been found affected by that of the low season (W_O, out of season), as well as by

the seasonality effect (S). Consequently, any drop in wages during high seasons is benchmarked with the workers original wage.

In the same context, our results showed that the low-season average wage paid for unskilled workers is significant at 1% and the seasonality effect is significant at 5%. This result can be substantiated by the fact that the correlation coefficient between high season and out of season average wages is 64.8%.

On a further notice, seasonality was found to have a negative impact on wages during the high season. This impact is translated by a drop of wages below their original level as fast- food restaurants tend to reduce their average labor cost through substituting, temporarily, Lebanese unskilled workers by lower-wage Syrian workers. In addition to that, the determination of wages during high seasons is found highly tied with original wages.

Conclusion

As demand for unskilled-labor starts to edge up, the decline in wages paid by fast-food restaurants in Lebanon become steeper. The excess supply of unskilled Syrian workers, the possibility of substitution and the elasticity of labor demand have given employers, in fast-food industry, the flexibility to cut wages to their advantage.

Generally speaking, this case is not related to monopsony by fast-food restaurants; the wages for unskilled-workers are rather determined by the market. Yet, the high elasticity of substitution of Lebanese for Syrian unskilled workers, as well as the availability of labor surplus, has persuaded employers to drop wages moderately and hire cheaper workers to maximize profits during booming seasons. Consequently, Lebanese unskilled labors who work for fast-food restaurants had no choice than to settle for a seasonal drop in wages. The results of our study justify our assumption as, on average, wages for unskilled workers in the fast- food business were below average during high seasons. This phenomenon could be explained by:

1/ the existence of a surplus of cheap Syrian labor causing supply to exceed demand in periods of high season,

2/ the aptitude of Syrian labor to work for long hours with low wages, even below the minimum wage guaranteed by law. In consequence, Syrian workers have been substituting Lebanese workers who have been leaving their jobs or looking for better ones while others are waiting for the season to end to have their wages restored,

3/ the elasticity of demand for unskilled labor. The demand for unskilled labor is found to be very elastic, which explains the increased demand for unskilled Syrian labor in periods of high season.

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List of tables

Table 6

The avergae wage in lebanese fast-food restaurants												
	N	Range	Min	Max	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
HSW	30	500	300	800	474.33	20.056	109.849	12066.78	1.063	.427	1.667	.833
OSW	30	400	400	800	556.00	21.392	117.168	13728.27	.434	.427	-.565	.833
Valid N (listwise)	30											

Note. - HSW = High Season wage; OSW = Out of Season Wage.