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IMPACT OF FERTILITY ON FEMALE LABOR SUPPLY IN ALGERIA

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SUSTAINABLE DEVELOPMENT GOALS
AND EXTERNAL SHOCKS IN THE MENA REGION:

FROM RESILIENCE TO CHANGE IN THE WAKE OF COVID-19

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Abstract

This paper examines the impact of fertility on women's participation in the labor market in Algeria. Using repeated cross-section cross sectional data derived from Algeria Multiple Indicator Cluster Survey (MICS) 2018-2019 witch is a part from an international survey initiative to monitor the situation of children and women we estimate a Marginal Average Treatment Effect using the method proposed by proposed by Heckman and Vytlacil (2001, 2005, 2007b). Our treatment variable is the number of child given by woman. To identify the causal effect, we proposed an empirical approach based on natural experiments and exploits family planning as sources of exogenous variation in the number of children (Bloom et al. (2009), Bailey (2006), (Bailey et al. (2012). Our result suggested that in general the impact on fertility on women labor participation is significant by heterogeneous through the group of age.

1. Introduction

In 2020, the Algerian population is estimated at 43.9 million inhabitants. Between 1966 and 2020 the Algerian population has been multiplied by four. Most of the growth took place during the 70's and 80's. During this period, the natural growth rate remained above 3% per year. Following the adoption of the National Population Growth Control Program in 1983, a gradual slowdown was observed. At the end of the 1980s, the demographic transition began: the death rate fell sharply from 16.45‰ in 1966 to 6.97‰ in 1987, while the birth rate, although declining, remained high (50 to 34.60 ‰ in the same period). As a result, in 1986, and for the first time after the country's independence, the natural population growth rate rose above 3% and the total fertility rate reached 5.2 children, compared to nearly 8 in 1966. In two decades, the rate of population growth has remained slow. Reproductive attitudes and behaviors have undergone significant changes, marked in particular by the emergence of new fertility patterns (the fertility index rose from 5.2 children in 1987 to 2.8 children in 1998).

From the year 2000, the Algerian demography recorded an increase in the marriage rate, rising from 5.41 marriages per 1000 inhabitants in 1998 to 8.73‰ in 2016. This evolution probably contributed to raise the birth rate, measured at 26.12‰ in 2016, and the natural population growth rate rising from 1.57% to 2.17% between 1998 and 2016. As a corollary to the birth rate, the fertility rate has closely followed the birth pattern, rising from 2.67 children per woman in 1998 to 3.1 children per woman in 2016. These factors have increased the population from 29.27 million to 43.9 million in 2020.

In terms of age structure, the rapid population growth of the Algerian population observed during the 1960s and 1970s characterized an extremely young configuration (in 1966 and 1977 nearly 48% of the population was under 15 years old. Until 1987, the average age of the population was around 22 years (22.6 years in 1966, 21.9 years in 1977 and 22.7 years in 1987). Following the adoption of the first population growth control program (PNMCD) in 1983,

Algeria began its second phase of demographic transition in 1986. This was the year of the decline in fertility. From 1987 to 1998, the age structure adjusted to the base heralding the transition to a structure with more active persons than dependents. The share of under-15s declined and that of 15-59 year olds increased, and the average age of the population reached 25.2 years.

The new configuration of the structure by age base widened, announcing a resumption of fertility confirming the increase in the birth rate observed by the civil status since 2003, reveal a reversal in the demographic evolution of Algeria. Admittedly, the share of the under-15 age group has continued to decline, but at the rate at which births are changing, this decline is likely to be reversed in the future. As for the aging of the population, the number of elderly people continues to increase.

Until 1998, labor supply in Algeria was characterized by low labor market participation, particularly among women. It should be noted that the labor force participation rate of women in Algeria remains the lowest in the MENA region and among the lowest worldwide. This prevents the country from fully enjoying its labor force potential.

Indeed, in 1966, the active population was estimated at 2.4 million people, with 0.10 million working women and 2.56 million working men. After nearly 50 years and in 2019 exactly, the active population is about 12.73 million people with 10.14 million active men and 2.59 million active women. If we analyze the evolution of the labor force in relation to that of the working-age population, we see that the labor force is evolving at a slower pace than the population aged 15 and over, which has resulted in low labor force participation rates in some periods. Indeed, for the first three decades, low participation rates are equally valid for both genders. Up to 1998, gross participation rates are estimated at 26.76% for the entire working-age population, with 46.33% for men and only 6.76% for women. On the other hand, from the 2000s onwards, there has been a very significant increase in participation rates. In 2008, the participation rate was 41.7% for the whole (i.e. +14.94% compared to 1998) with 69% for men (i.e. +22.67% compared to 1998) and 14.10% for women (i.e. +7.34% compared to 1998). Between 2008 and 2019 participation rates remain almost stable: nearly 66.8 % for men and 17.3 % for women.

As mentioned above, since the 2000s there has been a fairly moderate increase in activity, particularly among women, which has resulted in a large number of new job seekers entering the labor market. Admittedly, in terms of numbers, compared to those of men, those of women are growing less rapidly, but this increase in the active population of women is the result of the combined action of progress in the training of girls and also of the increasingly assertive willingness to work on the part of women and girls due to the economic crisis. By 2015, women now make up more than 61% of the student population, with a gross tertiary rate of over 43% in 2015 compared to 26.5% in 2005.

This finding is confirmed by an analysis of the activity rate by age category and gender between 1966 and 2019. In fact, the activity rate for women has increased for practically all age

categories except at the extremities, peaking at the age of 30, after which some of them interrupt their working life to stay at home and take care of their children. For men, the activity rate remained almost stable for those aged between 30 and 49. Low activity is observed at the extremities: for young people because of greater retention in the education system and its relay vocational training.

By level of education, the activity rate for women increases as the level of education increases, which is not always true for men. Women with higher levels of education participate the most in the labor market. It should be noted that the progress made by the Algerian university has mainly benefited women, who make up nearly two-thirds of the graduate population. Women with no degree prefer to stay at home and not participate in the labor market. Admittedly, the conditions of exercise of the professions of people without diplomas are often physically difficult and do not correspond to the expectations of working women. The situation for men is little different: men with primary or medium education participate most in the labour market.

In this contribution, we are interesting to the impact of fertility on women's participation in the labor market in Algeria. Using repeated cross-section cross sectional data derived from Algeria Multiple Indicator Cluster Survey (MICS) 2018-2019 and the Marginal Average Treatment approach proposed by Heckman and Vytlacil (2001, 2005, 2000), we estimate the impact of the number of child given by woman on women labor participation.

2. Literature review

Most of studies witch tried to explain the effect of fertility on female labor supply found a negative impact of the number of children on female labor-force participation (Trako 2016). The first generation of these studies has assumed that fertility is exogenous and concluded a significate negative relationship between female labor participation and fertility (Gronau (1973), Heckman (1974) and Heckman and Willis (1977). The second generation of studies has tried to deal with the endogeneity problem of the fertility by using the simultaneous equation models (Cain and Dooley, 1976; Schultz, 1978; Fleisher and Rhodes, 1979). The third generation of studies represented by Nakamura and Nakamura (1992) has recommended adding to the dependent variables, the the lagged variable of the fertility to control the unobserved women heterogeneity. Despite that the approach has been used by a number of authors (Even, 1987; Lehrer, 1992), it has been considered weak in terms of addressing accurately the endogeneity problem (Trako 2016).

The last group of studies and to address the endogeneity of the fertility has recommended exploiting exogenous sources of variation in the number of children. Three methods based on natural experiments have been used: twinning at first birth and parental preference for sibling's sex-composition. The fist method has been initialed by Rosenzweig and Wolpin (1980) and used by many authors (Angrist and Evans (1998), Jacobsen et al. (1999), Caceres-Delpiano (2006), Vere (2011), and Karbownik , Myck (2016) Majbouri (2018), …). The main idea behind this method is that because mothers who give birth to twins in their first birth are

comparable to mothers who had at least one child, and therefore, the treatment and control groups are considered randomly selected with respect to characteristics that may be related to labor market participation Rosenzweig and Wolpin (1980). However, Medical literature has has highlighted that the chance of having twins at first birth is related to mother's age at the time of birth (Mittler 1971) and more often born to healthier women (Bhalotra and Clarke (2018), therefore the sample become no random.

The second method of this group of studies was proposed by Angrist and Evans (1998). In their paper, the authors used the sex composition of the first two children as instrumental variables for fertility to estimate the effect of a third or higher order child on parental labor supply for the case of U.S. Cruces and Galiani (2007) have generalized this study it to Argentina and Mexico but they found a negative effect of fertility on female labor force participation. Chun and Oh (2002) and because Korean households prefer sons, they use the first child's sex as an instrument for fertility for married Korean women. Lee (2002) and after trying to use local family planning rules as instruments, he used son-preference as an instrument found no significant effect of fertility on rural female labor supply in China. Ebenstein (2009) also uses son-preference and conclude a negative effect of fertility on female labor force participation in Taiwan. Aguero and Marks (2011) have used self-reported infertility as an instrument and found no significant effect of fertility on female labor force participation.

Family planning have also been used as instruments for fertility. Access contraceptive means allowed women to delay childbirth and increase their human capital investment in education and their careers. Contraception contributed to a substantial increase in the proportion of women in the workforce and the number of hours worked by women. Bailey (2006) finds that early legal access to contraceptive pill resulted in delayed motherhood, which translated to improvements in labor market outcomes. Her analysis attributes 14-15 percent of the increases in labor force participation rates and hours worked among women aged 16 to 30 that occurred from 1970 to 1990 to ELA. In their article focusing on wages, Bailey, Hershbein, and Miller (2012) also find evidence of increased human capital investment as a result of contraceptive means. Yamanaka (2013) and using the national longitudinal survey of young women, provide evidence for how hours worked, hourly wages, weekly earnings and occupations for women were affected by oral contraceptives. The fertility decline induced changes in abortion laws led to an increase in the labor force participation of black women (Angrist and Evans 1996). Legalization of abortion in the United States led to a reduce the fertility (Klerman 1999; Levine et al. 1999).

3. Econometric model

The main contribution of this study is to provide an empirical analysis of fertility on female labor-force participation. We evaluate the impact of the number of children on the probability to be unemployed or employed. For this, we propose the simple model of female fertility and labor supply choices that has been used by Bloom et al. (2009). It is a constant elasticity of substitution (CES) utility function defined over consumption C, leisure d, and fertility n:

$$U(C, d, n) = \log(c - c_0) + \alpha \log(d) + \beta n - K(N - n) \ldots\ldots\ldots\ldots\ldots (1)$$

For simplicity the weight on consumption in utility is normalized to unity. The relative weight of leisure in utility is $\alpha > 0$, while the relative weight given to surviving children is $\beta > 0$. c_0 is supposed to be representing subsistence consumption. In addition to the utility of children, it is assumed that there is a cost, $K > 0$ of avoiding childbirth and achieving fertility lower than N, the potential reproductive capacity (or fecundity rate),

Total time available to a woman (normalized to 1) is allocated between working time h, leisure d, childcare bn (where b is the time cost per child), and non-market household work ε:

$$1 = h + d + bn + \varepsilon \quad \ldots\ldots \quad \ldots\ldots\ldots\ldots\ldots \quad (2)$$

The person's budget constraint can be written as:

$$C = wh + V \ldots\ldots\ldots\ldots\ldots \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

w represents the hourly wage rate and V is the no labor income.

By substituting equations (2) and (3) into (1), we obtain the female utility function:

$$U(C, d, n) = \log(w\,h + V - c_0) + \alpha \log(1 - h - bn - \varepsilon) + \beta n - K(N - n) \ldots\ldots\ldots (4)$$

The first-order conditions for an interior maximum with respect to h and n are:

$$\frac{\partial U}{\partial h} = \frac{w}{w\,h + V - c_0} - \frac{\alpha}{(1 - h - bn - \varepsilon)} = 0 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

$$\frac{\partial U}{\partial n} = \frac{-\alpha b}{1 - h - bn - \varepsilon} + \beta + K = 0 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

The optimal labor supply is given by:

$$h^* = \frac{\alpha(c_0 - V) + w(1 - b\,n - \varepsilon)}{1 + \alpha} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (7)$$

$$n^* = \frac{\alpha\left(c_0 - V + \frac{b}{\beta + K}\right) + w(1 - \varepsilon) + \varepsilon - 1}{w - 1 - \alpha} \ldots\ldots\ldots\ldots\ldots (8)$$

We are looking to find the effect of fertility on female labor supply by estimating equation (7). However, from equation (8) the fertility is endogenous and both fertility and labor supply is jointly determined, and the parameters of equation (7) will not be identified in a simple ordinary least squares regression.

Note that in the solution:

$$\frac{\partial h}{\partial n} = \frac{-bw}{1+\alpha} < 0 \qquad and \quad \frac{\partial^2 h}{\partial n \partial w} = \frac{-b}{1+\alpha} < 0$$

the model predicts that the effect of fertility on labor supply is negative and becomes more negative as the wage increases.

4. Data source and research methodology

For this analysis, we use cross sectional data derived from Algeria Multiple Indicator Cluster Survey (MICS) 2018-2019 witch is a part from an international survey initiative to monitor the situation of children and women. Topics covered in MICS include immunization, education, child and maternal health, family planning and knowledge of HIV/AIDS. MICS also provides data for employment and labor force participation. In Algeria, the sample consists of a stratified random sample of households drawn from the population and housing census (RGPH) carried out every 10 years. The MICS survey is conducted in Algeria practically every five years since 1995. For the 2018-2019 Algeria MICS, 35108 women ages 15-49 were successfully interviewed from 29919 households. Additionally, 17019 questionnaires for children under 5 were completed by mothers or child caretakers. Men were not included in the survey sample.

For the impact evaluation, we estimate a Marginal Average Treatment Effect using the method proposed by proposed by Heckman and Vytlacil (2001, 2005, 2007b). Our treatment variable is the number of child given by woman. To identify the causal effect, we propose an empirical approach based on natural experiments and exploits family planning as sources of exogenous variation in the number of children (Bloom et al. (2009), Bailey (2006), (Bailey et al. (2012)….

First, the number of child given by woman is certainly heterogeneous across women and there is heterogeneity in the response across women. Married women could be impacted differently depending on both their observed and unobserved characteristics. Impacts on economic outcomes may also be smaller for women who are generally disadvantaged in terms of life opportunities; they are less likely to be able to benefit from avoiding a pregnancy. There is no single representative impact of fertility on labor supply.

Second, estimation addresses two types of selectivity bias, fertility selection bias and labor force supply selection. The socio demographic characteristics of women are strong predictors of fertility-related behaviors and fertility outcomes, including sexual behavior, contraception access and use, pregnancy, motherhood, and birth timing. These same socio demographic characteristics are also strong predictors of economic outcomes, such as labor force participation and earnings. For example, women from low-income families are more likely to experience unintended pregnancy, especially as teens. Women with low incomes, regardless of whether they become pregnant as teens or not, are also less likely to get a college degree and more likely to live in poverty as an adult. As such, the association of teen pregnancy with adult poverty will be much higher than the actual causal impact of teen pregnancy on poverty.

When choosing between active or inactive status, women weigh the advantages and disadvantages of each status and equilibrate utilities. The decision is very complicated and driven by many factors observable and unobservable. Family characteristics are not the only drivers but individual characteristics including health, personality, talents, aspirations, and non-cognitive skill can also play a role.

Comparative advantage could make inactive status a better match for many married women. For example, and due to a strong family tradition, some women do not want to enter in the labour market not because children are an obstruction but because other reasons prevail (religious, social, …). For others woman who prefer to participate to the labor force, part of them still primarily responsible for unpaid work at home and the tradition family still central in this regime. Child care and other unpaid work are unequally shared among partners, even when mothers are employed on a full time basis in the labour market. In addition, the decision concerning what types of child care arrangements are used by the household: paid care (day centre care, professional child-minders and centre-based services) and unpaid care (grandparents and others household members) depends on many socioeconomic, and demographic factors..

When the decision of participation to the labor force is heterogeneous not only observable characteristics, but unobservable heterogeneity determine the decision, the conventional methods such as OLS and IV do not provide an unbiased consistent estimate of the ATE for a randomly selected woman in the presence of heterogeneity and selection (Heckman and Li, 2003).

To fix this, we apply the recently developed marginal treatment methods for models of essential heterogeneity developed by Heckman, Urzua and Vytlacil (2006) to examine the links between labor supply and fertility for women. This method allows to account for observable and unobservable characteristics of the females that affect their decision to participate to the labor market. This is done through the explicit estimation of the marginal impact of even child born on the probability to participate to the labor market. From this one can derive the standard treatment parameters, average treatment effect, treatment on the treated and treatment on the untreated.

Our starting point is to define the potential outcome Y a dummy that is equal to one if the woman reported either of the following for the employment status question: 1) employed, 2) unemployed. It is equal to zero if the woman is inactive. Lets suppose Y_{it}^{*} the utility derived by the woman when she is make his choice to participate or note to the labor market. This choice is made by comparing the utilities from the two possibilities, and it focuses on the option that corresponds to the maximum utility. By assuming that this unobserved latent variable Y^{*} is a function of some observable characteristics X, unobserved characteristics (U) and treatment variable D:

$$Y^{*} = L\ (d\ , X\ , U) \qquad \text{……...} \qquad (9)$$

$$D = P\,(X, Z, V) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (10)$$

Our treatment variable D is a continuous random variable representing the number of children ever born by woman and d defines the level of treatment intensity. The vector Z is the vector of ours instruments and L and P are two functions.

We can rewrite this model in potential outcome notation by defining:

$$Y^*{}_d = L_d\,(X, U) \equiv L(d, X, U) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (11)$$

We assume that X is exogenous in addition to Z being exogenous, so that $(X, Z) \perp (U, V)$

We suppose there are two treatment levels (d_1 and d_2) close to one another have associated outcomes that are close to one another (Y_{d_1}, Y_{d_2}) . Therefore, mean treatment parameters for dichotomous outcomes are :

, The average treatment effect can be defined as :

$$ATE\,(x) = Pr\left(Y_{d_2} = 1\middle|, X = x\right) - Pr\left(Y_{d_1} = 1\middle|, X = x\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (12)$$

The average treatment effect on treated is :

$$ATT\,(x, D = d_2) = Pr\left(Y_{d_2} = 1\middle|, X = x, D = d_2\right) - Pr\left(Y_{d_1} = 1\middle|, X = x, D = d_2\right) \ldots\ldots \quad (13)$$

The average treatment effect on untreated is

$$ATUT\,(x, D = d_1) = Pr\left(Y_{d_2} = 1\middle|, X = x, D = d_1\right) - Pr\left(Y_{d_1} = 1\middle|, X = x, D = d_1\right) \ldots \quad (14)$$

and the Marginal treatment effect can be written [1]:

$$MTE\,(x, v) = Pr\left(Y_{d_2} = 1\middle|, X = x, V = v\right) - Pr\left(Y_{d_1} = 1\middle|, X = x, V = v\right) \quad (15)$$

For more details., see Florens, Heckman, Meghir, and Vytlacil (2003) and Heckman and Vytlacil (2007). The estimation is done on the parametric and semi parametric version with local instrumental variables. The parametric estimator estimates the MTE with the standard normal distribution for the error terms/unobservable. However, the MTE method in the semi parametric case relaxes the assumption of homogeneity of the MTE and assumes essential heterogeneity.

5. The planning familial as an instrument for fertility

Similar to the strategy used by Goldin and Katz (2002) and Bailey (2006), we exploit the use of contraceptive as an instrument for fertility. Our data allows the estimation of the number of married women using contraceptives, the methods used and the estimation of the duration of use. Because in Algeria the fertility takes place almost exclusively within the framework of

[1]By Integrating up the MTE we obtain ATE.

marriage, our analysis focus on married woman currently no pregnant uses.

In Algeria, contraceptive prevalence any methods (% of women ages 15-49) is estimated at 57.04 in 2018- 2019. Its highest value over the past 26 years was 64.00 in 2000, while its lowest value was 35.80 in 1987. By group of age, table 1 shows that the change in contraceptive prevalence as a function of a woman's age increases continuously and rapidly up to the age of 40.

Table 1: Contraceptive means use among married woman currently no pregnant

Contraceptive Use	All [15_44]		[15_19]		[20_24]		[25_29]		[30_34]		[35_39]		[40_44]	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Yes for less than 2 years	4,525	29.91	41	32.54	453	47.38	1,085	48.05	1,171	41.72	931	32.62	522	18.95
Yes for more than 2 years	4,105	27.13	1	0.79	53	5.54	299	13.24	612	21.80	937	32.83	1,090	39.58
No	6,500	42.96	84	66.67	450	47.08	874	38.70	1,024	36.48	986	34.55	1,142	41.47
Total	**15,130**	**100**	**126**	**100**	**956**	**100**	**2,258**	**100**	**2,807**	**100**	**2,854**	**100**	**2,754**	**100**

Source : Authors using MICS 6 data.

In Algeria, contraception, defined as the use of so-called modern or traditional methods to space or limit births. It represents a determining factor and the driving force behind the decline in fertility. Modern contraceptive methods concern the use of Pill, IUD, Condoms and the traditional contraceptive methods concern the withdrawal, abstinence and the breastfeeding.

At the end of the 1960s, the prevalence of contraceptive practice was estimated at 8% only , rising to 25% in 1984 then to 51% in 1992. While the data provided by MICS3 conducted in 2006 puts forward a proportion of 61.4% of contraceptive users among women of childbearing age. However, for the first time, the MICS4 survey (2012-2013) indicates the start of the downward trend in the number of women using contraception. The contraceptive prevalence was estimated at 57% in Algeria in 2013 and at 53,6% in 2019 according to MICS6 survey (2018-2019).

Modern contraceptive methods have seen a notable increase between 1992 and 2006, from 42.9% to 52%. In 2012/2013, this type of method shows a decrease in the number of women using it. Substantial reached 48% then 44.3% in 2018-2019. Conversely, the so-called traditional methods, after recording a slight decrease between 1992 and 2002, from 7.8% to 5.2%, there was a fairly significant increase during the following decades they reach 9.4% and 9% in 2006 and 2012/2013 respectively. In 2018-2019, this type of method shows a slight decline to 8.1% .

The pill, which remains the preferred method for women, saw its use increase very significantly 39% in 2018/2019. The Intra Uterine Device (IUD), although it is proven to be effective and has fewer side effects than oral contraception, is used by very few women (2.4%),

This craze for so-called traditional methods to the detriment of modern methods and especially

oral contraception, the use of which has declined, can be explained by the sometimes high and dissuasive purchase price of the pill box. Thus the constraints and contraindications to the use of oral contraception for certain categories of women, particularly those suffering from chronic pathologies, may also be a reason for abandoning the contraceptive pill in favor of methods that are better tolerated and without side effects.

6. Empirical strategy

We propose to do our analysis among married no pregnant woman from five age groups: 20–24, 25–29, 30–34, 35–39, 40–44 and we exclude the youngest age group 15–19 since many of these young women are still in school. Fertility beyond age 44 is very low, so we exclude women aged 45 and over. Given that we are interesting on labor force participation and to reduce the selectivity, we exclude for the sample all women with disabilities.

Our vector X includes typically current age of the mother, her age at first marriage. We control also male and female education because wages of both men and women rise with education levels. We expect female labor supply to fall with male education while the sign of the effect of female education depends on whether the labor income or substitution effect of higher income dominates. We add the place of residence (urban /rural), local municipality fixed effect to control the unobserved cultural differences and social restrictions.

Given that the non labor income for woman depends also on household 's income and in absence of any information on incomes, we control economic well-being index [2]. It is supposed to capture the underlying wealth of households through the assets they own. It allows households to be classified according to the wealth, from the poorest to the richest (ten deciles). The wealth index does not provide information on absolute poverty, current income or spending levels. In the MICS 6 survey Algeria 2019, the goods used for the calculation of the index are: Household living materials (main materials for the floor, roof and exterior walls), furniture (living room, dining room and library), equipments and goods of the household or members of the household (water heater and / or gas bath heater, gas heating and electricity, landline telephone, radio, television, refrigerator, freezer, washing machine, dishwasher , air

[2] The index of economic well-being and or index of wealth is a composite indicator of wealth. using principal component analysis, It is constructed of data relating to the ownership of consumer goods, housing characteristics, water and sanitation, as well as other characteristics related to household wealth , in order to generate weights (factor scores) for all the goods used. Overall, the approach adopted is as follows:
Step 1: Choice of variables after reading the frequencies;
Step 2: Dichotomization of the variables;
Step 3: Factor analysis by stratum of residence;
Step 4: Multivariate analysis (multiple regression) by stratum of residence;
Step 5: Combination of the results of step 4 for the national index;
Step 6: Creation of quintiles.
A wealth score is assigned to every household in the total sample, which is based on the assets owned by that household and the final factor scores obtained as described above. in the investigation, the household population is then classified according to the wealth score of the household in which it lives (step 5). It is then divided into 5 equal groups (quintiles) from lowest (poorest) to highest (richest), then to deciles.

conditioning, vacuum cleaner, satellite receiver with internet (demo), microwave, hairdryer, iron, blender, printer, suppressor, intercom, electric cumulus, watch, bicycle, moped or scooter, cart pulled by an animal, car / truck or van, motor boat, desktop or laptop computer, mobile phone, internet at home, land, livestock, bank account, stove, stove energy, cooking place, heating fuel and chimney, energy source " lighting, source of drinking water, place of water supply, quantity of water, type of toilet, location of toilet, shared toilet, place of hand washing, availability of water for washing and availability of soap or other cleansers for washing hands.

Initial tests of the data will be done to show that the marginal treatment effect estimation under essential heterogeneity proposed by Heckman, Urzua and Vytlacil (2006) is applicable Essential heterogeneity implies that outcomes, here the probability to participate or not , are heterogeneous in a general way while the choices themselves are not heterogeneous in a general way (Heckman, Urzua and Vytlacil, 2006). Individuals make their choices with partial knowledge of the outcomes.

7. Results

Our empirical approach is to estimate the effect of fertility on female labor supply using models of essential heterogeneity developed by Heckman, Urzua and Vytlacil (2006). Our potential outcome is a dummy that is equal to one if the woman is active and 0 if not.

First, we estimate the relationship with two-stage least squares, an instrumental variable (IV) estimator, using contraceptive uses as an instrument for fertility. We begin by showing our first stage equation witch regress the number of children even boron by woman by contraception uses and other controls variables. The results are reported for five 5-year age groups: 20–24, 25–29, 30–34, 34–39, and 40–44 and estimated, with regions fixed effects. The table A.2 in appendix summarizes this finding.

Our results show that the effect of contraceptive uses on fertility is negative and statistically significant for all age groups between 20 and 44. The use of the contraceptive for more than two years has a negative impact on the number of child even born. However, when we compare women who have used the contraceptive for a period less than two years and we compare them to women who never used the contraceptive, our model predicts that these women who never use the contraceptive are having less children than women who have used the contraceptive for a period less than two years. Our result supports the thesis which states that in Algeria the contraceptive means are used for the birth spacing and not for birth limitation. As expected, age of first marriage appears to have a negative effect on fertility. Male education appears especially higher education to have positive impact on fertility which is consistent with male earnings producing an income effect, while female education appears to have a negative effect which is consistent insofar as educated women had a greater probability of delaying marriage and of pregnancy. The well being index witch supposed to capture the underlying wealth of households through the assets they own, indicates a negative impact on fertility. The finding is not strange as it is known and shared by all Arab and Muslim countries: households that tend to be poor are getting more children.

In Table A3, we report the instrument robustness. We design a logit model to estimate the probability to be active by the fertility, contraceptive uses and other controls variables. As expected, our instrument (contraceptive uses) doesn't not impact directly the outcome (to be active) but it does through fertility. The fertility's coefficient appears statistically significant and negative for all age group except 20-24.

The table A.4, we report the reduced form regression. In this regression we replace fertility with contraceptive uses. The finding suggests that the indirect effect of fertility on labor force supply is statistically significant and negative for all age group except 20-24. The total effect of education on female labor supply, including its effect via fertility is positive specially the higher education while mal education higher has also a positive impact on female labor participation.

Now, we turn to the issue of the average effect and move on to Marginal Average Treatment Effect using the method proposed by proposed by Heckman and Vytlacil (2001, 2005, 2007). The table A.5 reports the Parametric Polynomial MTE Model estimation and table A.6 do for the semi parametric polynomial MTE Model estimation. For both estimations, the indirect impact of fertility on female labor force supply is statistically significant and negative for any age group combined. However, by running separately each age group, the fertility reduces the chance to participate to the labor market only for younger women. The parametric estimation addresses the impact for age groups: [25-29] and [30-34] and the semi parametric estimation does for these age groups : [20-24] and [25-29]. It doesn't for other age groups of women. The result as it stands assumes that fertility reduces the participation of women in their early professional careers. After 35 years of age, fertility begins to decline and the impact becomes less significant.

For both estimations parametric and semi parametric, higher woman education still has a positive impact on female labour force participation except for younger women aged between 20 and 24 years. Higher mal education still showing having a positive significant impact on woman labor force participation.

Conclusion (to be included)

Reference : to be included

Yamanaka, Jackie E., "The Effect of Oral Contraceptives on Women's Labor Force Participation Rates" (2013). *Scripps Senior Theses*. 270.

Aprendex :

Table 1: descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
Age fisrt marriage	14836	23.453	4.6	10	44	15	37	0.76	3.795

Age	14836	33.446	6.372	20	44	20	44	-0.13	2.02
Age square	14836	1159.225	422.888	400	1936	400	1936	0.152	1.954
Female edu_no certificate	14834	0.159	0.366	0	1	0	1	1.865	4.48
Female edu_< secondary	14834	0.151	0.358	0	1	0	1	1.947	4.792
Female edu_secondary	14834	0.298	0.457	0	1	0	1	0.883	1.781
Female edu_post secondary	14834	0.234	0.424	0	1	0	1	1.254	2.574
Female edu_higher	14834	0.158	0.364	0	1	0	1	1.88	4.534
Male edu_no certificate	14814	0.218	0.413	0	1	0	1	1.364	2.861
Male edu_< secondary	14814	0.186	0.389	0	1	0	1	1.613	3.602
Male edu_secondary	14814	0.303	0.46	0	1	0	1	0.858	1.736
Male edu_post secondary	14814	0.201	0.401	0	1	0	1	1.489	3.218
Male edu_higher	14814	0.091	0.288	0	1	0	1	2.836	9.042
Urbain	14836	0.636	0.481	0	1	0	1	0.565	1.32
Rural	14836	0.364	0.481	0	1	0	1	0.565	1.32
North center	14836	0.13	0.336	0	1	0	1	2.199	5.837
North Est	14836	0.121	0.326	0	1	0	1	2.323	6.398
North West	14836	0.135	0.342	0	1	0	1	2.136	5.563
High Plateau Center	14836	0.166	0.372	0	1	0	1	1.797	4.23
High Plateau Est	14836	0.139	0.345	0	1	0	1	2.093	5.38
High Plateau West	14836	0.156	0.363	0	1	0	1	1.896	4.596
South	14836	0.154	0.361	0	1	0	1	1.922	4.694
well _being index _decile1	14836	0.133	0.34	0	1	0	1	2.161	5.669
well _being index _decile2	14836	0.107	0.31	0	1	0	1	2.536	7.434
well _being index _decile3	14836	0.112	0.315	0	1	0	1	2.459	7.047
well _being index _decile4	14836	0.106	0.308	0	1	0	1	2.562	7.562
well _being index _decile5	14836	0.107	0.309	0	1	0	1	2.539	7.445
well _being index _decile5	14836	0.1	0.3	0	1	0	1	2.672	8.142
well _being index _decile7	14836	0.095	0.293	0	1	0	1	2.759	8.612
well _being index _decile8	14836	0.087	0.282	0	1	0	1	2.933	9.605
well _being index _decile9	14836	0.085	0.278	0	1	0	1	2.982	9.895
well _being index _decile10	14836	0.068	0.252	0	1	0	1	3.436	12.806
Contraception_Yes for <=2 years	11636	0.257	0.437	0	1	0	1	1.112	2.236
Contraception_Yes for > 2 years	11636	0.385	0.487	0	1	0	1	0.472	1.222
Contraception_No	11636	0.385	0.487	0	1	0	1	0.472	1.222

Source : Athors from MICS 6 Algeria.

Table 2: Determinant of fertility

Fertlity Number of child EB by woman	**[20-44]**	**[20-24]**	**[25-29]**	**[30-34]**	**[35-39]**	**[40-44]**
Contraception_Yes for > 2 years	**-0.410*** **	**-0.155***	**-0.322*** **	**-0.394*** **	**-0.509*** **	**-0.595*** **
	(0.026)	(0.081)	(0.048)	(0.046)	(0.053)	(0.072)
Contraception_No	**-0.854*** **	**-0.567*** **	**-0.602*** **	**-0.827*** **	**-0.997*** **	**-1.158*** **
	(0.023)	(0.038)	(0.032)	(0.039)	(0.051)	(0.071)
Age fisrt mariage	**-0.190*** **	**-0.231*** **	**-0.243*** **	**-0.223*** **	**-0.189*** **	**-0.166*** **
	(0.002)	(0.011)	(0.006)	(0.005)	(0.005)	(0.005)
age	**0.440*** **	**0.648**	**0.116**	**-0.675**	**2.595*** **	**0.501**
	(0.016)	(0.492)	(0.477)	(0.660)	(0.925)	(1.267)
age_2	**-0.004*** **	**-0.009**	**0.002**	**0.014**	**-0.033*** **	**-0.005**

	(0.000)	(0.011)	(0.009)	(0.010)	(0.013)	(0.015)
Female edu_< secondary	**-0.218*** **	**-0.023**	**-0.164** **	**-0.076**	**-0.235*** **	**-0.339*** **
	(0.036)	(0.083)	(0.066)	(0.068)	(0.073)	(0.084)
Female edu_secondary	**-0.237*** **	**-0.108**	**-0.192*** **	**-0.124** **	**-0.294*** **	**-0.267*** **
	(0.034)	(0.077)	(0.061)	(0.062)	(0.070)	(0.083)
Female edu_post secondary	**-0.265*** **	**-0.165** **	**-0.174*** **	**-0.107**	**-0.381*** **	**-0.200** **
	(0.036)	(0.083)	(0.065)	(0.068)	(0.077)	(0.088)
Female edu_higher	**-0.265*** **	**-0.214** **	**-0.186*** **	**-0.088**	**-0.260*** **	**-0.102**
	(0.043)	(0.102)	(0.071)	(0.075)	(0.093)	(0.127)
Male edu_< secondary	0.023	0.083	0.04	-0.019	0.002	0.034
	(0.031)	(0.051)	(0.047)	(0.057)	(0.073)	(0.084)
Male edu_secondary	**0.074** **	**0.074**	**0.058**	**0.021**	**0.136** **	**0.028**
	(0.029)	(0.049)	(0.042)	(0.051)	(0.067)	(0.081)
Male edu_post secondary	**0.080** **	**0.033**	**0.04**	**0.068**	**0.056**	**0.141**
	(0.032)	(0.057)	(0.049)	(0.058)	(0.072)	(0.088)
Male edu_higher	**0.109*** **	**0.058**	**0.045**	**0.150** **	**0.162** *	**0.037**
	(0.042)	(0.079)	(0.060)	(0.070)	(0.097)	(0.121)
Rural	0.018	0.036	-0.024	0.041	0.045	0.04
	(0.024)	(0.042)	(0.037)	(0.040)	(0.053)	(0.066)
North Est	**0.107*** **	**0.01**	**0.047**	**0.097**	**0.140** *	**0.168** *
	(0.038)	(0.094)	(0.060)	(0.065)	(0.081)	(0.098)
North West	**-0.126*** **	**-0.154** **	**-0.161*** **	**-0.179*** **	**-0.032**	**-0.227** **
	(0.037)	(0.077)	(0.061)	(0.065)	(0.079)	(0.096)
High Plateau Center	**0.307*** **	**0.003**	**0.051**	**0.164** **	**0.383*** **	**0.714*** **
	(0.037)	(0.074)	(0.057)	(0.065)	(0.081)	(0.101)
High Plateau Est	**0.109*** **	**-0.170** **	**0.032**	**-0.034**	**0.147** *	**0.290*** **
	(0.037)	(0.081)	(0.058)	(0.065)	(0.080)	(0.096)
High Plateau West	0.031	-0.117	0.011	0.001	0.015	0.084
	(0.037)	(0.076)	(0.058)	(0.065)	(0.079)	(0.095)
South	**0.567*** **	**0.107**	**0.207*** **	**0.474*** **	**0.694*** **	**0.944*** **
	(0.036)	(0.074)	(0.056)	(0.064)	(0.079)	(0.098)
well _being index _decile2	**-0.091** **	**0.059**	**-0.013**	**-0.153** **	**-0.119**	**-0.125**
	(0.040)	(0.074)	(0.060)	(0.071)	(0.090)	(0.106)
well _being index _decile3	**-0.189*** **	**-0.06**	**-0.067**	**-0.128** *	**-0.257*** **	**-0.301*** **
	(0.041)	(0.075)	(0.061)	(0.071)	(0.091)	(0.113)
well _being index _decile4	**-0.226*** **	**-0.011**	**-0.041**	**-0.284*** **	**-0.355*** **	**-0.229** **
	(0.042)	(0.079)	(0.066)	(0.075)	(0.093)	(0.113)
well _being index _decile5	**-0.239*** **	**-0.019**	**-0.063**	**-0.218*** **	**-0.276*** **	**-0.432*** **
	(0.043)	(0.080)	(0.066)	(0.079)	(0.096)	(0.114)
well _being index _decile6	**-0.293*** **	**-0.101**	**-0.153** **	**-0.225*** **	**-0.401*** **	**-0.377*** **
	(0.045)	(0.084)	(0.069)	(0.079)	(0.099)	(0.119)
well _being index _decile7	**-0.304*** **	**0.018**	**-0.128** *	**-0.350*** **	**-0.390*** **	**-0.376*** **
	(0.046)	(0.083)	(0.068)	(0.082)	(0.104)	(0.123)

well _being index _decile8	-0.245***	-0.116	-0.140*	-0.196**	-0.317***	-0.349***
	(0.048)	(0.092)	(0.072)	(0.086)	(0.108)	(0.127)
well _being index _decile9	**-0.374*** **	**-0.075**	**-0.222*** **	**-0.393*** **	**-0.404*** **	**-0.505*** **
	(0.050)	(0.098)	(0.078)	(0.087)	(0.107)	(0.132)
well _being index _decile10	**-0.341*** **	**-0.098**	**-0.126**	**-0.294*** **	**-0.364*** **	**-0.646*** **
	(0.054)	(0.104)	(0.084)	(0.097)	(0.116)	(0.139)
_cons	**-2.636*** **	**-3.945**	**2.461**	**15.374**	**-42.309** **	**-3.832**
	(0.270)	(5.455)	(6.437)	(10.556)	(17.102)	(26.582)
ll	-1.68E+04	-7.47E+02	-2.36E+03	-3.66E+03	-4.32E+03	-4.66E+03
r2_p	0.6206	0.5854	0.5901	0.5528	0.4875	0.4714
N	**11620**	**955**	**2258**	**2805**	**2850**	**2752**
cmd	**regress**	**regress**	**regress**	**regress**	**regress**	**regress**
p	**0**	**0**	**0**	**0**	**0**	**0**

*** p<0.10, ** p<0.05, *** p<0.01**

Table 3 : **Women labour force participation by contraception**

Probability to be Active	**[20-44]**	**[20-24]**	**[25-29]**	**[30-34]**	**[35-39]**	**[40-44]**
Fertility	**-0.216*** **	**-0.371**	**-0.269** **	**-0.268*** **	**-0.224*** **	**-0.168** **
	(0.039)	(0.442)	(0.129)	(0.087)	(0.071)	(0.068)
Contraception_Yes for > 2 years	0.117	2.237	0.146	0.261	0.23	-0.18
	(0.100)	(0.902)	(0.309)	(0.189)	(0.183)	(0.231)
Contraception_No	-0.027	0.297	-0.007	-0.278	0.106	-0.052
	(0.089)	(0.554)	(0.181)	(0.167)	(0.188)	(0.236)
Age fisrt mariage	**0.045*** **	**0.047**	**0.105** **	**0.088*** **	**0.036***	**0.031***
	(0.011)	(0.169)	(0.047)	(0.028)	(0.021)	(0.018)
age	**0.475*** **	**9.521**	**2.618**	**-0.888**	**-3.636**	**-7.095***
	(0.075)	(7.203)	(2.544)	(2.583)	(3.104)	(3.978)
age_2	**-0.006*** **	**-0.207**	**-0.047**	**0.015**	**0.05**	**0.085***
	(0.001)	(0.160)	(0.047)	(0.040)	(0.042)	(0.047)
Female edu_< secondary	0.034	0.385	0.07	-0.243	-0.248	0.046
	(0.219)	(1.281)	(0.609)	(0.516)	(0.390)	(0.384)
Female edu_secondary	0.08	0.617	-0.617	0.07	0.012	-0.073
	(0.198)	(1.185)	(0.586)	(0.430)	(0.344)	(0.373)
Female edu_post secondary	**1.243*** **	**2.099***	**0.999***	**1.474*** **	**0.862*** **	**1.058*** **
	(0.185)	(1.197)	(0.528)	(0.411)	(0.332)	(0.338)
Female edu_higher	**3.336*** **	**3.744*** **	**2.497*** **	**3.481*** **	**3.146*** **	**3.748*** **
	(0.188)	(1.281)	(0.527)	(0.411)	(0.336)	(0.366)
Male edu_< secondary	-0.092	-0.51	-0.453	-0.246	0.193	0.397
	(0.136)	(0.580)	(0.301)	(0.265)	(0.296)	(0.327)
Male edu_secondary	0.01	-1.039*	-0.047	-0.024	0.23	0.341
	(0.118)	(0.607)	(0.230)	(0.222)	(0.267)	(0.310)
Male edu_post secondary	-0.021	-1.861**	0.304	-0.159	0.131	0.175
	(0.122)	(0.858)	(0.240)	(0.233)	(0.270)	(0.323)
Male edu_higher	**0.282** **	**0.211**	**0.494***	**0.117**	**0.069**	**0.727** **
	(0.131)	(0.690)	(0.254)	(0.243)	(0.299)	(0.350)

Rural	0.00	-1.076*	0.25	-0.15	0.23	-0.20
	(0.095)	(0.587)	(0.201)	(0.170)	(0.202)	(0.235)
North Est	**0.347*** **	**1.307**	**0.175**	**0.612*** **	**0.392**	**0.127**
	(0.122)	**(1.301)**	**(0.266)**	**(0.232)**	**(0.247)**	**(0.269)**
North West	0.144	1.572	0.017	0.512**	-0.001	-0.114
	(0.130)	(1.122)	(0.309)	(0.246)	(0.261)	(0.289)
High Plateau Center	0.062	0.768	-0.241	0.185	0.356	-0.11
	(0.142)	(1.174)	(0.298)	(0.272)	(0.283)	(0.345)
High Plateau Est	-0.009	0.027	-0.244	-0.059	0.342	-0.083
	(0.128)	(1.487)	(0.282)	(0.246)	(0.253)	(0.284)
High Plateau West	0.159	2.048*	0.119	0.331	0.304	-0.312
	(0.133)	(1.148)	(0.288)	(0.256)	(0.268)	(0.309)
South	**0.339*** **	**1.446**	**-0.096**	**0.319**	**0.756*** **	**0.414**
	(0.127)	(1.143)	(0.274)	(0.250)	(0.250)	(0.286)
well _being index _decile2	-0.02	-0.406	-0.299	-0.087	0.251	0.162
	(0.220)	(0.890)	(0.436)	(0.438)	(0.460)	(0.518)
well _being index _decile3	-0.05	-0.332	-0.718	-0.065	0.297	0.278
	(0.213)	(0.892)	(0.451)	(0.406)	(0.457)	(0.509)
well _being index _decile4	0.143	-1.909*	-0.377	0.06	0.516	0.697
	(0.211)	(1.125)	(0.456)	(0.405)	(0.434)	(0.487)
well _being index _decile5	0.304	-1.476	-0.103	0.549	0.751*	0.143
	(0.204)	(1.032)	(0.410)	(0.397)	(0.432)	(0.494)
well _being index _decile6	0.116	-3.080**	0.18	0.104	0.403	0.352
	(0.211)	(1.402)	(0.425)	(0.405)	(0.450)	(0.494)
well _being index _decile7	0.247	-2.058*	-0.211	0.25	0.972**	0.509
	(0.210)	(1.103)	(0.423)	(0.407)	(0.441)	(0.497)
well _being index _decile8	**0.387***	**-1.852**	**0.188**	**0.254**	**1.091** **	**0.538**
	(0.210)	(1.169)	(0.426)	(0.411)	(0.437)	(0.494)
well _being index _decile9	**0.656*** **	**-1.25**	**0.546**	**0.353**	**1.404*** **	**0.789**
	(0.209)	(1.049)	(0.426)	(0.408)	(0.434)	(0.492)
well _being index _decile10	**0.741*** **	**-2.383***	**0.439**	**0.757***	**1.554*** **	**0.717**
	(0.213)	(1.276)	(0.441)	(0.417)	(0.445)	(0.495)
_cons	**-13.467*** **	**-114.724**	**-42.053**	**7.336**	**61.299**	**143.924***
	(1.257)	(80.770)	(34.424)	(41.286)	(57.359)	(83.457)
ll	-2825.303	-99.594	-583.523	-754.012	-720.881	-585.464
r2_p	0.335	0.272	0.302	0.378	0.334	0.358
N	11620	955	2258	2805	2850	2752
cmd	logit	logit	logit	logit	logit	logit
p	0	0	0	0	0	0

*** p<0.10, ** p<0.05, *** p<0.01**

Table 4: Determinants of female participation estimation: IV estimation

Probability to be active	**[20-44]**	**[20-24]**	**[25-29]**	**[30-34]**	**[35-39]**	**[40-44]**
Fertility	**-0.177*** **	**-0.248**	**-0.267*** **	**-0.218*** **	**-0.171*** **	**-0.160*** **
	(0.020)	(0.184)	(0.061)	(0.042)	(0.038)	(0.037)
age	**0.276*** **	**4.556**	**1.57**	**-0.486**	**-1.999**	**-3.794***

	(0.037)	(3.156)	(1.380)	(1.391)	(1.625)	(1.991)
age_2	**-0.003*** **	**-0.099**	**-0.027**	**0.009**	**0.028**	**0.045***
	(0.001)	(0.070)	(0.025)	(0.022)	(0.022)	(0.024)
Female edu_< secondary	0.006	0.078	0.04	-0.114	-0.152	0.003
	(0.093)	(0.536)	(0.259)	(0.214)	(0.173)	(0.167)
Female edu_secondary	0.009	0.201	-0.297	0.008	-0.054	-0.073
	(0.086)	(0.486)	(0.254)	(0.184)	(0.157)	(0.164)
Female edu_post secondary	**0.555*** **	**0.76**	**0.439***	**0.691*** **	**0.360** **	**0.476*** **
	(0.084)	(0.499)	(0.241)	(0.181)	(0.156)	(0.154)
Female edu_higher	**1.786*** **	**1.599*** **	**1.328*** **	**1.931*** **	**1.722*** **	**2.086*** **
	(0.089)	(0.548)	(0.245)	(0.186)	(0.165)	(0.180)
Male edu_< secondary	-0.071	-0.28	-0.23	-0.227*	0.071	0.201
	(0.068)	(0.274)	(0.156)	(0.138)	(0.146)	(0.153)
Male edu_secondary	-0.007	-0.453	-0.013	-0.061	0.112	0.167
	(0.060)	(0.282)	(0.124)	(0.114)	(0.133)	(0.146)
Male edu_post secondary	-0.034	-0.828**	0.172	-0.142	0.034	0.087
	(0.064)	(0.384)	(0.132)	(0.125)	(0.137)	(0.154)
Male edu_higher	**0.139***	**0.115**	**0.283** **	**0.015**	**0.014**	**0.350** **
	(0.071)	(0.347)	(0.143)	(0.134)	(0.159)	(0.176)
Rural	-0.016	-0.427	0.126	-0.094	0.082	-0.106
	(0.049)	(0.269)	(0.108)	(0.090)	(0.101)	(0.114)
North Est	**0.193*** **	**0.589**	**0.115**	**0.315** **	**0.213**	**0.08**
	(0.067)	(0.624)	(0.150)	(0.128)	(0.134)	(0.140)
North West	0.057	0.783	-0.022	0.223*	-0.029	-0.062
	(0.070)	(0.537)	(0.169)	(0.132)	(0.141)	(0.146)
High Plateau Center	0.036	0.41	-0.155	0.051	0.202	0.038
	(0.075)	(0.553)	(0.164)	(0.146)	(0.147)	(0.172)
High Plateau Est	-0.01	0.061	-0.117	-0.076	0.16	-0.021
	(0.070)	(0.670)	(0.157)	(0.137)	(0.137)	(0.147)
High Plateau West	0.108	1.039*	0.091	0.163	0.178	-0.148
	(0.070)	(0.542)	(0.156)	(0.135)	(0.140)	(0.154)
South	**0.248*** **	**0.751**	**-0.002**	**0.174**	**0.467*** **	**0.327** **
	(0.068)	(0.543)	(0.152)	(0.137)	(0.133)	(0.149)
well _being index _decile2	-0.057	-0.121	-0.19	-0.067	0.071	-0.008
	(0.099)	(0.410)	(0.209)	(0.199)	(0.206)	(0.226)
well _being index _decile3	-0.128	-0.091	-0.476**	-0.157	0.052	0.049
	(0.100)	(0.406)	(0.227)	(0.195)	(0.209)	(0.223)
well _being index _decile4	0.00	-0.82	-0.24	-0.03	0.18	0.26
	(0.098)	(0.528)	(0.224)	(0.192)	(0.200)	(0.213)
well _being index _decile5	0.051	-0.594	-0.116	0.17	0.259	-0.047
	(0.096)	(0.471)	(0.207)	(0.191)	(0.202)	(0.220)
well _being index _decile6	-0.039	-1.184**	0.036	-0.056	0.06	0.098
	(0.100)	(0.583)	(0.213)	(0.197)	(0.213)	(0.218)
well _being index _decile7	0.031	-0.754	-0.169	-0.022	0.408**	0.147
	(0.100)	(0.492)	(0.213)	(0.200)	(0.207)	(0.221)
well _being index _decile8	0.114	-0.798	0.063	0.02	0.467**	0.166
	(0.101)	(0.545)	(0.215)	(0.202)	(0.208)	(0.223)
well _being index _decile9	**0.257** **	**-0.419**	**0.262**	**0.078**	**0.618*** **	**0.299**
	(0.100)	(0.491)	(0.218)	(0.199)	(0.204)	(0.222)

well _being index _decile10	**0.311*** **	**-1.042***	**0.199**	**0.27**	**0.720*** **	**0.267**
	(0.103)	(0.620)	(0.229)	(0.208)	(0.212)	(0.225)
_cons	**-6.939*** **	**-54.193**	**-23.897**	**5.18**	**34.35**	**77.668***
	(0.629)	(35.285)	(18.688)	(22.248)	(30.033)	(41.770)
corr(e.fertility,e.active)	0.083	0.05	0.089	0.085	0.08	0.107
	(0.028)	(0.140)	(0.061)	(0.054)	(0.057)	(0.064)
lnsigma2						
sd(e.fertility)	1.026	0.529	0.68	0.892	1.102	1.313
	(0.007)	(0.012)	(0.010)	(0.011)	(0.014)	(0.017)
ll	-19600	-849.575	-2946.877	-4424.501	-5043.312	-5241.818
N	11620	955	2258	2805	2850	2752
cmd	ivprobit	ivprobit	ivprobit	ivprobit	ivprobit	ivprobit
p	0	0.006	0	0	0	0

* p<0.10, ** p<0.05, *** p<0.01

Table 5: Determinant of female labour force participation : **parametric polynomial MTE estimation**

Parameters	[20-44]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]
age	**0.041*** **	**-0.043**	**-0.232**	**0.289**	**-0.752**	**-1.028**
	(0.009)	(0.378)	(0.545)	(0.556)	(0.783)	(0.674)
age_2	**-0.000*** **	**0.002**	**0.005**	**-0.004**	**0.01**	**0.012**
	(0.000)	(0.009)	(0.010)	(0.009)	(0.011)	(0.008)
Female edu_< secondary	**0.027***	**0.026**	**-0.02**	**-0.026**	**0.002**	**0.049**
	(0.015)	(0.052)	(0.056)	(0.034)	(0.036)	(0.045)
Female edu_secondary	**0.040*** **	**0.028**	**-0.012**	**0.031**	**0.025**	**0.006**
	(0.015)	(0.050)	(0.044)	(0.034)	(0.034)	(0.049)
Female edu_post secondary	**0.110*** **	**0.026**	**0.052**	**0.261*** **	**0.111** **	**0.137** **
	(0.025)	(0.044)	(0.049)	(0.049)	(0.051)	(0.067)
Female edu_higher	**0.411*** **	**0.115**	**0.402*** **	**0.618*** **	**0.696*** **	**0.766*** **
	(0.033)	(0.076)	(0.062)	(0.060)	(0.103)	(0.112)
Male edu_< secondary	-0.017	0.015	-0.043	0.025	0.077*	-0.059
	(0.016)	(0.051)	(0.045)	(0.042)	(0.046)	(0.044)
Male edu_secondary	0.002	0.007	0.033	0.026	0.100*	-0.068
	(0.017)	(0.044)	(0.045)	(0.044)	(0.055)	(0.054)
Male edu_post secondary	0.002	-0.032	0.083*	-0.014	0.048	-0.066
	(0.018)	(0.038)	(0.043)	(0.060)	(0.046)	(0.063)
Male edu_higher	**0.099*** **	**0.045**	**0.230*** **	**-0.015**	**0.269*** **	**-0.042**
	(0.034)	(0.070)	(0.063)	(0.075)	(0.089)	(0.104)
Rural	0.009	-0.073**	0.054	-0.061*	0.035	0.015
	(0.015)	(0.030)	(0.036)	(0.035)	(0.035)	(0.031)
North Est	**0.047***	**-0.016**	**-0.003**	**0.084**	**0.110***	**0.009**
	(0.025)	(0.066)	(0.068)	(0.052)	(0.062)	(0.070)
North West	-0.003	0.069	-0.065	0.047	0.021	-0.075
	(0.024)	(0.066)	(0.070)	(0.060)	(0.059)	(0.062)

High Plateau Center	0.007	0.046	-0.054	0.097	0.125**	-0.079
	(0.024)	(0.053)	(0.070)	(0.062)	(0.054)	(0.075)
High Plateau Est	-0.028	-0.008	-0.08	-0.045	0.025	0.021
	(0.024)	(0.050)	(0.064)	(0.076)	(0.058)	(0.063)
High Plateau West	0.017	0.077	-0.042	0.046	0.071	-0.043
	(0.019)	(0.057)	(0.075)	(0.063)	(0.071)	(0.047)
South	0.001	0.036	-0.041	0.088	0.106	-0.001
	(0.022)	(0.059)	(0.078)	(0.071)	(0.074)	(0.074)
well _being index _decile2	0.015	-0.011	-0.013	0.011	0.044	0.104**
	(0.017)	(0.060)	(0.039)	(0.049)	(0.058)	(0.045)
well _being index _decile3	0.008	-0.029	-0.022	-0.015	0.108*	0.123**
	(0.019)	(0.073)	(0.048)	(0.051)	(0.059)	(0.055)
well _being index _decile4	0.003	-0.033	0.013	-0.027	0.115**	0.130**
	(0.025)	(0.057)	(0.062)	(0.056)	(0.049)	(0.056)
well _being index _decile5	**0.055*** **	**-0.072**	**0.044**	**0.166*** **	**0.069**	**0.134** **
	(0.020)	(0.074)	(0.059)	(0.064)	(0.064)	(0.056)
well _being index _decile6	0.006	-0.08	0.006	0.046	0.089	0.037
	(0.026)	(0.069)	(0.067)	(0.066)	(0.071)	(0.059)
well _being index _decile7	0.011	-0.083	0.027	0.035	0.077	0.117
	(0.022)	(0.054)	(0.062)	(0.061)	(0.081)	(0.083)
well _being index _decile8	**0.088*** **	**-0.046**	**0.135***	**0.103**	**0.240** **	**0.245*** **
	(0.031)	(0.082)	(0.080)	(0.091)	(0.094)	(0.076)
well _being index _decile9	**0.094*** **	**-0.023**	**0.189*** **	**0.038**	**0.243*** **	**0.240*** **
	(0.031)	(0.085)	(0.059)	(0.073)	(0.082)	(0.092)
well _being index _decile10	**0.115*** **	**-0.116**	**0.137***	**0.188** **	**0.325*** **	**0.111**
	(0.035)	(0.077)	(0.076)	(0.086)	(0.112)	(0.110)
ageXp	**-0.010*** **	**0.129**	**0.151**	**-0.186**	**0.153**	**0.167**
	(0.003)	(0.301)	(0.255)	(0.196)	(0.226)	(0.179)
age_2Xp	**0.000*** **	**-0.003**	**-0.003**	**0.003**	**-0.002**	**-0.002**
	(0.000)	(0.007)	(0.005)	(0.003)	(0.003)	(0.002)
Female edu_< secondaryXp	-0.007	-0.014	0.016	0.009	-0.002	-0.014
	(0.005)	(0.034)	(0.028)	(0.012)	(0.011)	(0.011)
Female edu_secondaryXp	**-0.012** **	**-0.011**	**0.003**	**-0.01**	**-0.009**	**-0.003**
	(0.005)	(0.035)	(0.020)	(0.011)	(0.010)	(0.012)
Female edu_post secondaryXp	**-0.018** **	**0.012**	**-0.002**	**-0.071*** **	**-0.021**	**-0.023**
	(0.008)	(0.039)	(0.022)	(0.017)	(0.015)	(0.017)
Female edu_higherXp	**0.023***	**0.059**	**-0.093** **	**-0.053** **	**-0.079** **	**-0.049**
	(0.013)	(0.087)	(0.040)	(0.027)	(0.037)	(0.035)
Male edu_< secondaryXp	0.005	-0.024	0.011	-0.018	-0.022*	0.020**
	(0.004)	(0.039)	(0.021)	(0.014)	(0.012)	(0.010)
Male edu_secondaryXp	0.00	-0.02	-0.02	-0.01	-0.028*	0.022*
	(0.005)	(0.031)	(0.021)	(0.015)	(0.015)	(0.013)
Male edu_post secondaryXp	-0.001	-0.003	-0.034*	0	-0.014	0.019
	(0.006)	(0.029)	(0.020)	(0.021)	(0.012)	(0.014)

Male edu_higherXp	**-0.021***	**-0.018**	**-0.101*****	**0.02**	**-0.088*****	**0.031**
	(0.011)	(0.068)	(0.032)	(0.025)	(0.025)	(0.025)
RuralXp	-0.003	0.053***	-0.023	0.023**	-0.007	-0.006
	(0.005)	(0.020)	(0.016)	(0.011)	(0.010)	(0.008)
North EstXp	-0.007	0.042	0.011	-0.01	-0.025	0.001
	(0.009)	(0.061)	(0.036)	(0.021)	(0.018)	(0.020)
North WestXp	0.005	-0.024	0.034	-0.002	-0.004	0.023
	(0.008)	(0.050)	(0.034)	(0.022)	(0.017)	(0.016)
High Plateau CenterXp	0.002	-0.03	0.024	-0.03	-0.028*	0.021
	(0.007)	(0.038)	(0.033)	(0.020)	(0.015)	(0.018)
High Plateau Est Xp	0.011	0.01	0.036	0.017	0.002	-0.003
	(0.007)	(0.038)	(0.032)	(0.027)	(0.017)	(0.015)
High Plateau WestXp	-0.002	-0.031	0.028	-0.009	-0.015	0.01
	(0.006)	(0.045)	(0.036)	(0.021)	(0.020)	(0.012)
SouthXp	0.01	-0.009	0.025	-0.023	-0.01	0.011
	(0.007)	(0.042)	(0.035)	(0.022)	(0.022)	(0.016)
well _being index _decile2Xp	-0.007	0.009	0.002	-0.003	-0.011	-0.026**
	(0.005)	(0.041)	(0.022)	(0.016)	(0.017)	(0.011)
well _being index _decile3Xp	-0.007	0.039	-0.004	0.007	-0.031*	-0.032**
	(0.006)	(0.050)	(0.022)	(0.016)	(0.016)	(0.013)
well _being index _decile4Xp	-0.002	0.009	-0.017	0.015	-0.031**	-0.029**
	(0.008)	(0.038)	(0.029)	(0.017)	(0.015)	(0.013)
well _being index _decile5Xp	**-0.019*****	**0.042**	**-0.028**	**-0.051*****	**-0.012**	**-0.038*****
	(0.006)	(0.052)	(0.027)	(0.020)	(0.019)	(0.014)
well _being index _decile6 Xp	-0.005	0.031	0.009	-0.016	-0.026	-0.009
	(0.009)	(0.050)	(0.035)	(0.023)	(0.020)	(0.015)
well _being index _decile7Xp	-0.002	0.055	-0.023	-0.009	-0.008	-0.028
	(0.007)	(0.036)	(0.028)	(0.020)	(0.024)	(0.021)
well _being index _decile8Xp	**-0.027*****	**0.002**	**-0.067***	**-0.036**	**-0.057****	**-0.063*****
	(0.009)	(0.057)	(0.039)	(0.031)	(0.026)	(0.018)
well _being index _decile9 Xp	**-0.016***	**0.008**	**-0.075****	**-0.005**	**-0.046****	**-0.057*****
	(0.009)	(0.076)	(0.033)	(0.024)	(0.023)	(0.022)
well _being index _decile10Xp	-0.016	0.076	-0.046	-0.045	-0.060*	-0.02
	(0.012)	(0.053)	(0.037)	(0.028)	(0.031)	(0.029)
p1	**0.169*****	**-1.284**	**-1.963**	**3.035**	**-2.808**	**-3.525**
	(0.047)	(3.367)	(3.431)	(3.142)	(4.184)	(3.762)
p2	**0.004****	**0.023**	**0.011**	**0.008**	**-0.001**	**0.002**
	(0.002)	(0.015)	(0.009)	(0.005)	(0.004)	(0.003)
_cons	**-0.774*****	**0.238**	**2.799**	**-5.008**	**13.678**	**21.553**
	(0.133)	(4.190)	(7.296)	(8.875)	(14.446)	(14.121)

ATE	[20-44]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]
E(Y1-Y0)@X	-0.039***	-0.029	-0.073***	-0.063***	-0.028	-0.027

	(0.009)	(0.025)	(0.025)	(0.021)	(0.023)	(0.017)

Table 6 : Determinant of female labour force participation : Semi parametric Polynomial MTE estimation

Parameters	[20-44]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]
age	**0.041*** **	**-0.043**	**-0.232**	**0.289**	**-0.752**	**-1.028**
	(0.008)	(0.341)	(0.586)	(0.628)	(0.849)	(0.766)
age_2	**-0.000*** **	**0.002**	**0.005**	**-0.004**	**0.01**	**0.012**
	(0.000)	(0.008)	(0.011)	(0.010)	(0.011)	(0.009)
Female edu_< secondary	**0.027***	**0.026**	**-0.02**	**-0.026**	**0.002**	**0.049**
	(0.016)	(0.049)	(0.048)	(0.034)	(0.038)	(0.047)
Female edu_secondary	**0.040*** **	**0.028**	**-0.012**	**0.031**	**0.025**	**0.006**
	(0.015)	(0.054)	(0.038)	(0.040)	(0.034)	(0.052)
Female edu_post secondary	**0.110*** **	**0.026**	**0.052**	**0.261*** **	**0.111** **	**0.137***
	(0.019)	(0.058)	(0.046)	(0.051)	(0.050)	(0.073)
Female edu_higher	**0.411*** **	**0.115**	**0.402*** **	**0.618*** **	**0.696*** **	**0.766*** **
	(0.034)	(0.080)	(0.064)	(0.066)	(0.094)	(0.124)
Male edu_< secondary	-0.017	0.015	-0.043	0.025	0.077*	-0.059
	(0.015)	(0.052)	(0.049)	(0.046)	(0.046)	(0.040)
Male edu_secondary	0.002	0.007	0.033	0.026	0.100**	-0.068
	(0.017)	(0.042)	(0.045)	(0.046)	(0.043)	(0.054)
Male edu_post secondary	0.002	-0.032	0.083	-0.014	0.048	-0.066
	(0.021)	(0.042)	(0.057)	(0.052)	(0.050)	(0.077)
Male edu_higher	**0.099*** **	**0.045**	**0.230*** **	**-0.015**	**0.269*** **	**-0.042**
	(0.033)	(0.075)	(0.068)	(0.066)	(0.096)	(0.107)
Rural	0.009	-0.073***	0.054	-0.061	0.035	0.015
	(0.015)	(0.024)	(0.037)	(0.039)	(0.043)	(0.041)
North Est	0.047	-0.016	-0.003	0.084	0.11	0.009
	(0.030)	(0.055)	(0.077)	(0.057)	(0.071)	(0.076)
North West	-0.003	0.069	-0.065	0.047	0.021	-0.075
	(0.026)	(0.062)	(0.056)	(0.065)	(0.051)	(0.058)
High Plateau Center	0.007	0.046	-0.054	0.097*	0.125*	-0.079
	(0.022)	(0.054)	(0.058)	(0.058)	(0.070)	(0.071)
High Plateau Est	-0.028	-0.008	-0.08	-0.045	0.025	0.021
	(0.023)	(0.044)	(0.062)	(0.059)	(0.057)	(0.057)
High Plateau West	0.017	0.077	-0.042	0.046	0.071	-0.043
	(0.025)	(0.059)	(0.063)	(0.054)	(0.062)	(0.056)
South	0.001	0.036	-0.041	0.088	0.106	-0.001
	(0.025)	(0.063)	(0.053)	(0.057)	(0.080)	(0.093)
well _being index _decile2	0.015	-0.011	-0.013	0.011	0.044	0.104**
	(0.018)	(0.063)	(0.053)	(0.048)	(0.055)	(0.049)
well _being index _decile3	0.008	-0.029	-0.022	-0.015	0.108**	0.123**
	(0.022)	(0.071)	(0.048)	(0.048)	(0.052)	(0.059)
well _being index _decile4	0.003	-0.033	0.013	-0.027	0.115**	0.130**
	(0.021)	(0.073)	(0.060)	(0.057)	(0.051)	(0.054)
well _being index _decile5	**0.055** **	**-0.072**	**0.044**	**0.166*** **	**0.069**	**0.134** **
	(0.027)	(0.069)	(0.050)	(0.063)	(0.057)	(0.064)
well _being index _decile6	0.006	-0.08	0.006	0.046	0.089*	0.037
	(0.024)	(0.081)	(0.064)	(0.073)	(0.052)	(0.059)
well _being index _decile7	0.011	-0.083	0.027	0.035	0.077	0.117*
	(0.028)	(0.060)	(0.067)	(0.066)	(0.073)	(0.071)
well _being index _decile8	**0.088*** **	**-0.046**	**0.135***	**0.103**	**0.240*** **	**0.245*** **
	(0.027)	(0.086)	(0.078)	(0.070)	(0.077)	(0.091)
well _being index _decile9	**0.094*** **	**-0.023**	**0.189** **	**0.038**	**0.243*** **	**0.240** **
	(0.031)	(0.094)	(0.085)	(0.070)	(0.091)	(0.097)
well _being index _decile10	**0.115*** **	**-0.116**	**0.137**	**0.188** **	**0.325*** **	**0.111**
	(0.037)	(0.086)	(0.084)	(0.092)	(0.115)	(0.131)
ageXp	**-0.010*** **	**0.129**	**0.151**	**-0.186**	**0.153**	**0.167**
	(0.003)	(0.280)	(0.261)	(0.221)	(0.233)	(0.186)
age_2Xp	**0.000*** **	**-0.003**	**-0.003**	**0.003**	**-0.002**	**-0.002**
	(0.000)	(0.006)	(0.005)	(0.003)	(0.003)	(0.002)
Female edu_< secondaryXp	**-0.007***	**-0.014**	**0.016**	**0.009**	**-0.002**	**-0.014**
	(0.004)	(0.031)	(0.022)	(0.011)	(0.011)	(0.011)

Female edu_secondaryXp	**-0.012*** **	**-0.011**	**0.003**	**-0.01**	**-0.009**	**-0.003**
	(0.005)	(0.035)	(0.018)	(0.014)	(0.010)	(0.012)
Female edu_post secondaryXp	**-0.018*** **	**0.012**	**-0.002**	**-0.071*** **	**-0.021**	**-0.023**
	(0.006)	(0.044)	(0.020)	(0.016)	(0.015)	(0.018)
Female edu_higherXp	0.023	0.059	-0.093**	-0.053*	-0.079**	-0.049
	(0.015)	(0.086)	(0.037)	(0.030)	(0.031)	(0.034)
Male edu_< secondaryXp	0.005	-0.024	0.011	-0.018	-0.022*	0.020**
	(0.005)	(0.038)	(0.023)	(0.016)	(0.013)	(0.009)
Male edu_secondaryXp	0.000	-0.021	-0.020	-0.013	-0.028**	0.022*
	(0.005)	(0.030)	(0.020)	(0.016)	(0.012)	(0.013)
Male edu_post secondaryXp	-0.001	-0.003	-0.034	0	-0.014	0.019
	(0.007)	(0.030)	(0.026)	(0.017)	(0.015)	(0.019)
Male edu_higherXp	**-0.021***	**-0.018**	**-0.101*** **	**0.02**	**-0.088*** **	**0.031**
	(0.011)	(0.067)	(0.033)	(0.024)	(0.027)	(0.027)
RuralXp	-0.003	0.053***	-0.023	0.023*	-0.007	-0.006
	(0.005)	(0.015)	(0.018)	(0.013)	(0.011)	(0.010)
North EstXp	-0.007	0.042	0.011	-0.01	-0.025	0.001
	(0.010)	(0.045)	(0.039)	(0.023)	(0.022)	(0.021)
North WestXp	0.005	-0.024	0.034	-0.002	-0.004	0.023
	(0.008)	(0.046)	(0.027)	(0.026)	(0.016)	(0.016)
High Plateau CenterXp	0.002	-0.03	0.024	-0.03	-0.028	0.021
	(0.007)	(0.037)	(0.027)	(0.022)	(0.019)	(0.017)
High Plateau Est Xp	0.011	0.01	0.036	0.017	0.002	-0.003
	(0.007)	(0.033)	(0.029)	(0.023)	(0.016)	(0.014)
High Plateau WestXp	-0.002	-0.031	0.028	-0.009	-0.015	0.01
	(0.008)	(0.045)	(0.031)	(0.022)	(0.018)	(0.015)
SouthXp	0.01	-0.009	0.025	-0.023	-0.01	0.011
	(0.008)	(0.044)	(0.025)	(0.020)	(0.021)	(0.021)
well _being index _decile2Xp	-0.007	0.009	0.002	-0.003	-0.011	-0.026**
	(0.006)	(0.040)	(0.026)	(0.016)	(0.017)	(0.013)
well _being index _decile3Xp	-0.007	0.039	-0.004	0.007	-0.031**	-0.032**
	(0.007)	(0.049)	(0.022)	(0.016)	(0.015)	(0.015)
well _being index _decile4Xp	-0.002	0.009	-0.017	0.015	-0.031**	-0.029**
	(0.006)	(0.048)	(0.026)	(0.021)	(0.014)	(0.012)
well _being index _decile5Xp	**-0.019** **	**0.042**	**-0.028**	**-0.051** **	**-0.012**	**-0.038** **
	(0.008)	(0.047)	(0.023)	(0.020)	(0.016)	(0.016)
well _being index _decile6 Xp	-0.005	0.031	0.009	-0.016	-0.026*	-0.009
	(0.008)	(0.058)	(0.031)	(0.025)	(0.015)	(0.016)
well _being index _decile7Xp	-0.002	0.055	-0.023	-0.009	-0.008	-0.028
	(0.009)	(0.041)	(0.031)	(0.023)	(0.023)	(0.018)
well _being index _decile8Xp	**-0.027*** **	**0.002**	**-0.067** **	**-0.036**	**-0.057** **	**-0.063*** **
	(0.009)	(0.063)	(0.034)	(0.026)	(0.022)	(0.021)
well _being index _decile9 Xp	-0.016*	0.008	-0.075	-0.005	-0.046*	-0.057**
	(0.010)	(0.085)	(0.046)	(0.025)	(0.025)	(0.024)
well _being index _decile10Xp	-0.016	0.076	-0.046	-0.045	-0.060*	-0.02
	(0.012)	(0.057)	(0.046)	(0.035)	(0.036)	(0.034)
p1	**0.169*** **	**-1.284**	**-1.963**	**3.035**	**-2.808**	**-3.525**
	(0.053)	(3.106)	(3.523)	(3.547)	(4.305)	(3.933)
p2	**0.004** **	**0.023***	**0.011**	**0.008** **	**-0.001**	**0.002**
	(0.002)	(0.014)	(0.008)	(0.004)	(0.004)	(0.003)
_cons	**-0.774*** **	**0.238**	**2.799**	**-5.008**	**13.678**	**21.553**
	(0.119)	(3.738)	(7.873)	(10.056)	(15.661)	(16.173)

ATE	[20-44]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]
E(Y1-Y0)@X	-0.038**	-0.038*	-0.091**	-0.061	0.067	-0.048
	(0.018)	(0.024)	(0.047)	(0.059)	(0.049)	(0.046)