

Is higher household wealth a reflection of better child health outcomes? Analysing the impact of maternal employment on child health across surveys and gender.

By

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# Motivation/Background

- Persistent child stunting (38% 2006, 33% 2011 UDHS) and failure to meet MDG.4 Target. 4A
- Average annual growth rate 2000-2014 for Uganda 6.6% above Sub-Saharan average 4.9%
- Implementation of Employment ACT 2006 and Gender Policy 2007 in Uganda to;
- Reduce discrimination in the labour market by gender, race etc
- Promote women emancipation

## Implications;

- Increase in supply of female labour force
- Reduction in the income gap between male and female
- Changes in time spent on child care activities by both male and female
- Changes in unemployment/employment levels

# Motivation/Background- continued

| Variable  | Female |         | Male   |         |
|---|--------|---------|--------|---------|
|   | 2005/6 | 2009/10 | 2005/6 | 2009/10 |
| Unemployment rate (%)   | 2.1    | 5.2     | 1.7    | 3.0     |
| Annual labour force growth rate (%)-Averages for 2002/3-2005/6, 2005/6-2009/10          | 2.9    | 5.3     | 4.4    | 4.0     |
| Employment to population Ratio (%).   | 69.8   | 75.2    | 70.9   | 75.6    |
| Real Median monthly earnings (000's of UGX) of persons in paid employment (2005/6=base) | 40     | 41      | 80     | 52      |

Source: UNHS 2005/6, 2009/10 & Labour Force Report 2013

# Motivation/Background- continued

**AVERAGE TIME SPENT ON ECONOMIC AND CARE LABOUR ACTIVITIES PER WEEK BY GENDER (HOURS)**



|   |    |    |    |    |
|---|----|----|----|----|
| ■ Male  | 51 | 36 | 10 | 22 |
| ■ Female  | 42 | 30 | 60 | 26 |
| ■ Source: Uganda National Household Survey 2005/6 & 2009/10 |    |    |    |    |

# Research Questions & Contribution

1. Do wealthier households have healthier children?
2. Does maternal employment mean better child outcomes?

## **Innovation:**

Maternal employment has worst effects on child health outcomes (stunting) for middle income households compared to poor and rich households. Higher household wealth does not imply better child health outcomes.

# Empirical Work

- There is mixed evidence; maternal employment increases income vs reduces child care time (Tucker & Sanjur, 1988)
- It improves child health (Ukwuani & Suchindran, 2003; Lamontagne et al., 1998; Leslie, 1988).
- Incomes increase the bargaining power (Luke & Monshi 2011; Hoddinott & Haddad 1995; Thomas, 1990)
- It has negative effects on child health (Bernal, 2008; Kimbro, 2006; Brooks–Gunn et al, 2003; Kurinji et al, 1989)
- However there is vast literature on other determinants of child stunting (Demirchyan et al., 2016; Ikeda et al., 2013; Semba et al., 2008, Shin, 2007; Thomas, 1990)

# Data source

| Uganda Demographic and Health Survey 2006  | Uganda Demographic and Health Survey 2011       |
|--|---|
| 368 Enumeration Areas used   | 404 Enumeration Areas used                      |
| All households listed, 9,864 selected.   | All households listed, 10,086 selected.         |
| 2,465 children (0-59 months) used in this study  | 2,130 children (0-59 months) used in this study |
| All women 15-49 years permanent residents or visitors who were in the household the night before the survey in selected households were eligible for the interview             |   |
| Only children in household before the survey, whose mothers were interviewed & gave complete information, children with valid measures of height, were included in this study. |   |



# Data Description

## Table 1: Descriptives

| Variable                   | 2006   |          | 2011   |          | ttest for the Stunted by;<br>Survey | Gender |
|----------------------------|--------|----------|--------|----------|-------------------------------------|--------|
|                            | Number | %Stunted | Number | %Stunted |                                     |        |
| <b>Mother's Education</b>  |        |          |        |          | 0.000                               | 0.295  |
| Secondary+                 | 342    | 22       | 488    | 23       |                                     |        |
| Primary                    | 1,545  | 38       | 1,275  | 33       |                                     |        |
| No Education               | 578    | 38       | 367    | 37       |                                     |        |
| <b>CWI</b>                 |        |          |        |          | 0.001                               | 0.206  |
| Poor                       | 844    | 37       | 860    | 32       |                                     |        |
| Middle                     | 834    | 40       | 610    | 40       |                                     |        |
| Rich                       | 787    | 30       | 660    | 22       |                                     |        |
| <b>Maternal Employment</b> |        |          |        |          | 0.000                               | 0.501  |
| Yes                        | 2,134  | 36       | 1,599  | 33       |                                     |        |
| No                         | 331    | 33       | 531    | 27       |                                     |        |

Note: CWI is Comparative Wealth Index

# Model

We use a Logit Model of the form;

$$\ln\left(\frac{p(y_{ih})}{1-p(y_{ih})}\right) = \alpha + \beta x_{ih} + \varepsilon_{ih}.$$

Where,  $p(y_{ih})$  is the probability that child  $i$  in household  $h$  is stunted.

$x_{ih}$  is a vector of independent variables for each child  $i$  in household  $h$

$\alpha$  a constant coefficient and  $\beta$  is a vector of coefficients for  $x_{ih}$

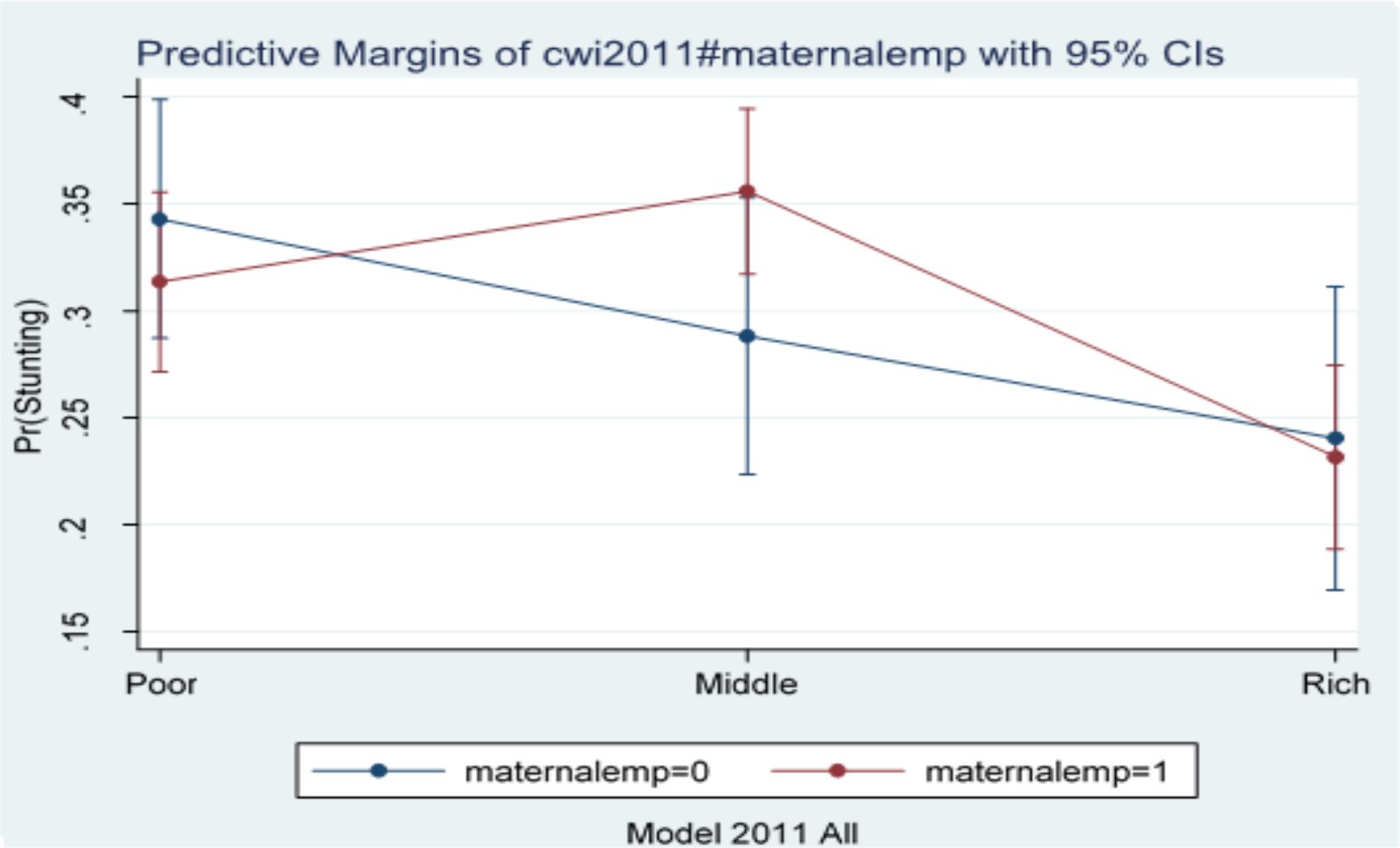
# Results-extract

Table 2: Child Stunting (dets) by Survey and Gender (MEs).

| VARIABLE                    | 2006<br>All        | 2011<br>All         | 2006<br>Male       | 2006<br>Female     | 2011<br>Male        | 2011<br>Female      |
|-----------------------------|--------------------|---------------------|--------------------|--------------------|---------------------|---------------------|
| CWI(Ref: Rich)              |                    |                     |                    |                    |                     |                     |
| Poor                        | 0.040<br>(0.030)   | 0.087***<br>(0.029) | 0.001<br>(0.043)   | 0.080**<br>(0.039) | 0.110**<br>(0.049)  | 0.077*<br>(0.042)   |
| Middle                      | 0.049*<br>(0.026)  | 0.106***<br>(0.031) | 0.057<br>(0.037)   | 0.043<br>(0.034)   | 0.102***<br>(0.038) | 0.112***<br>(0.039) |
| 1.maternalemp               | -0.007<br>(0.033)  | 0.006<br>(0.021)    | 0.045<br>(0.046)   | -0.055<br>(0.043)  | -0.030<br>(0.024)   | 0.037<br>(0.033)    |
| Maternalemp#CWI (Ref: Rich) |                    |                     |                    |                    |                     |                     |
| a) Ref. Employed & Rich     |                    |                     |                    |                    |                     |                     |
| Poor                        | 0.043<br>(0.031)   | 0.083***<br>(0.031) | 0.027<br>(0.045)   | 0.064<br>(0.039)   | 0.098*<br>(0.052)   | 0.082*<br>(0.048)   |
| Middle                      | 0.065**<br>(0.027) | 0.126***<br>(0.032) | 0.077**<br>(0.039) | 0.049<br>(0.036)   | 0.139***<br>(0.041) | 0.116***<br>(0.042) |
| b) Ref. Unemployed & Rich   |                    |                     |                    |                    |                     |                     |
| Poor                        | 0.018<br>(0.081)   | 0.098**<br>(0.049)  | -0.134<br>(0.097)  | 0.178*<br>(0.108)  | 0.146**<br>(0.071)  | 0.062<br>(0.057)    |
| Middle                      | 0.035<br>(0.067)   | 0.046<br>(0.051)    | -0.079*<br>(0.088) | 0.01<br>(0.084)    | 0.005<br>(0.065)    | 0.102<br>(0.068)    |

Note: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1, standard errors in parentheses

# Graph: Predictive margins (using marginsplot)



# Results-Continued

| VARIABLE                           | 2006<br>All                 | 2011<br>All                 | 2006<br>Male       | 2006<br>Female      | 2011<br>Male        | 2011<br>Female      |
|------------------------------------|-----------------------------|-----------------------------|--------------------|---------------------|---------------------|---------------------|
| Mother Education<br>(Ref: No educ) |                             |                             |                    |                     |                     |                     |
| Secondary+                         | <b>-0.109***</b><br>(0.037) | -0.080*<br>(0.046)          | -0.084*<br>(0.048) | -0.122**<br>(0.054) | -0.139**<br>(0.056) | -0.029<br>(0.062)   |
| Primary educ                       | -0.026<br>(0.024)           | -0.035<br>(0.029)           | -0.013<br>(0.038)  | -0.026<br>(0.031)   | -0.037<br>(0.033)   | -0.034<br>(0.043)   |
| Mothers age @birth (Ref:35-49)     |                             |                             |                    |                     |                     |                     |
| Below 20 Years                     | <b>0.103**</b><br>(0.046)   | <b>0.104**</b><br>(0.046)   | 0.150**<br>(0.063) | 0.055<br>(0.066)    | 0.063<br>(0.064)    | 0.138***<br>(0.050) |
| 20-34 Years                        | 0.042<br>(0.031)            | 0.064<br>(0.039)            | 0.080*<br>(0.043)  | 0.004<br>(0.045)    | 0.085*<br>(0.050)   | 0.050<br>(0.049)    |
| Region(Ref: Central)               |                             |                             |                    |                     |                     |                     |
| Western                            | <b>0.088**</b><br>(0.034)   | <b>0.081***</b><br>(0.023)  | 0.008<br>(0.047)   | 0.155***<br>(0.040) | 0.101***<br>(0.029) | 0.054*<br>(0.030)   |
| East                               | 0.006<br>(0.035)            | <b>-0.083**</b><br>(0.038)  | -0.031<br>(0.047)  | 0.042<br>(0.047)    | -0.092**<br>(0.046) | -0.094**<br>(0.042) |
| North                              | 0.0031<br>(0.024)           | -0.036<br>(0.023)           | -0.037<br>(0.035)  | 0.044<br>(0.033)    | -0.055<br>(0.038)   | -0.037<br>(0.035)   |
| Female (child)                     | <b>-0.063***</b><br>(0.019) | <b>-0.090***</b><br>(0.022) |                    |                     |                     |                     |

Note: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1, standard errors in parentheses

# Conclusion

- More wealth does not always imply better child health. Children in Poor and Rich households were found less prone to stunting than those in middle income households.
- Maternal employment makes middle income mother more prone to child stunting compared to other income groups.
- ✓ other direct health interventions are required to reduce child stunting (Haddad, 2002; Haddad et al., 2003; Subramanyam et al, 2011; Demirchyan et al., 2016).
- ✓ Need to adopt policies that support mothers to take on child care, e.g. extending maternity leave beyond six weeks.