Childcare Availability and Female Labor Force Participation:
An Empirical Examination of the Chile Crece Contigo Program

by James Manley and Felipe Vasquez

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Childcare Availability and Female Labor Force Participation: An Empirical Examination of the Chile Crece Contigo Program

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Abstract
Few works have examined the relationship between maternal participation in the labor force and the availability of child care in developing countries. Existing papers also tend to rely on relatively simplistic, correlative analysis of the data rather than modeling the joint decision to invest in formal childcare and to choose a level of labor supply. This paper takes advantage of a policy-induced positive shock in the provision of child care to apply instrumental variables in a simultaneous equations context, resulting in estimates that are more rigorous than any currently available in a developing country context. Policymakers are able to optimize their policy choices if they have better information on the elasticity of labor supply with respect to the cost of child care, and we find no evidence that the program is associated with an increase in women’s labor supply.

JEL codes: J13, J22, O12, and H42

Key words: Female Labor Supply, Child Care, Labor Force, Chile, CASEN, JUNJI

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**Introduction**

Over the last 20 years, programs facilitating the use of childcare have been promulgated in a number of countries, including Mexico, Brazil, Nicaragua, Guatemala, Cambodia, India, the Philippines, Colombia, Chile, Argentina, and Uruguay (Engle et al. 2007, UNESCO 2007). In Brazil, access to child care has been enshrined in its Constitution (Paes de Borros et al. 2011). While program specifics have differed, these programs are designed with two main ends in mind. First, they seek to improve child development, and second, they seek to set parents, particularly mothers, free from the work of childcare so that they might join the labor force. However, the effectiveness of these programs is an open question.

A recent systematic review of the literature found only six papers robustly examining the link between childcare and child development outcomes (Leroy, Gadsden, and Guijarro 2011), and that project could come to no firm conclusion about program effectiveness.

Some literature exists on the relationship between child care provision and women’s labor supply, mostly in rich countries (e.g. Baker, Gruber, and Milligan 2008 on Quebec, Canada; Blau and Hagy 1998 on the US; and Del Boca and Vuri 2007 on Italy). This literature falls into one of two categories. First, effects should be interpretable as causal rather than simply correlative, so some papers take advantage of an exogenous shock or use an instrumental variable for identification. Second, decisions such as a household’s use of formal child care (i.e. paying to send a child to a care center rather than simply entrusting her to a grandparent) and a household’s choice to send a member to work should be modeled jointly, since the decisions are clearly intertwined. I am aware of none that have applied both techniques, and this is the niche filled by this paper.

Many papers in developing countries do use shocks or other methodologies to make a causal assessment but do not apply joint modeling, and interestingly the findings of these papers are quite mixed. A recent paper uses an increase in funding for local centers in Mexico as an exogenous shock. Comparing program participants to households on waiting lists for room in a care center reveals about an 18% increase in mothers participating in the labor force (Ángeles et al. 2011). Other papers using shocks or difference-in-difference OLS analysis include Berlinski and Galiani (2007) who found
positive but statistically insignificant effects of a program in Argentina; Attanasio and Vera-Hernandez (2007) who use instrumental variables to identify a 25% increase in maternal labor supply associated with childcare provision in Colombia; Hallman et al. (2005) use difference-in-difference to analyze the importance of childcare for maternal employment in Guatemala City; and Rosero and Oosterbeek (2011) apply regression discontinuity analysis in Ecuador, finding positive effects on women joining the work force but negative effects of the centers on child development and maternal mental health. By using regression discontinuity, they limit the applicability of their results to households within a small range of wealth levels.

Many papers use the second approach, modeling the joint decision of households to have mothers work and to purchase formal child care without including an instrument. Powell (2002) uses a mixed logit and a universal logit choice model to simultaneously estimate demand for employment and childcare. Blau and Hagy (1998) have a more in-depth model that estimates demand for various quality attributes of child care while again simultaneously estimating choice of mode of child care and labor force participation. Peña-Parga and Glassman (2004) use a multinomial logit to evaluate the role of various factors in predicting the mode of child care chosen by household. They find that the mother’s work behavior, wage, and non-wage income do not matter for predicting the type of childcare used. Kornstad and Thoreson (2007) use discrete choice modeling to estimate elasticities of child care usage with respect to care cost and potential wages in Norway. They simulate the effects of a new home care allowance reform, estimating that it might have cut women’s labor supply by 9%. In two papers, Michael Lokshin (2002) and Lokshin and Fong (2006) use semi-parametric full information maximum likelihood to jointly estimate demand for childcare mothers’ labor force participation and mothers’ working hours in Russia and Romania, respectively. In Russia, the price elasticity of demand is low, while in Romania it is rather high. Finally Tekin (2007) models single mothers’ choice between part time and full time employment as well as their use of childcare using data from the United States. He finds that for single mothers, full time wages and the cost of childcare matter but part time wages do not have a significant impact.
Again, none of these papers manages to get out of the box it is in: none combines the emphasis on determination of cause with joint analysis of employment and childcare. In other words, no one has yet come to grips with the two types of potential endogeneity: the simultaneity of the choice to supply labor and the choice of child care, and the correlations between the included variables and the error term.

This failure is acute because each poses significant problems for those failing to address them. Duncan, Paull, and Taylor (2001) and van Gameren and Ooms (2009) show that the impacts of the price of childcare will be incorrectly estimated when estimation of childcare and work hours is not joint. Likewise, Coneus, Goeggel, and Muehler (2009) find that failing to instrument for work habits leads to biased estimates of care usage. Part of this may be because factors affecting maternal employment extend to unobservables such as ambition and ability (Aguero 2008) and societal issues such as “blatant discrimination against women,” “social norms,” and the “male breadwinner ideal” (Staab and Gerhard 2010).

How much does access to a childcare provider help women enter the work force? What other factors encourage or inhibit such participation?

**Program Background**

As of 2012, the Latin American country with the highest GDP per capita is Chile⁴. Development has happened in leaps and bounds, with that GDP figure tripling from 2000 to 2012 (World Bank 2013). As its economy has grown, living standards have improved in many ways, but one area in which it lags other developed countries is in the area of women’s participation in the labor force. In OECD countries, about 64% of women entered the labor force as of 2007 (Paes de Borros et al. 2011). In neighbor country Brazil, with a 2010 GDP of 10710 (World Bank 2013) the numbers approach that. However, in Chile, a country with a slightly higher 2010 GDP of 12431 (World Bank 2013), the labor participation rate for women was less than 44% (Paes de Borros et al. 2011). Figure 1 shows that while men participate in the labor force at rates comparable to the rest of the

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⁴ Puerto Rico is higher, though a territory of the US.
OECD, women lag by as much as 10-12%, though the gap has narrowed recently (OECD 2013).

One potential contributing cause is that the lack of access to formal child care. In 2006 Chilean President Michele Bachelet created, “Chile Crece Contigo,” literally “Chile Grows With You,” greatly expanding the network of government-provided child care centers. The goal was to provide child care at no charge to low income households. Eligibility to participate in the program was determined by means testing done at a governmental social protection agency, the Ficha de Protección Social (Encina and Martínez 2009). Rollout of the program was also designed to reach the least served households first.

This program has been successful by some measures; it has greatly expanded access to care. While many organizations run the schools, an organization called the Junta Nacional de Jardines Infantiles (or JUNJI) operates a large share. JUNJI provides care for children from 3 months through 5 years. Figure 2 shows the expansion of the centers over the first few years, illustrating the central role of the JUNJI facilities in the expansion. Considering only JUNJI classrooms for children under age 2, the number of enrollments has roughly tripled between 2005 and 2009 to over 30,800 children (our estimates based on JUNJI data) in a country of roughly 16.5 million people. Considering children through age 5, the total number of enrolled children as of 2009 is almost 120,000.

Although children have increasingly enrolled, the effects are unclear. Noboa and Urzúa (2012) examine the effect of the program on participating children, and although they look for effects on nine child development outcomes, they find improvements only on “emotional regulation” while noticing negative impacts on “child-adult interactions.”

Two previous papers look at the effect of the program on women’s employment. Encina and Martínez (2009) examine the effect of the program on mothers’ participation in the labor market just one year after implementation. They cannot identify an effect of the program and conclude that the women targeted by the program are those subject to the most traditional assumptions related to women’s roles, i.e. that women with children should not work outside the home. They also conclude that the program should be better
targeted toward women who are more likely to work. Medrano (2009) focuses her attention only on the capital city of Santiago but likewise fails to find a significant effect on eligible mothers when individual and household effects are controlled for. Neither examines more than the first year of the program.

Data

Like Encina and Martinez (2009) and Noboa and Urzúa (2012) we base our analysis on the Chilean national socioeconomic survey CASEN and supplement that with administrative data from JUNJI. (Medrano (2009) uses some similar data as well as the Chilean Central Bank’s Employment and Unemployment Survey.) Unlike previous work examining program effects on employment, we use two rounds of the CASEN-2006 and 2009- and data from JUNJI for these years. Data from the childcare providers show the identifying expansion of the government initiative into different geographic areas, and the CASEN data will show us changes in employment and in the choice to use formal childcare in different areas.

Instead of restricting our analysis to mothers, as was previously done, we include all women in a given household in our age range under the assumption that for example young grandmothers may also be freed to participate in the labor market if a woman has access to formal childcare.

A main variable of interest is access to care. Chile is divided into regions, provinces, and comunas, and our attention is focused at the comuna level, the smallest administrative unit. In each comuna we divide the number of JUNJI-provided slots for enrollment in 2006 and 2009 by the comuna population. Table 1 shows the expansion of care availability throughout the country by count and as a share of the regional population. Note that expansion happened across the country and that expansions were considerable.

We consider two samples of interest: the set of women in households with at least one child under age five, and the set of households with at least one child under age two. When working with the former sample, we use an explanatory variable

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5 Noboa and Urzúa (2012) also use panel data on JUNJI participants.
indicating the number of students enrolled in child care centers up to age five, and for the latter we count only enrolled children under age two.

We include a number of other variables in our analysis. See sample statistics in Table 2 for details.

**Methods**

In order to identify the effects of formal care provision on women’s participation in the labor force, we model participation in the labor force and in formal care as follows.

\[
\begin{align*}
y_1 &= \alpha X_{ic} + \beta R_c + \gamma y_2 + \epsilon \\
y_2 &= \delta X_{ic} + \zeta y_1 + \epsilon
\end{align*}
\]  

(1)

where \(\alpha\), \(\beta\), \(\gamma\), \(\delta\), and \(\zeta\) are parameters. \(y_1\) is the decision to use formal care. Unfortunately we have no data on other modalities of care (i.e. informal care performed by relatives, other households, etc.) so this variable is binary. \(y_2\) is participation in the labor market, and we consider this first as a binary variable and then as a continuous variable, using the number of hours worked. \(R_c\) is the number of children enrolled at JUNJI centers in the comuna of residence divided by the population of the comuna, and thus is a measure of “price,” or access. \(X_{ic}\) is a vector of exogenous individual and community characteristics including the woman’s age, the share of the household in each of five age groups, an indicator for whether there are no men in the household of working age, an indicator for whether the woman is the head of household, household income from nonwork sources, an indicator for whether anyone in the household speaks an indigenous language, indicators for civil status (“together” for married or cohabitation and “single” for unmarried or divorced, with the baseline being separation), the number of years of education, household size, an indicator for the year of the observation (2009 vs 2006), an indicator for rural, and a household asset index composed using factor analysis applied to seven assets (ownership of a vehicle, washing machine, refrigerator, water heater, land line, cell phone, and computer) and four characteristics of the home (floors in bad repair, use of outhouse, access to public water network, and the number of rooms). We also include the average wage of women in each comuna. We tested the results with and without an indicator for poverty (as defined by the CASEN), finding that although the
variable is significant in most regressions its inclusion has little effect on the main coefficient of interest. (Reported results are from regressions including this variable.)

We used a variety of econometric specifications to implement this modeling to check the robustness of our estimates. All observations are women of ages 23-64 in households with at least one child under the age of five years, and with errors clustered at the household level. (60% of observations the lone representative of their household, and another 29% are one of two representatives of their household.)

We first use an IV probit to test whether use of formal care is associated with an increased likelihood of participating in the labor force. In this case the first stage is

\[ y_1 = \gamma R_e + \delta X_{ic} + \varepsilon_i \]

where again \( y_1 \) is the decision to use formal care and \( X_{ic} \) includes fixed effects by region as well as the other variables described above. The second stage is (1) above.

Next we use the hours worked by women as a continuous dependent variable. The simplest means of doing so is the tobit formulation with choice of care modeled using instrumental variables, the same way as with the probit.

Third, we use Cragg’s double hurdle model to separate the two aspects of the work decision: to work at all and if so, how much. In this formulation we use the average wage in the comuna as an instrumental variable affecting the hours worked but not the choice of care modality. In this formulation the choice of care is again an input into the work decision. Instead of including care directly, we first estimate (1) above and predict the probability of enrolling in formal care. This predicted probability is included as an explanatory variable in the double hurdle estimation.

Finally, we model the childcare and work decisions simultaneously using the simultaneous equation method suggested by Maddala (1983) for when one outcome (hours worked) is continuous while the other (formal care) is discrete. Since this specification is the most complete, we also test here whether limiting the sample to households in the bottom income quintile or the bottom two income quintiles affects the outcome. We repeat the latter test using households with a child under age two.
Results

Table 3 shows the coefficient on the explanatory variable in question, the use of formal care (as instrumented for via the number of children enrolled at local childcare centers) in the various regressions. In no case does the use of formal care have a statistically significant effect on the probability that women participate in the labor force or on the number of hours that women work. (In the “simultaneous” Maddala regressions, we test these cases separately and again neither is significant.) The coefficients move around a lot and even go negative for some groups.

In all cases, the other variables take their expected signs. Variables including education, the indicators for being head of household and having no men of working age in the household, the share of the household comprised of teens, and household size were positively and significantly associated with the probability of women being in the labor force and with the number of hours women worked outside the home. The share of the household comprised of babies, the amount of household income from nonwork sources, being married, and being in a rural area were all significant negatively associated with work outside the home. Each of these is as we would expect, giving us confidence in the results. Other variables also have coefficients of the expected signs, though significance is often not achieved.

A fair amount of robustness checking leaves us with the same result. We tried limiting the sample to women with no more than a primary school education, to those labeled “poor” in the dataset, and including and excluding a variety of covariates, but formal care never became significant. In case other formal care centers are filling in where JUNJI centers are few, we tried including only comunas with center density levels above the median. We tried limiting the sample to a variety of age groupings. We tried limiting the sample to the youngest woman (between 23-64) in the household. In none of these tests was formal care significantly linked to participation in the labor force or the number of hours worked.

Given the relatively large sample, power calculations show that we ought to be able to see a result. Specifically, even with a standard deviation of 20, one can tell the difference between a coefficient of 0 and a coefficient of 1 with 99% confidence if the sample size
exceeds 7351$^6$. In most of our regressions, our sample is more than four times that large, so the lack of an impact seems likely.

**Conclusion**

We use the Chile Crece Contigo program as a means to test the importance of formal childcare for women’s labor force participation. It is impossible to prove a negative, such as to demonstrate that childcare does not improve women’s participation in the labor force. However, in this evidence we see no evidence of an effect. We considered over 30,000 women in households with children throughout the country of Chile, but in spite of searching a number of different ways we were never able to significantly link participation in formal childcare to participation in the labor force. This result is the same as those of two previous studies (Medrano 2009 and Encina and Martinez 2009) who used data only from the first year of the program. Although the program has continued to grow and to enroll more children, and the policy is producing well on other fronts, it seems that more time has not had a clear effect on women’s rates of participation in the labor market.

A number of interpretations are possible. It could be that most of the effect of formal childcare on women is linked to other individual or household characteristics that are controlled for here. Alternatively it could be that formal childcare is mostly replacing informal arrangements, and women who are already in the work force are freeing up their own mothers from childcare responsibilities by use of the centers. It is possible also that child care center hours do not match up well with potential work opportunities, though 73% of the JUNJI centers are listed as being open from 8:30 am – 7 pm. Also, previous authors have suggested that traditional attitudes are behind the country’s lagging labor force participation rate for women (Encina and Martinez 2009).

A few other signs open opportunities for future policy seeking to improve labor force participation. First, the “poor” identifier has a strong association with women not working. While the direction of causality is unclear, it may be that strengthening the social safety net may allow women to get into jobs. Along the same lines, education

$^6$ Using the Stata command power onemean.
comes up strong even when assets and demographics are controlled for, showing that improving education levels is likely to help.
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Figure 1. Labor Force Participation in Chile

Data from OECD 2013.
Figure 2. Expansion of child care centers throughout Chile

Data from Encina and Martínez (2009).
<table>
<thead>
<tr>
<th>Region</th>
<th>2006</th>
<th>2009</th>
<th>change</th>
<th>Region</th>
<th>2006</th>
<th>2009</th>
<th>change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (&amp;15)</td>
<td>5,233</td>
<td>5,928</td>
<td>695</td>
<td>1 (&amp; 15)</td>
<td>0.017</td>
<td>0.024</td>
<td>44%</td>
</tr>
<tr>
<td>2</td>
<td>3,094</td>
<td>4,030</td>
<td>936</td>
<td>2</td>
<td>0.005</td>
<td>0.007</td>
<td>30%</td>
</tr>
<tr>
<td>3</td>
<td>1,986</td>
<td>2,517</td>
<td>531</td>
<td>3</td>
<td>0.007</td>
<td>0.009</td>
<td>27%</td>
</tr>
<tr>
<td>4</td>
<td>4,008</td>
<td>5,524</td>
<td>1,516</td>
<td>4</td>
<td>0.006</td>
<td>0.008</td>
<td>38%</td>
</tr>
<tr>
<td>5</td>
<td>8,157</td>
<td>12,568</td>
<td>4,411</td>
<td>5</td>
<td>0.005</td>
<td>0.007</td>
<td>54%</td>
</tr>
<tr>
<td>6</td>
<td>3,484</td>
<td>5,723</td>
<td>2,239</td>
<td>6</td>
<td>0.004</td>
<td>0.006</td>
<td>64%</td>
</tr>
<tr>
<td>7</td>
<td>5,231</td>
<td>8,244</td>
<td>3,013</td>
<td>7</td>
<td>0.005</td>
<td>0.008</td>
<td>58%</td>
</tr>
<tr>
<td>8</td>
<td>7,128</td>
<td>11,092</td>
<td>3,964</td>
<td>8</td>
<td>0.004</td>
<td>0.005</td>
<td>56%</td>
</tr>
<tr>
<td>9</td>
<td>2,928</td>
<td>6,204</td>
<td>3,276</td>
<td>9</td>
<td>0.003</td>
<td>0.006</td>
<td>112%</td>
</tr>
<tr>
<td>10 (&amp;14)</td>
<td>4,349</td>
<td>8,156</td>
<td>3,807</td>
<td>10 (&amp;14)</td>
<td>0.005</td>
<td>0.013</td>
<td>151%</td>
</tr>
<tr>
<td>11</td>
<td>1,328</td>
<td>1,834</td>
<td>506</td>
<td>11</td>
<td>0.013</td>
<td>0.017</td>
<td>38%</td>
</tr>
<tr>
<td>12</td>
<td>1,673</td>
<td>1,724</td>
<td>51</td>
<td>12</td>
<td>0.011</td>
<td>0.011</td>
<td>3%</td>
</tr>
<tr>
<td>13</td>
<td>33,384</td>
<td>46,295</td>
<td>12,911</td>
<td>13</td>
<td>0.005</td>
<td>0.007</td>
<td>39%</td>
</tr>
</tbody>
</table>

Total | 81,983 | 119,839 | 37,856

Source: Care center data from JUNJI and population data from Chilean National Institute of Statistics (INE). Note that between 2006 and 2009, region 15 was split out of region 1, and 14 taken from 10.
Table 2. Sample statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Force?</td>
<td>0.43</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hours Worked</td>
<td>15.7</td>
<td>22.3</td>
<td>0</td>
<td>126</td>
</tr>
<tr>
<td>Formal Care</td>
<td>0.39</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>School slots for children under 5 per comuna pop.</td>
<td>0.006</td>
<td>0.005</td>
<td>0</td>
<td>0.046</td>
</tr>
<tr>
<td>School slots for children under 2 per comuna pop.</td>
<td>0.002</td>
<td>0.002</td>
<td>0</td>
<td>0.015</td>
</tr>
<tr>
<td>Woman is head of household</td>
<td>0.16</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No men of working age in household (0/1)</td>
<td>0.11</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Median wage for women in comuna</td>
<td>154,954</td>
<td>36,394</td>
<td>75,000</td>
<td>585,000</td>
</tr>
<tr>
<td>Age</td>
<td>36.6</td>
<td>10.4</td>
<td>23</td>
<td>64</td>
</tr>
<tr>
<td>Share of household over 65</td>
<td>0.03</td>
<td>0.07</td>
<td>0</td>
<td>0.60</td>
</tr>
<tr>
<td>Share of household: teen</td>
<td>0.06</td>
<td>0.10</td>
<td>0</td>
<td>0.67</td>
</tr>
<tr>
<td>Share of household: child</td>
<td>0.13</td>
<td>0.12</td>
<td>0</td>
<td>0.67</td>
</tr>
<tr>
<td>Share of household: work age</td>
<td>0.56</td>
<td>0.15</td>
<td>0.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Share of household: baby</td>
<td>0.11</td>
<td>0.12</td>
<td>0</td>
<td>0.67</td>
</tr>
<tr>
<td>Income from non-work sources</td>
<td>56,816</td>
<td>126,352</td>
<td>0</td>
<td>6,411,334</td>
</tr>
<tr>
<td>Poor</td>
<td>0.22</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Speaks indigenous language</td>
<td>0.11</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Married</td>
<td>0.71</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Single (baseline: separated)</td>
<td>0.19</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Education (years)</td>
<td>9.8</td>
<td>3.8</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Household size</td>
<td>5.3</td>
<td>1.9</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Year (=1 if 2009, else 2006)</td>
<td>0.45</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Asset Index</td>
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<td>1.8</td>
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<td>Rural</td>
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N = 39320 for all variables
Table 3. Results of econometric estimation

<table>
<thead>
<tr>
<th></th>
<th>IV probit</th>
<th>IV tobit</th>
<th>IV tobit</th>
<th>Hurdle</th>
<th>Hurdle</th>
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<th>Hurdle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age &lt; 5</td>
<td>Age &lt; 5</td>
<td>Age &lt; 2</td>
<td>Age &lt; 5 Logit</td>
<td>Age &lt; 5 Neg Bin</td>
<td>Age &lt; 2 Logit</td>
<td>Age &lt; 2 Neg Bin</td>
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<tr>
<td>Care (predicted)</td>
<td>0.27</td>
<td>-26.67</td>
<td>5.32</td>
<td>-0.32</td>
<td>-0.66</td>
<td>-0.51</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>(0.54)</td>
<td>(21.85)</td>
<td>(27.82)</td>
<td>(0.25)</td>
<td>(0.08)</td>
<td>(0.45)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>Wald $P(\chi^2)$ for regression</td>
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<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>39320</td>
<td>39320</td>
<td>21103</td>
<td>39320</td>
<td>21103</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent variables is an indicator variable for “in the labor force” for the probit and is hours worked in other models. Results shown are coefficients with standard errors in parentheses. Probit results repeated with a linear estimator but were still insignificant and are not reported.

<table>
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<tr>
<th></th>
<th>Simult</th>
<th>Simult</th>
<th>Simult</th>
<th>Simult</th>
<th>Simult</th>
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</thead>
<tbody>
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<td>Age &lt; 5</td>
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<tr>
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<td>Assets &lt; Q3</td>
<td>Assets &lt; Q2</td>
<td>Assets &lt; Q3</td>
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<tr>
<td>Care (predicted)</td>
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<td>-5.63</td>
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<tr>
<td></td>
<td>(2.60)</td>
<td>(5.35)</td>
<td>(9.05)</td>
<td>(2.34)</td>
<td>(5.08)</td>
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<tr>
<td>Wald $P(\chi^2)$ for regression</td>
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<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>N</td>
<td>39320</td>
<td>15946</td>
<td>7957</td>
<td>21103</td>
<td>8525</td>
</tr>
</tbody>
</table>

Dependent variables is hours worked outside the home by women. Results shown are coefficients with standard errors in parentheses. “Simult” regressions use the Maddala (1983) estimator, simultaneously estimating effects of formal care on hours worked and hours worked on p(formal care). Coefficients shown are for the effect of predicted care on hours worked.