

Labor Market Costs of Impaired Fecundity

It is known that about 10%-15% of married women are experiencing some fertility difficulties in the United States. This has become a public health concern with some states in the United States mandating that insurance companies offer infertility treatment to their customers, classifying it as a medical condition. Unfortunately, many of these women end up being involuntarily childless with in-vitro fertilization (IVF) costs of roughly \$15,000 per cycle and its pretty low success rate. Contributing to the debate regarding the insurance coverage of infertility treatment is the related question of its social and economic consequences on these women as individuals and on their families.

Labor economists have studied extensively the determinants and consequences of fertility choices for women as they relate to labor markets and family outcomes. There seems to be a consensus that the substitutability between labor supply and fertility exists among married women. One would expect this similar finding with respect to infertility as the extreme case of low fertility, but the result can be the opposite. Indeed medical research documents the level of psychological stress that infertility can cause on a couple, particularly those who have sought treatment. It is found that patients seeking infertility treatments are likely to experience a psychiatric disorder. Surprisingly, the psychological effects of infertility are comparable to those of cancer and heart diseases. To the extent that infertility may pose a significant emotional burden on those who experience it, there is reason to believe that the effects may extend into labor market decisions made within the family. Then there may be additional costs with regard to infertility to both the individual as well as society beyond those generated by medical interventions.

Infertility and its consequences have been barely addressed by economists and, specifically, in terms of labor market outcomes, to the best of our knowledge it has not been addressed at all. To the extent that infertility impacts labor markets and family outcomes, there may be a role for policy surrounding it. As a result, the vast labor economics literature on fertility has a glaring hole with regard to our understanding of infertility. It is this gap that this project will address.

We use the data from the National Survey of Family Growth (NSFG), conducted by the National Center for Health Statistics. The NSFG asked a series of questions to identify fertility status for more than 7,000 females. Our final sample consists of 1,588

married, sexually experienced, and currently not pregnant women. The data contain detailed information on their health status, diseases, and pregnancy history. Since impaired fecundity is generally associated with other medical problems, we need to control for a rich set of health status variables. In addition, the data seem to be appropriate for the purpose of this project since the respondents were asked about their fertility difficulties and how they cope with these problems.

We examine labor market activities, such as labor force participation, months worked, and preferences for flexible jobs, of married women who suffer impaired fecundity as compared to those who do not have any fertility problem. Table 1 shows descriptive statistics and compares impaired-fecundity women with normal women. As you can see, impaired-fecund women are on average older, more likely to have been married before, have fewer children, and tend to be less healthy. On the other hand, there is no significant difference in terms of race and education levels, which indicates that impaired fecundity itself is not related to socioeconomic status. The labor force participation rate is not different. However there are some significant differences in demographic characteristics, so a multivariate analysis is required. Table 2 shows our basic results from Probit models of labor force participation. After controlling for various demographic characteristics and health status, impaired fecundity decreases the likelihood of labor market participation by 18%. Interestingly, the adverse effect is existent only for low-educated women. Further investigation will explain why impaired fecundity has an adverse effect for low-educated women. The effects of impaired fecundity on family planning and fertility desire will be examined. Lastly, we will discuss policy implications regarding regulations about infertility treatments.

Table 1. Descriptive Statistics

	Full Sample	Normal	Impaired Fecundity
Labor force participation	0.6650 (0.4721)	0.6622 (0.4732)	0.6734 (0.4696)
Age	32.21 (6.397)	31.37 (6.161)	34.72 (6.444)
Age at first marriage	24.25 (4.518)	24.25 (4.476)	24.23 (4.648)
Number of past marriages	0.1039 (0.3272)	0.0821 (0.2925)	0.1696 (0.4082)

Working mother	0.6234 (0.4847)	0.6320 (0.4825)	0.5975 (0.4910)
Non-Hispanic white	0.6335 (0.4820)	0.6228 (0.4849)	0.6658 (0.4723)
Non-Hispanic black	0.1008 (0.3011)	0.1023 (0.3031)	0.0962 (0.2952)
Hispanic	0.2034 (0.4027)	0.2070 (0.4054)	0.1924 (0.3947)
High school	0.1883 (0.3911)	0.1777 (0.3824)	0.2203 (0.4149)
Some college	0.6927 (0.4615)	0.7033 (0.4570)	0.6608 (0.4741)
Number of children	1.3589 (1.1496)	1.4250 (1.1365)	1.1595 (1.1674)
Childless	0.2632 (0.4405)	0.2389 (0.4266)	0.3367 (0.4732)
Metropolitan area	0.8577 (0.3495)	0.8609 (0.3462)	0.8481 (0.3594)
Healthy	0.7576 (0.4287)	0.7829 (0.4124)	0.6810 (0.4667)
Diabetes	0.0554 (0.2289)	0.0461 (0.2098)	0.0835 (0.2771)
Fecundity-related medical problems	0.3293 (0.4701)	0.2422 (0.4286)	0.5924 (0.4920)
Pelvic inflammatory disease (PID)	0.0453 (0.2081)	0.0327 (0.1779)	0.0835 (0.2771)
Ovarian cyst	0.1442 (0.3514)	0.0989 (0.2987)	0.2810 (0.4501)
Fibroid tumors or myomas in uterus	0.0655 (0.2475)	0.0478 (0.2134)	0.1190 (0.3242)
Endometriosis	0.0598 (0.2372)	0.0352 (0.1844)	0.1342 (0.3413)
Problems with ovulation or menstruation	0.1725 (0.3780)	0.1098 (0.3128)	0.3620 (0.4812)
Impaired fecundity	0.2487 (0.4324)		
Non-surgically sterile	0.0491 (0.2162)		0.1975 (0.3986)
Sub-fecund	0.1713 (0.3769)		0.6886 (0.4637)
Long interval	0.0283 (0.1660)		0.1139 (0.3181)
N =	1,588	1,193	395

Table 2. Effects of Impaired Fecundity on Labor Force Participation by Education Level

	Full Sample	High School and Below	College Education
Age	0.0106*** (0.0032)	0.0178*** (0.0052)	0.0090** (0.0039)
Age at first marriage	-0.0076* (0.0043)	-0.0091 (0.0071)	-0.0106** (0.0050)
Number of past marriages	0.0636 (0.0554)	0.1439* (0.0785)	-0.0504 (0.0551)
Working mother	0.0810*** (0.0304)	0.0513 (0.0547)	0.1034*** (0.0367)
Non-Hispanic white	0.1195** (0.0589)	0.1589 (0.1268)	0.1034 (0.0661)
Non-Hispanic black	0.1682*** (0.0459)	0.1921* (0.0896)	0.1382** (0.0548)
Hispanic	0.0745 (0.0548)	0.1224 (0.1108)	0.0716 (0.0612)
High school	0.1222** (0.0470)	0.1779*** (0.0620)	
Some college	0.1329*** (0.0520)		
No child	0.2727*** (0.0589)	0.1368 (0.1111)	0.3555*** (0.0696)
One child	0.1300* (0.0740)	0.0953 (0.1110)	0.2039** (0.0941)
Two children	0.0702 (0.0767)	-0.0700 (0.1227)	0.1753* (0.0947)
Three children	0.0157 (0.0871)	-0.0340 (0.1345)	0.0685 (0.1084)
Metropolitan area	-0.0177 (0.0381)	0.0194 (0.0690)	-0.0561 (0.0443)
Excellent or good health	0.0384 (0.0352)	-0.0381 (0.0525)	0.0874** (0.0449)
Diabetes	-0.0425 (0.0668)	-0.1783* (0.1024)	0.0118 (0.0761)
Fecundity-related medical problems	-0.0392 (0.0331)	-0.0861 (0.0634)	-0.0212 (0.0378)
Impaired fecundity	-0.0443 (0.0386)	-0.1791*** (0.0674)	0.0156 (0.0442)
R squared	0.0741	0.1469	0.0737
N =	1,588	488	1,100