Discussant's comments on:

A model of Voluntary Childlessness

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Vienna Institute of Demography, December 2010

The question is important.

The analytics are carefully set out and appear to be very competently done.

Potential to make an important contribution to the literature on endogenous fertility.

Let me identify a few issues that Paula may wish to consider.

1. Why is utility linear in n_{jt} ?

$$U_t^j\left(c_t^j, n_t^j\right) = \ln\left(c_t^j\right) + \gamma^j n_t^j$$

The functional form used by Barro and Becker (1986).

But more recent studies have specified utility as logarithmic in children, e.g. Galor and Weil (1996) and, more recently, Kimura and Yasui (2007).

Evidence on the subjective desire for children from longitudinal survey data in Australia (HILDA) indicates that the subjective desire to have children clearly declines with number of children already born.

The logarithmic form of the utility function would be:

$$U_t^j\left(c_t^j, n_t^j\right) = \ln\left(c_t^j\right) + \gamma^j \ln\left(n_t^j + 1\right)$$

This would alter some key results, <u>perhaps</u> critically affecting the conclusions in the paper.

Existing equation (linear utility in n)	New equation (logarithmic utility in n)
$n^{j*} = \frac{w^m + w^f - k}{\theta w^f} - \frac{1}{\gamma^j}$	$n^{j*} = \frac{w^m + w^f (1-\theta) - k}{\theta w^f} \left(\frac{\gamma^j}{1+\gamma^j} \right)$
$z(\gamma^j) = 1 - \frac{\gamma^j (w^m + w^f - k)}{\theta w^f}$	$z(\gamma^j) = -\gamma^j \ln \left(\left(\frac{w^m + w^f (1-\theta) - k}{\theta w^f} \right) \left(\frac{\gamma^j}{1+\gamma^j} \right) \right)$
	$z'(\gamma^j) = -\ln \left(\frac{x\gamma}{1+\gamma} \right) - \frac{1}{1+\gamma}$ where $x = \frac{w^m + w^f (1-\theta) - k}{\theta w^f}$

The sign of $z'(\gamma^j)$ may be ambiguous (for some parameter values)

I suspect the sign of $z''(\gamma^j)$ is also ambiguous

If this is the case, it is no longer clear that the interior solution ($0 < n^j > n^{max}$) is optimal for large values of γ, i.e. that

$$\lim_{\gamma^j \to \infty} v\left(\gamma^j\right) - z\left(\gamma^j\right) \geq 0$$

In which case subsequent results would also break down, e.g. “This allows us to conclude that there will be a value of γ^*, where $v\left(\gamma^*\right) = z\left(\gamma^*\right)$ which is the equality that implies that couples are indifferent between having children or being childless.”

2. In the couple's constraint:

$$c_t = w^m + \left(1 - \theta n_t^j\right) w^f - kI\left(n_t^j\right)$$

Why is the fixed cost of children the same regardless of the number of children? i.e. $I\left(n_t^j\right) = 1$ for all $n_t^j > 0$

Fixed cost of children: start-up costs, e.g. buying a larger house, buying a car, life insurances.

Could express monetary costs of children as some kind of decreasing function of the number of children e.g. logarithmic

$$c_t = w^m + \left(1 - \theta n_t^j\right) w^f - k \ln\left(n_t^j\right)$$

3. Existing data suggests that the time cost of children, θ, declines significantly with the age of children. This affects the wages of the mother and hence feeds back to fertility decisions.

Yet the age of children is not taken into account in this paper (as far as I can see).

4. Given the interior solution, most of the comparative static results seem standard.

e.g.

- fertility is increasing in the man's wage (page 15) – it is a pure income effect
- fertility can be either increasing or decreasing in the woman's wage due to offsetting income and substitution effects

5. The assumption that the couples match randomly with respect to their taste for children is acknowledged as a contestable assumption (page 18).

But there is no analysis of sensitivity to this assumption.

Yet much of the subsequent analysis of dynamics of population growth rests on this assumption.

6. In the extension to endogenous wages, the “mommy discrimination” parameter, δ, is introduced to reflect the fact that the hourly wage of a mother is lower than that of a childless woman.

This determines the number of efficiency units of labour supplied. (Efficiency units are not defined by the way).

This seems ad hoc. Hourly wage is lower due (partly at least) to breaks from the labour force which affect human capital accumulation (workforce experience). So why not model human capital accumulation as a function of workforce experience? (e.g Cigno and Ermisch, 1989):

$K_t = K_0 + \beta \sum_{\tau=a}^{t-1} L_\tau$ Then express efficiency units of labour as

$$\overline{L}_t = K_t L_i$$

7. The introduction of housing is interesting and a fruitful area for future work on endogenous fertility.

Housing consumption could be introduced into the utility function and into the budget constraint.

$$U_t^j\left(c_t^j, n_t^j\right) = \ln\left(c_t^j\right) + \gamma^j \ln\left(n_t^j + 1\right) + \varepsilon^j\left(h_t\right)$$

$$c_t + p_t h_t = w^m + \left(1 - \theta n_t^j\right) w^f - kI\left(n_t^j\right)$$

where p_t is the relative price of housing services.