

Public Employment Shocks and Female Labor Force Participation in Palestine: Evidence from Quasi-Natural Experiment

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Abstract

By the end of the Second Intifada, which took place during the 2000-2004 period, the Palestinian government disproportionately expanded security personnel, overwhelmingly hiring males. This expansion has come at the expense of employment in public education. Public education is the main employer for educated females in the public sector, which hire half of this cohort in the West Bank. In this paper, I utilize the employment decline in public education as a quasi-natural experiment to examine the causal effect of changes in labor demand on the labor force participation of educated females. The findings show that the contraction of public education decreases the probability of their labor force participation. Markedly, the effect is limited to young educated females.

‡The content of this research reflects the opinion of the author.

1. Introduction

Existing literature documents cross country differences in female labor force participation rate (LFPR) (see Verick 2014). A large strand of research has been devoted to explain this phenomenon in an attempt to relate it to economic development, economic empowerment, and reduce risk of poverty (Polachek 2006; Verick 2014; Kluge and Schmitz 2014). Economists often look at the supply side effect, mainly highlighting the role of societal and cultural barriers (see Olsen *et al* 2006 and Neff *et al* 2012); lack of crèches and institutional child support for female workers (see Bick 2010); spouse's level of income; expected market wage; and fertility (See Klasen and Pieters 2012).

At the demand side, researchers often address the impact of sectoral changes (Verdugo and Allegre (2017), demand shocks from natural resources (Maurer and Potlogea (2017), and trade integration (see Gaddis and Pieters 2017). In this research, I revisit the linkages between labor demand and female LFP, emphasizing the impact of public employment. Notably, public sector is considered a main employing sector for educated females both in developed and developing countries (see Anghel *et al* 2011; ILO 2007). This indicates that labor demand shocks in the public sector may have sizable effect on females' labor market outcomes.

Surprisingly, few papers link public employment to female labor force participation (LFP) (see Rosen 1996; Gornick and Jacobs 1998; Anghel *et al* 2011). To date, little research, if any, attempts testing if such a linkage is causal, possibly constrained with estimation challenges driven by simultaneity concerns. This paper fills this gap. Toward the end of the Second Intifada, which took place during the 2000-2004 period, the Palestinian government expanded employment of security personnel, possibly to restore stability and off-set the negative labor market effect of restricting access to the Israeli labor market (Cali *et al* 2014). This has come at the expense of other public sub-sectors, mainly education (see Figure 1).¹

Markedly, public education is considered the main employer for educated females. In 2004, before expanding the employment of security personnel, public education generated employment for 39% of all educated females. Therefore, it is expected that the negative demand shock in the education-subsector would decrease job opportunity for this cohort (see more discussion in section 2) and potentially drive some of them out of labor market. This paper utilizes the employment decline in public education as quasi-natural experiment to examine the extent to which decrease in labor

¹ All figures and tables are presented in the appendix.

demand causally affects LFP for educated females. The underlying theoretical reasoning is borrowed from the theory of discouraged worker effect (Becker 1965; Mincer 1966; Dernburg 1966). It states that labor supply is higher (lower) when labor market is tight (slack). With poor labor market conditions (e.g. recession) workers give up on searching for jobs and become discouraged as the utility associated with the search is lower than the utility of remaining out of the labor force (see Cahuc and Zylberberg, 2004; Benati 2001; Ehrenberg and Smith 1988; Dagsvik 2013).

To establish causal linkages between demand shock and LFP for educated females, I employ difference in difference (Diff-in-Diff) estimation technique. The identification assumption is that educated females in localities that heavily relied on public-education employment before the shock will disproportionately experience lower LFP. The validity of this identification is majorly based on two major conditions; employment opportunity in public education diminishes for educated females and that all localities share same LFP trend prior to the shock. We provide evidence that both conditions are not violated.

We draw up on labor force data collected and published by the Palestinian census Bureau of Statistics (PCBS). The time span of our analysis extends from 1999 until 2008. We limit our analysis to West Bank. In 2007, Hamas militarily controlled Gaza, forming a separate government and leading to a different public employment scheme. Since then, Israel has imposed blockade and waged three consecutive wars against the people of Gaza, causing a deep recession and diverging the economy away from the West Bank (see World Bank 2007, 2010). These shocks might be hard to empirically control for.

The findings of this paper show that the decrease in demand for public education causally decreased probability of joining labor market for educated females. The findings also show that the effect is limited to young educated females (new labor market entrants), as their labor market conditions are poorer relative to older educated females. The paper also shows that this conclusion is robust to a number of placebo tests, showing that the documented effect is not confounded by other factors or underestimated by commuting effect

The remaining of the paper is organized as follows, Section 2 presents main descriptive statistics and tracks labor market outcomes for educated females with emphasize on employment decreases in public education. Section 3 discusses Diff-in-Diff methodology and model specifications. Section 4 and 5 presents main results and robustness check. The paper concludes in section 6.

2. Demand Shocks and Labor Market Outcomes for Educated females.

In this section, I aim at exploring the main aspects that identify changes in labor market conditions for educated females during the study period (1999-2012). To do so, I utilize data from PCBS's labor force survey (LFS) that is nationally representative and collected quarterly covering over 7000 households in WBG. The LFS includes rich socioeconomic and employment information of household members, such as age; sex; education attainment; place of residence; place of work; employment status; type of employment; wages, among many other factors.

To better emphasize labor market outcomes for educated females, I shed light on LFPR for all cohorts based on sex, age, and level of education. The data exhibits poor labor market performance for females. Over the study period, their LFPR averaged about 22% relative to 87% for males. Still, differentiating individuals by level of education unfold an interesting pattern of LFPR, explicitly for females. Their average LFPR amounted to 69.5% as oppose to 14% for the less educated. This, however, contrasts with male case in which education is less relevant; LFPR for less educated males is 86.5% as oppose to 91% for their educated peers.

Tracking over time changes in the Palestinian labor market provides useful insights. Up on the break out of the Second Intifada, the economic conditions substantially deteriorated. As violence level intensified, Israel severely restricted internal and external mobility across the West Bank areas and banned access to its labor market for a large section of Palestinian commuters (Cali and Miaari 2018; Fallah 2017; Mansour 2010). As a result, share of commuters from declined from 25% in 1999 to 12% during the first two years of the Second Intifada. As a result, unemployment rate rose to unprecedented level of 28%.

Once the intensity of the Second Intifada sizably diminished by the end of 2004, Israel gradually lifted closure on the West Bank and eased access restrictions to its labor market. Directly, labor market conditions improved, unemployment rate declined, though never reached the initial level, and LFPR started to recover. Still differentiating individuals based on sex, age, and level of education, the analysis show that improvement in labor market conditions did not benefit young educated females. Mainly between 2003 and 2007, LFPR declined from 85% to 71% and unemployment rate doubled to 41% (See Figure 2 and3 for LFPR as well as Figure 4 and 5 for unemployment rate). Throughout the remaining of this paper, we identify young cohort as those with an age boundary of 19-29 years old versus 30-64 years old for the older cohort.

By the end of the Second Intifada, the Palestinian government disproportionately expanded employment of security personnel, overwhelmingly hiring males, possibly to quell tension in the occupied Palestinian territories and curb rising unemployment rate (Cali et al 2014). Between 2003 and 2008, the employment share of this sub-sector rose from 20% to 28%.² This expansion has come at the expense of employment in other public sub-sectors. Namely, public education was affected the most in which its employment share drop from 40% in 2003 to about 33% in 2005, though it rose slightly in the following years, but never reached near the initial share (see Figure 1). Markedly, public education is a main employer of educated females. Right before expanding the employment of security personnel, public education generated employment for 39% of all educated females. In the same vein, the majority (72%) of educated females employed in the public sector are working in public education.

To this end, the contraction of education employment in the public sector represents a negative demand shock for educated females. To formally show this, I measured locality share of educated females in public employment relative to overall public employment (henceforth referred to as share of educated females in public education) and regressed it against year dummies, locality dummies as well as year-district fixed effect and place of residence (urban, rural, and refugee camp)-year fixed effects. The results, see Table (2), show that the share of educated females employed in public education decreased right after the expansion of security personnel and lasted until 2010. Thus, the demand decreases in public education is expected to limit job opportunity for educated females.. The empirical analysis of this paper is devoted to test this hypothesis.

The period of analysis spans between 1999 and 2012; covering an extended period that allows test the validity of the Diff-in-Diff method. The geographical unit of analysis is localities and time unit of analysis is year. We utilize data from unbalanced panel of 83 localities, including a sample of 22,467 educated females. These localities are highly populated with available observations on type of public employment.

²² Trend changes in security personnel are not reported after 2008 as data on type of employment is not sufficiently disaggregated for those years.

3. Empirical Model

I utilize a Diff-in-Diff method to estimate the effect the employment decline of public education on the labor force participation of educated females in the West Bank. The Diff-in-Diff model is estimated using the following linear probability model:

$$L_{f_{it}} = \alpha + \delta (Sb1999_i) * period + T_t + \eta_l + \lambda_{dt} + controls_{sit} + e_{it} \dots \dots \dots (1)$$

The dependent variable is dichotomous taking a value of one for an educated female “*z*” who ages between 19-64 years old, lives in locality *l* and observed in year *t* while it takes zero if educated females are reported out of labor force. The treatment variable “*Sb1999_i*” is continuous, measured as an interaction between a *period* dummy base line (1999) share of the educated female employed in public education, relative to all public employees in a given locality. The *period* dummy reflects the time of the shock, taking 1 for the years following 2004 and zero for earlier years.

The identification assumption of the treatment estimate is that LFP will be lower for educated females in localities that heavily rely on public education as a main source of employment would be more negatively affected by the decrease of demand in this sector post the shock. Therefore, the treatment estimate “ δ ” measures the effect of increases in the share of public education in 1999 on probability of LFP for educated females post the shock. A main validity assumption of estimating the treatment effect is that the share of public education varies across localities. Descriptive analysis shows that it indeed varies ranging from 9.8%, for the 10th percentile to 23% and 34% for the 50th and 75th percentiles, respectively.

The vector η_l include locality fixed effects and vector T_t includes year dummies. The control variables include individual characteristics, specified as dummy variables, covering age, marital status, refugee status, and education degree. The model also includes locality level variables. In particular, I interacted the *period* dummy with two base line locality characteristics. The first is the share of educated females employed in the private service sector. This is to ensure that the treatment variable is not capturing demand shocks from other sectors that generate employment for educated females (see Fallah et al 2018). The second is share of educated females, which is included to capture cross effects of locality differences in human capital. Finally, the model controls for district-year fixed effect, λ_d and place of residence-year fixed effects (π_r) to account for time varying unobserved

factors that changes overtime across districts and place of residence (urban, rural, and refugee camps), respectively, but are common to localities in these geographies. The model is estimated assuming that error terms are e_{it} are clustered at the locality level.

4. Results

Model (1) will be firstly estimated using the entire sample including all educated females (overall sample model). To distinguish the differential effect of the new labor market entrants, the model will then be separately estimated for the young and older educated females. It is expected that young educated females (new labor market entrants) will be disproportionately affected. The descriptive analysis shows that their labor market performance is poorer prior to the shock. In 2002, the unemployment rate for young educated females amounted to 27% as opposed to 7% for the older cohort. Therefore, with the decline in the employment demand for public education, job opportunity of the young cohort is expected to be disproportionately limited, leading to a greater tendency to leave the labor market. Furthermore, I will provide two stage estimates. In the first stage, I will limit the period of analysis until 2010. In the second, I expand it to cover the entire period (1999-2012).³ This allows examining the extent of demand effect as the negative shock diminishes. The second stage estimates will be discussed in the robustness check section.

The first stage estimates of the overall sample model are reported in Table (3). The estimates of a parsimonious version of model (1) are presented in Column (1) in which all variables are included, except for individual controls as well as initial locality characteristics. Column (2) reports the full model (the preferred model) including all variables as specified in model (1). The results show that the treatment estimate of the parsimonious model is negative and statistically significant at 1% level. When including all control variables, the treatment estimate remains negative and significant. Though the magnitude of the estimate drops from -0.33 to -0.25. The estimate of the latter indicates that increasing the share of educated females in public education by 10% in 1999 decreases probability of joining the labor force by 2.5 percentage points.

Now, I turn to test whether the decrease in public employment for educated females have differential effect across age cohorts. To save space, the analysis is limited to estimating the full model. The results show that sign of the treatment coefficient is negative but only significant for the young cohort. The underlying estimate of the latter indicates that increasing the share of educated

³ The empirical analysis is limited to 2012, as data are not readily available at the locality level for later years.

females in public employment by 10% in 1999, probability of labor force participation decreases by 4.4 percentage points. With this, the findings provide evidence that the decrease in employment demand for public education has negative effect on LFP for educated females and that the effect is limited to the young cohort.

Still, a main validity assumption of utilizing the Diff-in-Diff model is that both control and treated group have same LFP trend prior to the shock. To test this hypothesis, I estimate a generalized version of model (1), allowing treatment effect to vary by years. The results, reported in Table (3) separately report the estimate for the full sample, young educated females, and older educated females. Consistent with parallel trend assumption, the treatment estimate is insignificant for all years prior the shock for the three models. Markedly for the young educated cohort, the negative effect on LFP persists across all years during the treatment period. As for the older educated females', the treatment estimates are statistically insignificant across the board.

5. Robustness Check

In this section I explore a number of concerns that may threaten the validity of the reported estimates. These concerns include commuting effect and the effect of confounding factors. As for the former, the employment decrease in public education may induce educated females in highly affected localities to seek employment in other localities. This is expected to bias the treatment estimate downward. To explore this venue, one would ideally use data that identify localities where individuals would search for employment. Unfortunately, this data is not available.

Alternatively, I use utilize place of work data to examine if educated females tend to change place of work as an outcome of the shock. Prior to the shock, 41% of employed educated females work in the same locality of residence. I estimate a similar regression to the generalized version of model (1), except that the dependent variable is a dummy variable that takes a value of one if an educated female works in same locality of residence and zero otherwise. In addition, the model controls for workers' type of economic activities. Due to data constraints, I limit the analysis to 2001-2008 period. Consistent with above analysis, I estimate separate regressions for the young and older educated females. The estimates, reported in Table (5), show that probability to change place of work across localities does not change for both cohorts. The treatment estimate is statistically insignificant for all the years following the shock. The results also support the parallel trend

assumption. This indicates that commuting effect plays no role in shaping the estimates of this cohort model.

As for the confounding factor concern, it is possible that the negative effect on LFP is correlated with other locality characteristics that are not accounted for in the model. One aspect of this concern is that labor market conditions deteriorated for localities that were highly exposed to public education shock. In such a scenario, LFP would also decrease for other cohorts that are less affected by the shock. In such a case the linkages between decrease in public employment and decline in LFP is spurious.

To test for this hypothesis, I run a couple of Placebo test in which model (1) will be separately estimated for low educated cohorts; including young-female cohort; older-female cohort; young-male cohort; older-male cohort. Descriptive statistics show that for each of these cohorts, less than 1% is employed in public education, relative to own overall employment. Since public education generates few jobs for all these cohorts, it is less likely that negative demand shocks in public education would affect their LFP. Put differently, for the documented effect of public education to be valid, low educated cohorts should not be affected, all else equal.

The results are reported in Table (6). Columns (1) and (3) report the results of the young and older low educated females. The treatment estimates are negative but statistically insignificant. Columns (2) and (4) report the underlying estimates of a generalized form of model (1), showing that the parallel trend assumption holds for both cohort models. The corresponding treatment estimates of the lower educated male cohorts are presented in Columns (4) and (7). The estimates are positive but statistically insignificant. Nevertheless, the estimates reported in Columns (5) and (8) show that the parallel trend assumption for the male cohorts does not hold for both male models. While the latter finding may cast doubt on the validity of using Diff-in-Diff technique, the overall conclusion of the placebo tests suggest that the reported findings of the young educated females do not pick other confounding effects.

As a last robustness check, I extend the study period until 2012. As indicated above, the decline in the employment share of public education for young educated females have lasted until the end of 2010 and then bounced back in 2011 and 2012 to same level of the baseline period (1999). A diminished LFP effect of public education in the extended period would further testify that the reported estimate of the young educated females causally reflects the treatment effect. To pursue

this venue, I re-estimate a generalized version of model (1) for the entire period (1999-2012) for young and older educated females. Consistent with above argument, the treatment estimate, reported in Column (1) of Table (7) becomes statistically insignificant for the young educated model in 2011 and 2012. The treatment estimates for the older educated females do not change; remains statistically insignificant for the entire post-shock period (see Column 2 of the same table).

6. Conclusion

Upon the end of the Second Intifada, the Palestinian government expanded employment of security personnel at the expense of other public employment, namely education. Public education is the main employer for educated females. I utilize this shock as a quasi-natural experiment to examine the effect of shocks of labor demand on LFP of educated females. Using Diff-in-Diff estimation technique, the findings show that decreases in public education causally reduce the probability of joining the labor market. The findings show that the effect is limited to young educated females. The main policy implication of this paper is that austerity measures may have repercussions on LFP for educated females in countries that disproportionately rely on public sector to employ this cohort.

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Figure (1): Cross Sector Public Employment Share 1999-2008

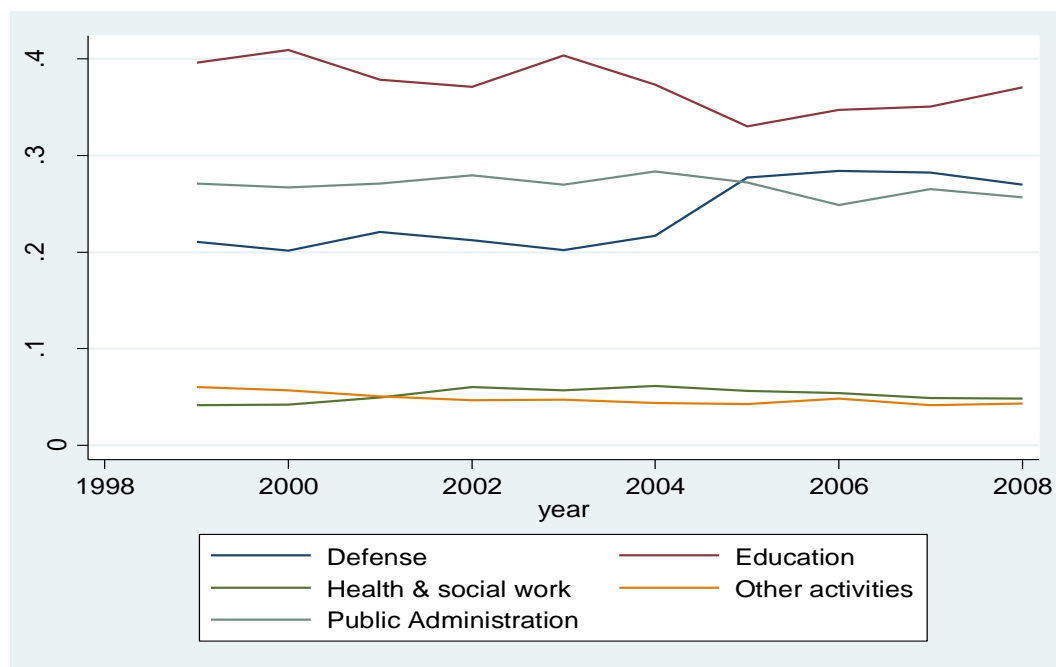


Figure (2): LFPR for Educated Cohorts 1999-2012

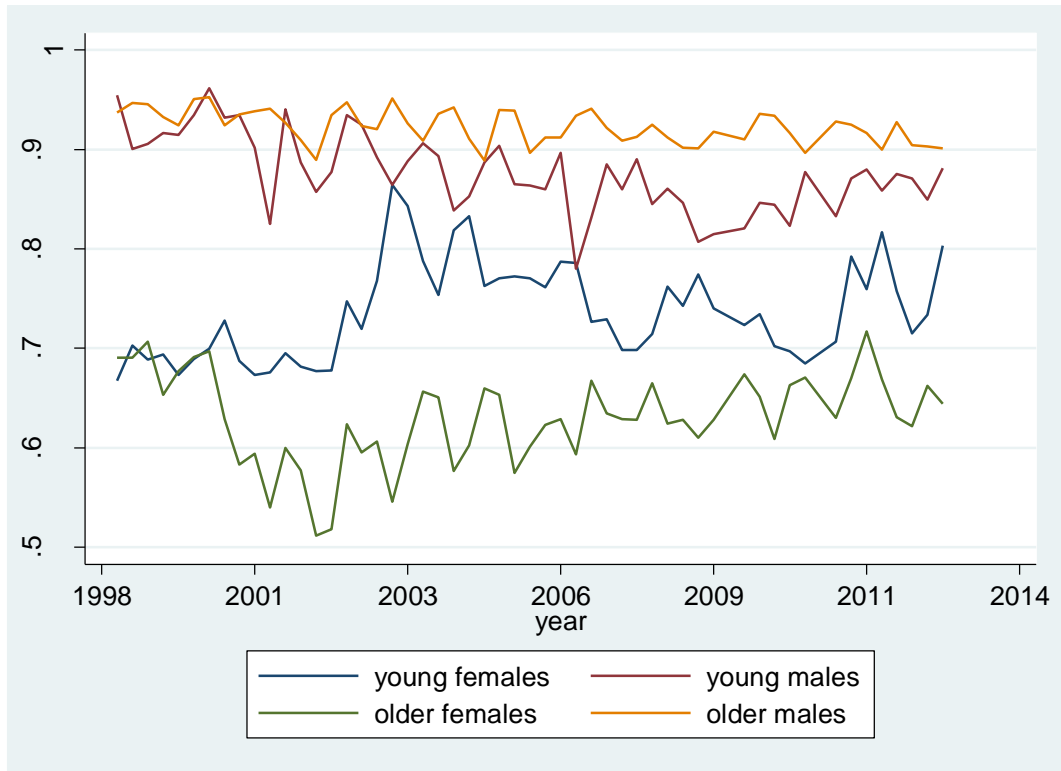


Figure (3): LFPR for Educated Cohorts 1999-2008

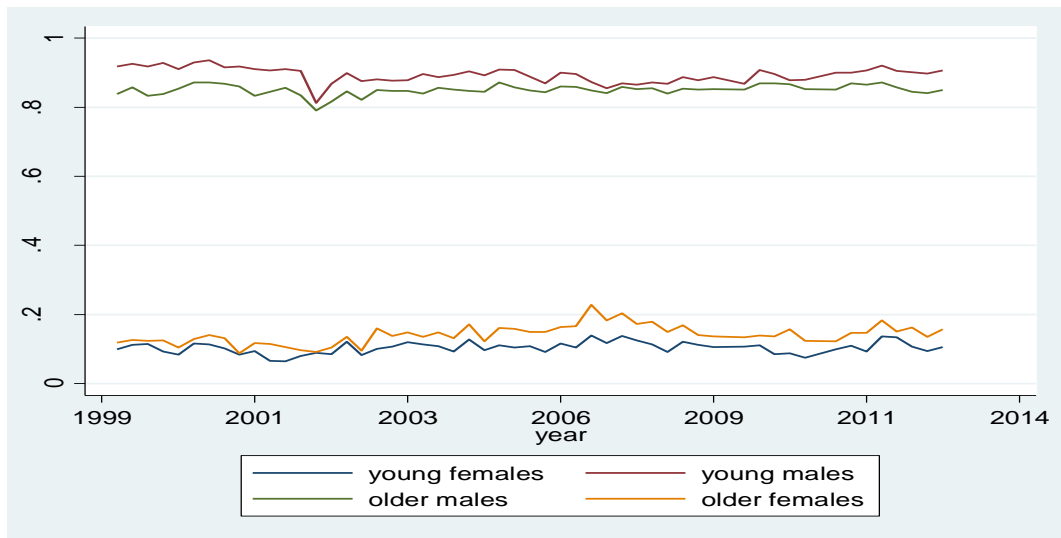


Figure (4): Unemployment Rate for Educated Cohorts 1999-2012

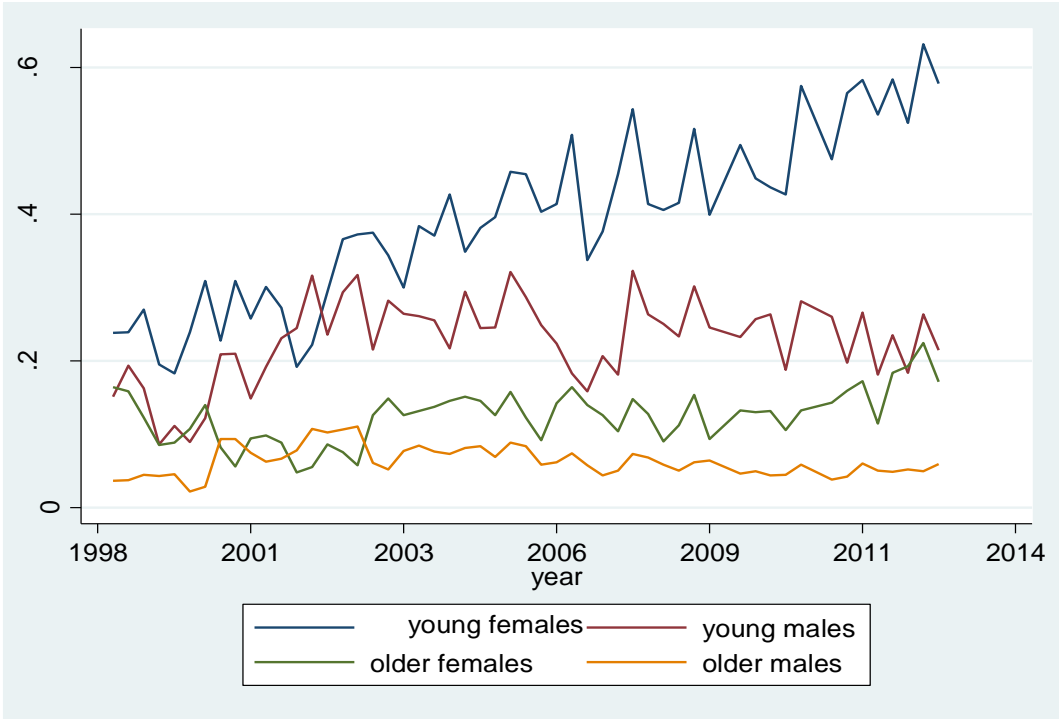


Figure (5): Unemployment Rate for Low Educated Cohorts 1999-2012

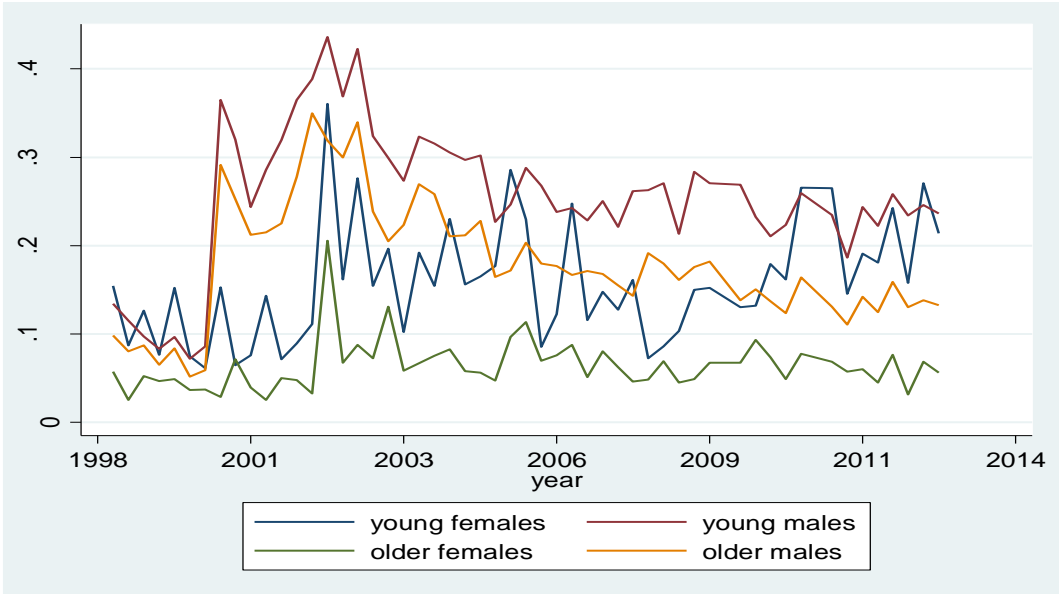


Table (1): Descriptive Statistics for Model Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
1999 share of educated females in public education	88	0.251443	0.153263	0.047689	0.751033
1999 share of educated females	88	0.117218	0.074644	0.005993	0.373169
1999 share of employed educated cohort in Services	77	0.391357	0.18331	0.053009	0.840883

marital Status	percent	Education attainment	percent
Share of Single (never married) educated females	46.89	Diploma degree	35.51
Share of married educated females	47.09	Bachelor degree	63.08
Others	6.02	High diplom	0.16
		Master degree	1.11
		PhD degree	0.13

Labor force participation	percent
Share of educated females join labor market	75.89
Share of educated females out of labor market	24.11

Table (2): Decline in Share of Public Education for Educated Females 1999-2012.

Variables	Model
2000	-0.088 (0.058)
2001	-0.034 (0.048)
2002	-0.090* (0.046)
2003	-0.040 (0.055)
2004	-0.023 (0.059)
2005	-0.086 (0.054)
2006	-0.107** (0.046)
2007	-0.135*** (0.044)
2008	-0.096* (0.051)
2009	-0.080* (0.045)
2010	-0.076* (0.045)
2011	-0.031 (0.047)
2012	-0.030 (0.060)
District-Year linear trend	Yes
Place of Residence linear trend	Yes
Constant	0.264*** (0.057)
Observations	1,738
R-squared	0.549

Robust standard errors in parentheses

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

Table (3): Effect Decrease in Public Education on LFP for Educated Females

VARIABLES	(1) Parsimonious Model	(2) Full Model	(3) Full Model-By year
Treatment Variable post shock	-0.330*** (0.084)	-0.253*** (0.087)	
Treatment Effect- Year by Year			
2000			-0.039 (0.184)
2001			0.011 (0.194)
2002			0.054 (0.180)
2003			-0.085 (0.192)
2004			0.002 (0.182)
2005			-0.245 (0.199)
2006			-0.466** (0.178)
2007			-0.273 (0.194)
2008			-0.337* (0.186)
2009			-0.212 (0.259)
2010			-0.159 (0.177)
Share of educated females	No	0.337*** (0.124)	0.339*** (0.126)
Share of employed educated females in service sector	No	-0.110* (0.066)	-0.096 (0.066)
Education attainment			
Bachelor degree	No	0.181*** (0.011)	0.181*** (0.011)
High diploma	No	0.274*** (0.038)	0.274*** (0.038)
Master degree	No	0.297*** (0.025)	0.297*** (0.025)
Phd degree	No	0.253*** (0.075)	0.253*** (0.075)
District-Year linear trend	Yes	Yes	Yes
Place of Residence linear trend	Yes	Yes	Yes
Age, Refugee status, marital status	No	Yes	Yes
Observations	17,501	17,253	17,253
R-squared	0.052	0.209	0.209

Robust standard errors in parentheses

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

Table (4): Effect Decrease in Public Education on LFP for Educated Females- Young vs. Older Cohorts

VARIABLES	(1) Young cohort	(2) Young cohort	(3) Older cohort	(4) Older Cohort
Treatment Variable post shock	-0.442*** (0.106)		-0.057 (0.124)	
Treatment Effect- Year by Year				
2000		-0.104 (0.259)		0.136 (0.284)
2001		-0.110 (0.270)		0.018 (0.293)
2002		-0.140 (0.261)		0.083 (0.282)
2003		-0.368 (0.293)		-0.052 (0.260)
2004		-0.086 (0.228)		-0.060 (0.293)
2005		-0.486* (0.253)		-0.010 (0.303)
2006		-0.811*** (0.292)		-0.241 (0.263)
2007		-0.512** (0.247)		-0.201 (0.275)
2008		-0.688*** (0.193)		-0.074 (0.306)
2009		-0.651** (0.286)		0.056 (0.312)
2010		-0.464* (0.251)		0.097 (0.216)
Share of educated females	0.380* (0.212)	0.384* (0.216)	0.302* (0.163)	0.312* (0.163)
Share of employed educated females in service sector	-0.026 (0.090)	-0.022 (0.095)	-0.196** (0.091)	-0.170* (0.086)
Education attainment				
Bachelor degree	0.168*** (0.014)	0.167*** (0.014)	0.195*** (0.016)	0.195*** (0.016)
High diploma	0.255** (0.122)	0.250** (0.122)	0.278*** (0.047)	0.277*** (0.047)
Master degree	0.234*** (0.063)	0.236*** (0.064)	0.330*** (0.024)	0.329*** (0.024)
Phd degree	0.011 (0.155)	0.007 (0.156)	0.298*** (0.081)	0.300*** (0.081)
District-Year linear trend	Yes	Yes	Yes	Yes
Place of Residence linear trend	Yes	Yes	Yes	Yes
Age, Refugee status, marital status	Yes	Yes	Yes	Yes
Observations	6,641	6,641	10,612	10,612
R-squared	0.242	0.243	0.207	0.208

Robust standard errors in parentheses

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

Table (5): Effect of Employment Decline in Public Education on Commuting

VARIABLES	(1) Young females	(2) Young females
2000	-14.581 (11.488)	-9.154 (7.244)
2001	-14.712 (11.519)	-9.312 (7.259)
2002	-15.473 (11.479)	-9.425 (7.199)
2003	-14.972 (11.496)	-9.604 (7.199)
2004	-14.878 (11.456)	-9.734 (7.203)
2005	-14.818 (11.488)	-9.338 (7.236)
2006	-14.579 (11.471)	-9.432 (7.256)
2007	-14.765 (11.478)	-9.162 (7.164)
2008	-14.975 (11.497)	-9.063 (7.244)
2009	-14.853 (11.526)	-9.151 (7.260)
Share of educated females	-0.246 (0.411)	-0.151 (0.258)
Share of employed educated females in service sector	-0.360** (0.169)	-0.023 (0.129)
Education attainment		
Bachelor degree	-0.070*** (0.027)	-0.008 (0.017)
High diploma	-0.119* (0.070)	-0.132** (0.062)
Master degree	-0.120** (0.053)	-0.018 (0.048)
Phd degree	-0.288** (0.125)	-0.049 (0.076)
District-Year linear trend	Yes	Yes
Place of Residence linear trend	Yes	Yes
Age, Refugee status, marital status	Yes	Yes
Constant	4.026 (2.881)	2.546 (1.854)
Observations	2,458	5,050
R-squared	0.541	0.535
devar	ddd	ddd

Robust standard errors in parentheses

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

Table (6): Effect Decrease in Public Education on LFP for Educated Females-Placebo Tests

VARIABLES	(1) Young females	(2) Young females	(3) Older females	(4) Older females	(5) Young males	(6) Young males	(7) Older males	(8) Older Males
Treatment Variable post shock	0.040 (0.065)		-0.001 (0.057)		-0.025 (0.036)		-0.044 (0.044)	
2000		-0.100 (0.070)		0.037 (0.056)		-0.043 (0.088)		-0.139** (0.066)
2001		0.096 (0.068)		0.080 (0.051)		0.091 (0.082)		-0.125* (0.066)
2002		0.022 (0.091)		0.027 (0.072)		-0.119 (0.109)		-0.123* (0.071)
2003		-0.070 (0.102)		0.044 (0.068)		-0.171* (0.089)		-0.064 (0.072)
2004		0.002 (0.092)		-0.065 (0.060)		-0.202** (0.092)		-0.122* (0.068)
2005		-0.129 (0.106)		-0.054 (0.071)		-0.136 (0.089)		-0.104 (0.064)
2006		0.166* (0.093)		-0.059 (0.085)		-0.049 (0.089)		-0.114* (0.064)
2007		-0.034 (0.107)		-0.023 (0.091)		-0.011 (0.102)		-0.192** (0.077)
2008		-0.126 (0.122)		0.120 (0.093)		-0.016 (0.121)		-0.226*** (0.076)
2009		0.116 (0.128)		0.074 (0.056)		-0.105 (0.119)		-0.075 (0.108)
2010		0.126 (0.093)		0.076 (0.074)		-0.195* (0.099)		-0.166* (0.093)
Share of educated females	0.022 (0.110)	0.012 (0.111)	-0.216** (0.092)	-0.216** (0.091)	-0.071 (0.100)	-0.059 (0.101)	-0.189*** (0.070)	-0.192*** (0.070)
Share of employed educated females in service sector	0.134*** (0.046)	0.140*** (0.045)	0.079* (0.042)	0.088** (0.042)	0.058** (0.028)	0.047* (0.028)	0.001 (0.031)	0.002 (0.030)
Education Attainment								
Bachelor degree	-0.112*** (0.021)	-0.112*** (0.021)	-0.003 (0.008)	-0.003 (0.009)	-0.568*** (0.035)	-0.568*** (0.035)	-0.123*** (0.024)	-0.123*** (0.024)
High diploma	-0.134*** (0.021)	-0.135*** (0.021)	0.003 (0.010)	0.003 (0.010)	-0.628*** (0.034)	-0.628*** (0.034)	-0.189*** (0.023)	-0.189*** (0.023)
Master degree	-0.152*** (0.021)	-0.153*** (0.021)	-0.014 (0.010)	-0.014 (0.010)	-0.647*** (0.032)	-0.647*** (0.033)	-0.202*** (0.023)	-0.202*** (0.023)
Phd degree	-0.169*** (0.023)	-0.169*** (0.023)	-0.052*** (0.014)	0.052*** (0.014)	-0.589*** (0.035)	-0.589*** (0.035)	-0.205*** (0.023)	-0.205*** (0.024)
District-Year linear trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Place of Residence linear trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age, Refugee status, marital status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	1.981*** (0.041)	1.982*** (0.041)	1.752*** (0.027)	1.752*** (0.027)	1.775*** (0.057)	1.775*** (0.057)	1.434*** (0.031)	1.434*** (0.030)
Observations	27,913	27,913	62,804	62,804	28,275	28,275	48,372	48,372
R-squared	0.116	0.117	0.078	0.078	0.123	0.124	0.179	0.179

Robust standard errors in parentheses

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

Table (7): Effect Decrease in Public Education on LFP for Educated Females-Extended Period

VARIABLES	(1) Young females	(2) Older females
2000	-0.133 (0.253)	0.123 (0.278)
2001	-0.176 (0.273)	0.066 (0.290)
2002	-0.166 (0.256)	0.173 (0.279)
2003	-0.390 (0.294)	0.007 (0.261)
2004	-0.102 (0.225)	-0.033 (0.295)
2005	-0.474* (0.257)	0.055 (0.293)
2006	-0.807*** (0.286)	-0.197 (0.256)
2007	-0.501** (0.250)	-0.147 (0.274)
2008	-0.720*** (0.194)	0.005 (0.314)
2009	-0.682** (0.270)	0.096 (0.324)
2010	-0.467* (0.256)	0.136 (0.225)
2011	-0.047 (0.212)	0.097 (0.338)
2012	-0.026 (0.281)	-0.012 (0.325)
Share of educated females	0.253 (0.162)	0.170 (0.136)
Share of employed educated females in service sector	-0.050 (0.073)	-0.170** (0.072)
Education attainment		
Bachelor degree	0.159*** (0.018)	0.208*** (0.015)
High diploma	0.309*** (0.095)	0.329*** (0.036)
Master degree	0.290*** (0.050)	0.335*** (0.024)
Phd degree	0.009 (0.147)	0.320*** (0.058)
District-Year linear trend	Yes	Yes
Place of Residence linear trend	Yes	Yes
Age, Refugee status, marital status	Yes	Yes
Constant	0.977*** (0.125)	0.799*** (0.098)
Observations	8,503	13,608
R-squared	0.222	0.200

Robust standard errors in parentheses

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