DISCUSSION PAPER SERIES

IZA DP No. 6822

Determinants of Domestic Workers' Employment: Evidence from Lebanese Household Survey Data

Ali Fakih
Walid Marrouch

August 2012

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

Determinants of Domestic Workers' Employment: Evidence from Lebanese Household Survey Data

Ali Fakih
Lebanese American University, CIRANO and IZA

Walid Marrouch
Lebanese American University and CIRANO

Discussion Paper No. 6822
August 2012

IZA

P.O. Box 7240
53072 Bonn
Germany

Phone: +49-228-3894-0
Fax: +49-228-3894-180
E-mail: iza@iza.org

IZA Discussion Paper No. 6822
August 2012

ABSTRACT

Determinants of Domestic Workers' Employment: Evidence from Lebanese Household Survey Data

This paper provides new evidence on the determinants of domestic workers' employment using a unique micro-level dataset on Lebanese households drawn from the National Household Budget Survey (2005) conducted by Central Administration of Statistics (CAS). Controlling for household, household head, dwelling, and regional characteristics, we find that the probability of hiring a domestic worker is significantly higher for larger households, female headed households, larger dwellings, and increases with aggregate household consumption. Furthermore, regional differences are found to be highly significant where households located outside the capital city are less likely to retain a domestic worker. These insights can be potentially useful for policymakers in their effort to regulate the industry revolving around domestic work.

JEL Classification: D13, J22, J23, J49

Keywords: domestic workers' employment, demand for domestic work, household level data

Corresponding author:

Ali Fakih
Department of Economics
School of Business
Lebanese American University
P.O. Box 13-5053
Chouran Beirut 1102 2801
Lebanon
E-mail: afakih@lau.edu.lb

1 Introduction

The factors that determine the use of domestic worker(s)' services has received little attention in the labor economics literature. According to the International Labour Organization (ILO), a domestic worker is "a wage-earner working in a [private] household, under whatever method and period of remuneration, who may be employed by one or by several employers who receive no pecuniary gain from this work"[1]. Official estimates put the number of domestic workers at 53 million around the world. However, the ILO reckons that this number could be seriously underestimated given the often informal nature of domestic activities. Moreover, most domestic workers are migrants according to the ILO. In the Arab World, using domestic workers' services is wide spread. In 2009, there were around 1.7 million domestic workers in the Gulf and Jordan, most of them are women (63%)[2].

In Lebanon, domestic work has been a controversial issue on human rights grounds and has received heightened media attention recently. According to the Central Administration of Statistics (CAS) and the Ministry of Labor, Lebanon hosted 117,941 paid domestic workers in 2010 of which 97% were women[3]. It should be noted that the population of domestic workers is foreign as Lebanese nationals have not historically engaged in full-time paid domestic work on a wide scale. Moreover, most domestic workers live with their employer for the duration of their contract. Domestic work and its related activities led to the establishment of a dedicated industry in Lebanon. In 2010, the estimated total cost of recruiting new domestic workers was around US $290 million, while the total wage bill for all domestic workers was around US $300 million[4].

[1] This definition was first introduced by the ILO in 1951.
[2] Authors calculation based on the report by Esim, S., & Kerbage, C. (2011). The situation of migrant domestic workers in arab states. Draft paper presented at the interregional workshop on strengthening dialogue to make migration work for development in the ESCAP and ESCWA regions, Lebanon.
[3] These figures exclude part-time non-contractual domestic work as well as unpaid work.
[4] Authors calculations based on the report by Hamill, K. (2011). Trafficking of migrant domestic workers in Lebanon a legal analysis. Kafa institute, Lebanon.

Analysis of home production activities is examined within the labor supply literature. There is evidence that households choose to hire domestic workers when their female labor force participation increases. Moreover, domestic workers' employment positively correlates with female labor force participation (see Flipo et al. 2007). Kimmel and Connelly (2007) examine the determinants of mothers' time for paid and unpaid work using US data in 2003 and 2004. They find that time allocated to home production is decreasing in the wage of employed mothers. According to Pollak and Wachter (1975), the use of domestic workers' services is an inseparable decision to the female labor force supply decision. They argue that when women attach utility to time spent on home activities; the demand for domestic workers will be a perfect substitute for produced domestic work.

There are a limited number of studies on the determinants of domestic workers' employment. Flipo et al. (2007) present evidence from French households. They find that the likelihood of households demanding domestic services is positively correlated with their age and income. Using Australian data, Baxter et al. (2009) find that income predicts the use of paid domestic help. They also find that men with spouses in poor health conditions are more likely to employ domestic workers. Stancanelli and Stratton (2010) analyze French and British data and find that demand for domestic workers is stronger on weekends. In addition, they find that a higher women's income most significantly increase the likelihood of hiring domestic helpers.

In this paper, we examine the factors that determine the hiring decision of domestic workers' employment in Lebanon using the National Household Budget Survey (2005) conducted by Central Administration of Statistics (CAS). This survey has two important distinct features. First, it is the only dataset containing information about domestic work use at the national level, and is representative of all Lebanese households. Second, it allows to control for regional dummies. On the

methodological level, we measure the impact of relevant variables on the likelihood of hiring domestic helpers by estimating a probit model. To the best of our knowledge, this paper is the first to provide empirical evidence to this question in the Middle East and North Africa (MENA) region. Our study presents quantifiable evidence that may help policymakers in their regulation of the domestic workers industry.

Our results suggest that the probability of hiring a domestic worker is significantly higher for larger households, female headed households, larger dwellings, and increases with aggregate household consumption. Furthermore, regional differences are found to be highly significant where households located outside the capital city are less likely to retain a domestic worker.

The remainder of the paper is organized as follows. Section 2 presents the data used along with descriptive statistics and the methodology. The estimated results are discussed in section 3. Section 4 makes concluding remarks.

2 Data and methodology

2.1 Data

We use a unique micro-level dataset on Lebanese households drawn from the National Household Budget Survey (2005) conducted by Central Administration of Statistics (CAS), the Ministry of Social Affairs (MoSA), and the United Nations Development Programme (UNDP). The sample design is nationally representative for all Lebanese households and is weighted to take into account the regional distribution of the Lebanese population. The dataset includes information on households' characteristics and their living conditions. The relevant survey data used in this paper covers 7,431 households with respondents aged at least 15 years spanning all six Lebanese administrative regions (Mohafazas). It should be noted that this survey excludes non-Lebanese

residents. In the dataset, we do not observe the number of employed domestic workers in each household.

The information provided on the employment of domestic workers is a dichotomic variable equal to one if the household has at least one worker[5]. In our regressions, we control for four categories of independent variables. We first examine the significance of household characteristics by including the number of household members, and a list of dummies for children aged 0 to 6, elderly person(s), disabled person(s), vehicle(s), and the presence of a second dwelling in the household. In addition, we consider the proportion of job holders in the household and the aggregate household consumption. Second, we examine the role of household head characteristics by controlling for gender, age, marital status, and level of education. Third, we control for the dwelling characteristics including number of rooms, surface area, dwelling type, ownership type, and the presence of marble and dishwashers in the dwelling. Finally, we add regional dummies for each of the six Mohafazas.

Table 1 presents the proportion of households employing domestic worker(s) by characteristic in 2005. We observe that 5.60% of households with elderly person(s) employ domestic workers. However, only 2.95% of households with children aged between 0 and 6 years have domestic workers. It is interesting to note that 14.34% of university educated household heads employ domestic helpers. Regarding the dwelling characteristics, we notice that around 30% of villa owners used the services of domestic helpers. Finally, the poorest regions (the North and Bekaa Mohafazas) have the lowest percentage of households employing domestic workers, as opposed to Beirut the capital and richest region in the country where the percentage is 11.62%.

Table 2 presents the summary statistics of variables used in the analysis. The dichotomic dependent variable suggests that 3.5% of Lebanese households employ domestic workers. While,

[5] Notice that this survey does not include information on part-time non-contractual domestic workers.

Flipo et al. (2007) report, using a representative sample from France, that 5.9% of households hired a domestic worker in 1996. The average Lebanese household has 4.3 members. In addition, 33% of all households have children aged between 0 and 6 years, 30.6% have at least one elderly person, and 7.6% have at least one disabled person. While 8% of all households have a second dwelling[6]. The average aggregate household consumption in 2005 is equal to LBP 17.9 million (USD 11,863). Regarding the household head characteristics, we observe that only 13.8% of families are headed by females. The average age of all household heads is around 50 years. 80.1% of household heads are married. We also observe that only 10.2% of the heads have a university education. Finally, we notice that on average the Lebanese dwelling has 3.8 rooms (excluding the kitchen and the washroom) with an average surface area of 127 square meters. Respectively, 74% of residences are apartments, 25.5% are houses, and only 0.5% are villas.

2.2 Methodology

Our goal is to examine the factors that determine the use of domestic workers' services. We model the probability of having domestic workers using a probit specification. Let D_i^* denote the benefit accruing to the household i ($i = 1, \ldots, N$) from purchasing the service of domestic work, i.e. it is the utility derived from having domestic work services in the household. The specification for the probit model is as follows

$$D_i^* = X_i'\beta + u_i$$

where X_i is a matrix containing the observable characteristics for households. β is a vector of parameters to be estimated, and u_i is the error term assumed to have a normal distribution. The variable D_i^* is not observable, as it is a latent variable. Instead, we observe the household's hiring decision. We define the following probit rule

[6] It should be noted that a number of Lebanese families who reside in the cities, retain secondary housing accommodations in rural areas where they originally hail from.

$$D_i = \begin{cases} 1 & if\ D_i^* \geq 0 \\ 0 & if\ D_i^* < 0 \end{cases}$$

where D_i is a binary variable equal to one if the household states that they have a domestic worker, and zero otherwise.

3 Results

Estimation results of the probit model are presented in Table 3. We run the regression taking into consideration four categories of independent variables. We examine the determinants of the domestic workers' hiring decision using only household characteristics in column 1, which is the baseline regression. In column 2, we add the household head characteristics to the baseline. In column 3, we add the dwelling characteristics to the baseline. In column 4, both the household head characteristic and the dwelling characteristics are added. Finally, in column 5, all variables of the model are examined including regional dummies. In all models, the dependent variable is the binary variable D_i.

3.1 Household characteristics

The baseline regression reveals that the household characteristics are an important determinants of the domestic workers' hiring decision. It is not surprising that having children aged between 0 and 6 and disabled person(s) living in the households increases the probability of hiring domestic workers given that the presence of these dependents increases the domestic work load. These results are robust to different model specifications. Baxter et al. (2009) find that in Australia this probability is increasing in the number of children for female headed household and decreasing for male headed household.

We find that the proportion of job holders in the households increases the probability of employing a domestic worker. This result is attributed to the fact that an increase in labor force

participation decreases the time allocated to domestic work. A similar result is found in Flipo et al. (2007) who study French households.

We also find that the household aggregate consumption, considered as a proxy for income, increases the probability of having a domestic worker across all model specifications. However, owning a car and a second dwelling are found to be not significant. We run the same model excluding the aggregate consumption and find that owning a car and a second dwelling are highly significant. This result suggests that owning a car and a second dwelling do not strongly correlate with income levels given that a large number of households living in cities originate from villages. Thus, it is rather consumption level that is the driving force behind the hiring decision.

Finally, our results indicate that in the baseline regression having an elderly person in the household is positively significant. However, when households head characteristics are controlled for, this variable loses in significance in column 2, and becomes insignificant in column 4, which may suggests that the head characteristics could have an explanatory role. However a robustness check reveals that this is not the case. Indeed, when we interact the consumption and the elderly variables in the full model, we find that the interaction term has a negative and significant impact on the hiring decision, while elderly becomes highly significant again. This suggests that richer households with elderly people are less likely to hire a domestic worker given their ability to assign the elderly to geriatric care centers.

3.2 Household head characteristics

When we add household head characteristics to the baseline mode, we find that female headed households are more likely to employ domestic workers. Females who head households are also participating in the labor market, and therefore their demand for domestic labor compensate for the reduction in the time spent on domestic chores. Indeed, there is substantial evidence that women

spend more time in unpaid household activities (see Krantz-Kent 2009). Flipo et al. (2007) find that employed female spouses are 2.5 times more likely to hire a domestic worker than unemployed ones. This result is maintained when dwelling and regional effects are controlled for.

We also find that the likelihood of hiring domestic workers is increasing with the age of the head. This result lends support to Flipo et al.'s (2007) finding that the probability of hiring is strongly influenced by age in France. Baxter et al. (2009) confirm that age is positively correlated with the hiring decision.

With regard to the level of education, we find that the higher the level of education, the higher the probability of hiring a domestic worker. The categories "Intermediate/secondary", "Vocational", and "University" are positively correlated with the probability of having a domestic worker where the reference group is primary and no education. This finding suggests that a higher level of education, thus a higher socio-economic status would lead to a higher demand for domestic workers. Baxter et al. (2009) also find that having an undergraduate degree is positively correlated with having a domestic worker.

3.3 Dwelling characteristics

Turning to the dwelling characteristics, we find that the number of rooms excluding the kitchen and the bathroom is an important determinant. The probability of the hiring decision is increasing in the number of rooms. This result is maintained across different empirical specifications. However, the living area is found to be insignificant suggesting that the dwelling configuration rather than its surface area positively correlates with the hiring decision. In other words, for the same surface area a dwelling with more rooms is more likely to host a domestic worker especially that this worker will be living in a separate room. We also find that dwellings paved with marble are more likely to host a domestic worker. Marble, mainly in Lebanon, is a strong indicator of wealth. Ownership of the

dwelling, rather than leasing, is also found to have a positive impact in the full model which lends more support to the claim that wealthier families are more likely to make the hiring decision.

Finally, when the dwelling is a house it is less likely to have a domestic worker where the reference group is defined to be an apartment type dwelling. This a priori surprising result can be explained by the fact that houses are typically found outside the capital city Beirut. Usually families who live in houses are in a more traditional rural setting where hiring domestic workers is not a prevalent social norm. Indeed, when we control for the regional effects, the type of dwelling is no longer a significant determinant.

3.4 Regional dummies

In the full model, regional dummies are included. We find that all dummies exhibit a negative sign where the reference group is the capital city Beirut. The probability of having a domestic worker is decreasing in all regions (five Mohafazas) outside the capital city. It is interesting to notice that the two most rural and poorest Mohafazas in Lebanon (the North and the Bekaa) reveal the strongest negative and significant regional effect on the likelihood of employing domestic workers.

4 Concluding remarks

This paper provided new evidence on the determinants of domestic workers' employment in Lebanon. It is noteworthy to observe that the labor literature has rarely focused on the economics of domestic workers. Using a unique dataset from Lebanon, we are able to form a better picture of the socio-economic profile of households that use domestic workers.

We find that households that are mostly urban, larger in size, female headed, and relatively well-off as reflected in their consumption and dwelling characteristics are the most likely employers of domestic workers. These insights can be potentially useful for policymakers in their effort to regulate the industry revolving around domestic work.

A policy that promotes greater parity in incomes across genders may increase the opportunity cost of domestic work for female household heads, which will potentially increase the demand for domestic work. Such a policy is interesting for the government if it wishes to expand the domestic work industry and as a result it will increase female labor force participation. Notice that the percentage of female headed households was around 13.5% in 2005.

However there is a caveat related to male headed households. Although there exist some evidence suggesting that male participation in the domestic work effort has been increasing over time (see Marshall, 2006), their impact on the demand for domestic work is ambiguous. On one hand, the increasing rate of male participation in domestic work will help females increase their participation in the labor market and the demand for domestic worker may increase as a result. On the other hand, male participation in domestic tasks may help females to spend less time on domestic chores and more time on leisure. Therefore, demand for domestic workers may not change. In this case, domestic work can be considered as an imperfect substitute to leisure rather than participation in the labor market. Thus, a policy that promotes only the domestic workers industry (and ignores the gender income gap) cannot be an effective solution to increase female labor force participation.

References

Baxter, J., B. Hewitt, & Western, M. (2009). Who uses paid domestic labor in Australia? choice and constraint in hiring household help. Feminist Economics, 15(1), 1-26.

Flipo, A., Fougere, D., & Olier, L. (2007). Is the household demand for in-home services sensitive to tax reductions? The French case. Journal of Public Economics, 91(1-2), 365-385.

Kimmel, J., & Connelly, R. (2007). Mothers' time choices: Caregiving, leisure, home production, and paid work. Journal of Human Resources, 42(1), 643-68.

Krantz-Kent, R. (2009). Measuring time spent in unpaid household work: Results from the American time use survey. Monthly Labor Review, 132(7), 46-59.

Marshall, K. (2006). Converging gender roles. Perspectives on Labour and Income, 7(7), 5-19.

Pollak, R. A., & Wachter, M. L. (1975). The relevance of the household production function and its implications for the allocation of time. Journal of Political Economy, 83(2), 255-277.

Stancanelli, E. & Stratton, L. (2010). Her Time, his Time, or the maid's time: An analysis of the demand for domestic work. IZA, DP 5253.

Appendix

Table 1: Percentage of households employing domestic worker(s) by characteristic in 2005

Variable	Percentage
Household characteristics	
Households with children aged 0 to 6	2.95
Households with elderly person(s)	5.60
Households with disabled person(s)	5.29
Households own a second dwelling	7.85
Household head characteristics	
Female headed household	4.96
Head is married	3.43
Head with university education	14.34
Dwelling characteristics	
If the dwelling is a house	1.94
If the dwelling is a villa	29.13
If the dwelling is an apartment	3.97
Regions (Mohafazas)	
Beirut	11.62
Mount Lebanon	3.53
North	1.22
Bekaa	1.21
South	2.90
Nabatieh	2.08
Number of observations	7,431

Table 2: Descriptive statistics

Variable	Mean	Std. Dev.
Dependent variable		
Household employs one or more domestic workers	0.035	0.185
Household characteristics		
Number of household members	4.323	2.031
Households with children aged 0 to 6	0.334	0.471
Households with elderly person(s)	0.306	0.461
Households with disabled person(s)	0.076	0.265
Proportion of job holders	0.304	0.243
Households with a car/van/track	0.559	0.496
Household owns a second dwelling	0.083	0.275
Household aggregate consumption	17875.7	14129.94
Household head characteristics		
Female headed household	0.138	0.345
Age of the head	50.061	14.894
Head is Married	0.801	0.399
Head education: primary and below	0.550	0.497
Head education: intermediate/secondary	0.297	0.457
Head education: vocational	0.044	0.206
Head education: university	0.102	0.303
Dwelling characteristics		
Number of rooms	3.799	1.353
Surface of the roofed residential area	126.577	58.363
If the dwelling is a house	0.256	0.436
If the dwelling is a villa	0.005	0.076
If the dwelling is an apartment	0.737	0.440
If the dwelling is self-owned	0.700	0.457
If the floor is paved with marble	0.073	0.261
If the dwelling has a dishwasher	0.024	0.155
Regional dummies		
Beirut	0.110	0.313
Mount Lebanon	0.414	0.492
North	0.166	0.372
Bekaa	0.123	0.329
South	0.116	0.320
Nabatieh	0.067	0.250
Number of observations	7,431	

Table 3: The determinants of domestic workers' employment decision (probit model)

	Dependent Variable: Household has domestic worker(s)				
	(1)	(2)	(3)	(4)	(5)
Household characteristics					
Number of household members	0.008	0.068	0.020	0.073	0.087
	(0.018)	(0.018)***	(0.018)	(0.019)***	(0.020)***
Households with children aged 0 to 6	0.349	0.578	0.332	0.571	0.583
	(0.090)***	(0.101)***	(0.093)***	(0.103)***	(0.107)***
Households with elderly person(s)	0.597	0.195	0.576	0.160	0.505
	(0.077)***	(0.115)*	(0.079)***	(0.120)	(0.173)***
Households with disabled person(s)	0.441	0.464	0.499	0.512	0.506
	(0.115)***	(0.118)***	(0.118)***	(0.122)***	(0.125)***
Proportion of job holders	1.612	1.810	1.750	1.902	1.983
	(0.132)***	(0.146)***	(0.141)***	(0.152)***	(0.158)***
Households with a car/van/track	0.157	0.155	0.001	0.043	0.052
	(0.089)*	(0.095)	(0.093)	(0.102)	(0.106)
Household owns a second dwelling	0.031	0.055	0.072	0.091	0.035
	(0.115)	(0.120)	(0.122)	(0.126)	(0.125)
Household aggregate consumption	0.003	0.003	0.002	0.002	0.002
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Elderly person(s) × aggregate consumption					-0.001
					(0.000)**
Household head characteristics					
Female headed household		0.595		0.552	0.524
		(0.174)***		(0.186)***	(0.191)***
Age of the head		0.030		0.030	0.029
		(0.005)***		(0.005)***	(0.005)***
Head is Married		0.081		0.039	0.076
		(0.162)		(0.175)	(0.181)
Head education: intermediate/secondary		0.486		0.409	0.379
		(0.106)***		(0.113)***	(0.114)***
Head education: vocational		0.821		0.734	0.669
		(0.167)***		(0.173)***	(0.181)***
Head education: university		0.970		0.836	0.779
		(0.124)***		(0.128)***	(0.131)***
Dwelling characteristics					
Number of rooms			0.244	0.199	0.205
			(0.044)***	(0.045)***	(0.050)***
Surface of the roofed residential area			-0.000	-0.000	0.001
			(0.001)	(0.001)	(0.001)

Statistical significance: *=10%; **=5%; ***=1%. Robust standard errors in parentheses.

Table 3: Cont'd

	Dependent Variable: Household has domestic worker(s)				
	(1)	(2)	(3)	(4)	(5)
If the dwelling is a house			-0.181	-0.099	-0.070
			(0.101)*	(0.101)	(0.109)
If the dwelling is a villa			-0.112	-0.050	-0.083
			(0.271)	(0.279)	(0.293)
If the dwelling is self-owned			0.057	0.101	0.200
			(0.097)	(0.100)	(0.106)*
If the floor is paved with marble			0.416	0.473	0.415
			(0.102)***	(0.105)***	(0.106)***
If the dwelling has a dishwasher			0.086	0.033	0.141
			(0.167)	(0.161)	(0.157)
Regional dummies					
Mount Lebanon					-0.280
					(0.119)**
North					-0.714
					(0.196)***
Bekaa					-0.836
					(0.179)***
South					-0.120
					(0.159)
Nabatieh					-0.295
					(0.192)
Constant	-3.809	-6.147	-4.742	-6.871	-6.892
	(0.152)***	(0.340)***	(0.208)***	(0.390)***	(0.419)***
Ln-Likelihood (pseudo)	-52072.511	-47651.543	-48124.856	-44755.601	-43380.01
Number of observations	7,330	7,330	7,330	7,330	7,330

Note: Statistical significance: *=10%; **=5%; ***=1%. Robust standard errors in parentheses.

The reference category for education is primary and below. The reference group for dwelling type is apartment.

The reference group for regional dummies is Beirut.