

Understanding the Link Between Fertility Rate and Female Labor Force Participation

This weekend, we celebrated March 8 International Women's Day and reiterated women's demands regarding equal visibility, opportunity, and payment. There are numerous works revealing how disadvantageous to be a woman in the job market. However, because of enormous economic expansion, world wars, and awareness of twentieth century, we observe, there are a steady increase in the female participation in the labor market. For example, according to World Bank data, from 1960s onwards to the end of 2010s, there are at least 25% increase in women's participation in labor force.

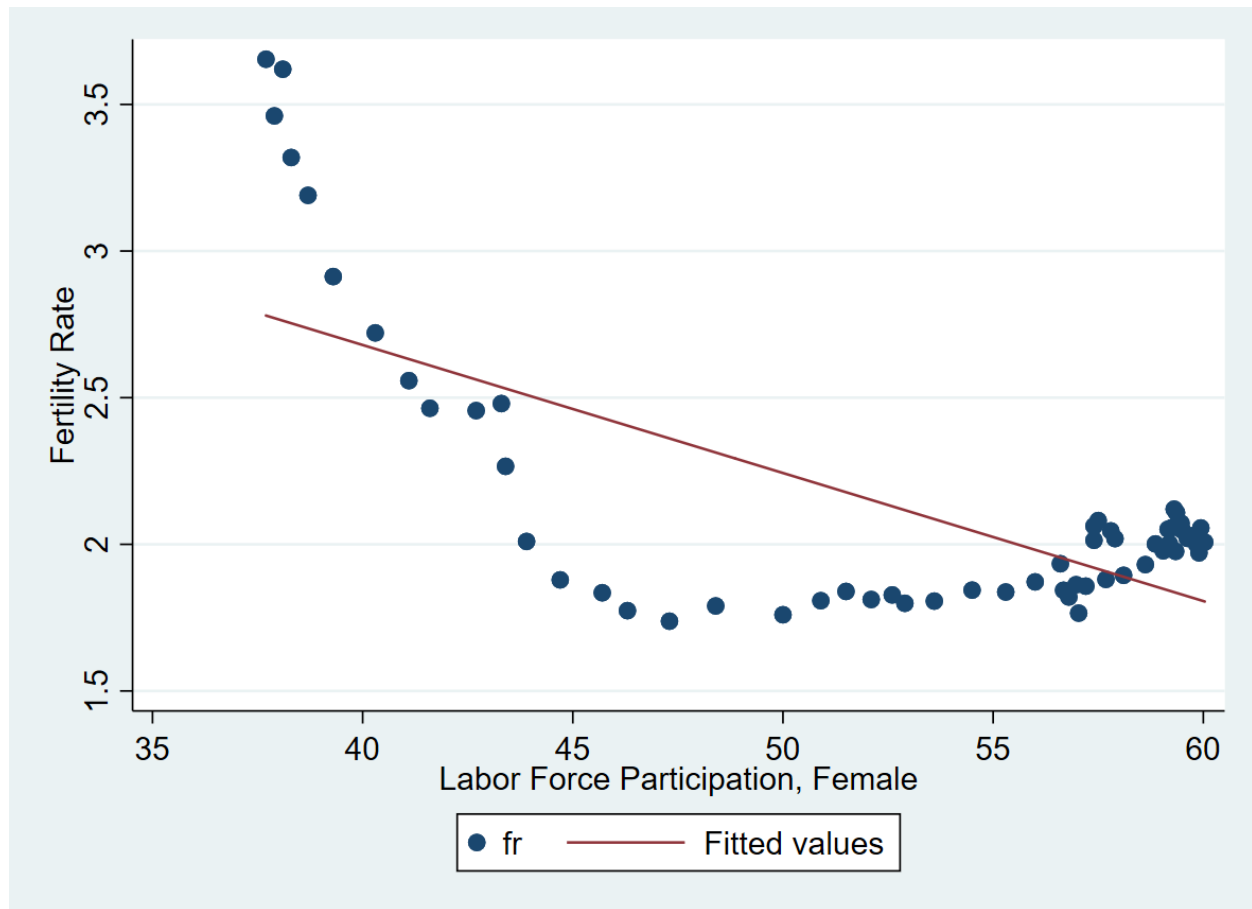
However, conservative politicians believe that the more women participation in the labor force, the less newborn babies, which is seen as huge defect in the long run. Also, we know that population of the developed countries are aging as a result of low fertility rate. These, I believe, may be the reason why there are structural barriers for women in the job and education market. So, if we can deal with the low fertility rate, it may indirectly erode these barriers in the midterm. However, firstly, we need to empirically test this conservative belief.

To this end, I utilized World Bank Data regarding fertility rate and female labor force participation in the US between 1960 and 2020. Since there are missing data in 2019 and 2018, I dropped them. Also, I mentioned earlier, the economic expansion which I measured by utilizing GDP per capita indicator, might create a demand for female in the job market and it may also lower the fertility rate by changing life style, increasing education, and raising awareness of the hardships of having a baby. So, I think, there are many reasons to control GDP per capita while measuring effect of female labor force participation on the fertility rate.

To weight the data, I used percentage indicators, and then utilized a basic linear regression. Given the variables, I did not have to control for the direction of causality. The results were the following:

	Cor_Coef	Std_Dev	95% Conf.	Interval
Cons.	5.085735	0.445289	4.212967e+00	5.958502
GDPPC	0.000009	0.000004	3.442816e-07	0.000017
FLFP	-0.060281	0.009986	-7.985372e-02	-0.040709

So, results show that *ceteris paribus*, there is a statistically significant negative effect of female labor force participation to the fertility rate. This effect may be seen clearer in a graph:



So, what are the implications of this statistically significant relationship. To begin with the defects of this analysis, first, I must admit that there may be many confounding variables that make this relationship spurious. For example, education may increase the female participation and decrease the fertility rate, so does the city life. So, this model should be revisited and included new control variables.

Secondly, given the negative relationship, structural barriers before the women may be a deliberate choice of politicians to control demography. So, we should look for the ways revealing this attitude and put pressure on politicians to demolish these formal and informal structural barriers.