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## ECO 375: Applied Econometrics I
## University of Toronto, Department of Economics
Instructor: M. Burda

## Winter 2016

**Due date:** April 8, 2016, by 11:59 pm

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## Short Written Assignment

How does fertility affect labor supply? More specifically, how much does a woman's labor supply fall when she has an additional child? We will estimate this effect using the attached data for married women from the 1980 U.S. Census. The data set contains information on married women aged 21-35 with two or more children.

(a) Regress *weeksm1* (weeks worked in 1979, a measure of labor supply) on the indicator variable *morekids* (=1 for 2+ children in family) using OLS. On average, do women with more than two children work less than women with two children? How much less?

(b) Briefly explain why the OLS regression estimated in (a) is inappropriate for estimating the causal effect of fertility (*morekids*) on labor supply (*weeksm1*).

(c) The data set contains the variable *samesex*, which is equal to 1 if the first two children are of the same sex (boy-boy or girl-girl) and equal to 0 otherwise. Are couples whose first two children are of the same sex more likely to have a third child (as measured by *morekids*)? Is the effect large? Is it statistically significant?

(d) Briefly explain why *samesex* is a valid instrument for the IV regression of *weeksm1* on *morekids*.

(e) Estimate the IV regression[1] of *weeksm1* on *morekids* using *samesex* as an instrument. How large is the fertility effect on labor supply?

(f) Do the results change when you include the variables *agem1, black, hispan,* and *othrace* in the labor supply regression?

## Format and Code

Write up the answers in Word (or any other text editor). Copy-paste your code and output into an Appendix. Save the whole file as one pdf document.

## Submission

Submit the solution **in one file** (pdf preferable but Word is also ok) by uploading it by the due date to Blackboard:

1. In Course Materials click on Short Written Assignment

2. Browse for Local File - Open - Submit

3. If you have any trouble uploading or are not sure if the file has been uploaded properly, e-mail me the SWA at martin.burda@utoronto.ca

**Late penalty:** 5% off for each day over the deadline

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[1] In Stata use the command "ivregress 2sls". For syntax see lecture notes, set 12. 2SLS, slide 21.