Centre Emile Bernheim
Research Institute in Management Sciences

Solvay Brussels School
Economics & Management

Child Gender and Parental Borrowing: Evidence from India

I. Agier, I. Guérin and A. Szafarz

The unequal treatment of children is not gender neutral from the parent side. Our results show that women try to compensate through debt for the unbalanced situation faced by their daughters compared to their sons. However, the lack of symmetry between mothers' and fathers' financial situations leads to the perpetuation of gender inequality through generations.

Keywords: Gender, discrimination, borrowing, debt, children, mother, father

JEL codes: 016, D13, J12, O15, O17, G21, I32

CEB Working Paper N° 11/038
March 21, 2011

Université Libre de Bruxelles - Solvay Brussels School of Economics and Management
Centre Emile Bernheim
ULB CP114/03 50, avenue F.D. Roosevelt 1050 Brussels BELGIUM
e-mail: ceb@admin.ulb.ac.be Tel. : +32 (0)2/650.48.64 Fax : +32 (0)2/650.41.88

ULB

Child Gender and Parental Borrowing: Evidence from India

Isabelle Agier*, Isabelle Guérin†, Ariane Szafarz‡

This version: March 21, 2011

Abstract

The unequal treatment of children is not gender neutral from the parent side. Our results show that women try to compensate through debt for the unbalanced situation faced by their daughters compared to their sons. However, the lack of symmetry between mothers' and fathers' financial situations leads to the perpetuation of gender inequality through generations.

Keywords: Gender, discrimination, borrowing, debt, children, mother, father

JEL codes: 016, D13, J12, O15, O17, G21, I32

*UMR 201 - Développement et Sociétés (Paris I Sorbonne / IRD) and CERMi, 45 bis avenue de la Belle Gabrielle, Nogent sur Marne, 94736, France, Email: isabelleagier@gmail.com

†UMR 201 - Développement et Sociétés (Paris I Sorbonne / IRD), CERMi and French Institute of Pondicherry, 45 bis avenue de la Belle Gabrielle, Nogent sur Marne, 94736, France, Email: isabelle.guerin@ird.fr

‡Corresponding author - Université Libre de Bruxelles (ULB), SBS-EM, Centre Emile Bernheim, and CERMi, ULB, 50, avenue F.D. Roosevelt, CP 114/03, 1050 Brussels, Belgium, tel: +32 2 650 48 65, fax: +32 2 650 41 88 Email: aszafarz@ulb.ac.be

1 Introduction

There is overwhelming evidence that girls are discriminated against boys, especially in Asia. Girls are far less educated than boys (King and Hill, 1993; Lewis and Lockheed, 2008), receive less nutrition (Barrera, 1990; Chen et al., 1981; Das Gupta, 1987), and less healthcare (Chen et al., 1981; Basu, 1989; Ganatra and Hirve, 1994), leading to higher mortality rates (Sen, 1990). On the other hand, poor household's cash constraints are extremely high and the poor have no other choice than juggle with various financial instruments (Banerjee and Duflo, 2007; Collins et al., 2009). In particular, borrowing plays a key role.

Previous studies have also demonstrated that the unequal treatment of children is not gender neutral from the parent side. Improvements in female labor force and/or wage translate into better human capital and survival outcomes for girls (Rosenzweig and Schultz, 1982; Thomas, 1990; Kishor, 1993; Haddad and Hoddinott, 1994; Murthi et al., 1995; Agnihotri et al., 2002; Qian, 2008; Jensen, 2010). This note takes a first step in generalizing these findings to gendered borrowing. Indeed, our results show that the debt of mothers depends on their number of daughters, while the debt of fathers depends on their number of sons.

2 Data

Our data have been collected from interviews of 170 women belonging to Self Help Groups (SHG) conducted in 2008 in rural Tamil Nadu (South-India) in 2008. SHGs typically gather 12 to 20 women who firstly circulate money among each other, and later become eligible for external loans. As SHG members, our sample population likely exhibits a higher propensity to borrow than the average population. However, SHGs are widespread in southern Indian states[1] so that our sample is representative at the very least of a large share of the Tamil Nadu population.

The women in our survey have on average 1.72 children whom there are 0.83 girls and 0.9 boys. These figures are consistent with the relatively low fertility rate registered in Tamil Nadu.[2]

[1] In 2010, microfinance institutions served more than 12,6 millions clients in Tamil Nadu (Sa-Dhan, 2010).

[2] According to the 2005-2006 National Family Health Survey (NFHS-3) the fertility rate is 1.8 child per woman for Tamil Nadu, and 2.3 for all India.

Indian rural households hardly control their work intensity (NCEUS, 2009; Srivastava, 2011), so that that parents cannot adjust their levels of professional activity to the size of their households. This is confirmed in our data: the household's total work income and number of children are not significantly correlated.

As a consequence, alternative sources of cash, like kinship support and borrowing, are needed for covering expenses, and notably those associated to raising children. We indeed observe a significant correlation with the number of children for the kinship support ($\rho = 0.2402$, with $p < 1\%$) and, to a lesser extent, for the household outstanding debt (ρ =0.145, with $p < 10\%$).

Earnings are still the most important source of cash (38,070 INR[3] per year, on average), but kinship support and debt are far from negligible. Indeed, a household receives per year on average 16,967 INR from kinship and 10,337 INR from lenders, respectively.[4]

Interestingly, when accounting for the children's gender, the correlations change dramatically. Indeed, neither the kinship support, nor the household's outstanding debt are correlated to the number of girls, but both are positively correlated to the number of boys ($\rho = 0.2264$, with $p < 1\%$, andρ =0.1368, with $p < 10\%$, respectively).

Nevertheless, considering each parent's debt separately changes the picture. On the one hand, the mother's debt is positively correlated to her number of daughters (ρ =0.1611, with $p < 5\%$), but is insensitive to her number of sons. On the other hand, the father's debt is positively correlated to his number of sons (ρ =0.1479, with $p < 10\%$), but is insensitive to his number of daughters. The next section examines whether these unconditional correlations resist the inclusion of control variables.

3 Regression Results

We regress each parent's outstanding debt on their numbers of daughters and sons, and on household's characteristics (income, wife's age, education and caste, and dummies for rural area and nuclear family). Table 1 reports the results.

[3] 1 USD = 41.6 INR in 2008 when the data was collected.

[4] In our sample, earnings and kinship support are not correlated. Earnings are significantly correlated to outstanding debt (ρ =0.2265, with $p < 1\%$), but kinship support is not.

We account for other sources of cash[5] in a progressive way. Firstly, we exclude earnings and kinship support from the regression (column (1) and (4)). Secondly, we include earnings only (column (2) and (5)). Lastly, we include both earnings and kinship support (column (3) and (6)).

Table 1: Outstanding debt OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
	W debt	W debt	W debt	M debt	M debt	M debt
# Daughters	1,499**	1,531**	1,313**	2,785	1,949	1,907
	(625.8)	(629.6)	(621.0)	(3,073)	(3,002)	(3,035)
# Sons	330.8	329.1	-122.5	6,970**	7,016**	6,930**
	(614.2)	(615.5)	(623.2)	(3,016)	(2,935)	(3,045)
Earnings		X	X		X	X
Kinship support			X			X
Observations	170	170	170	170	170	170
R-squared	0.126	0.128	0.170	0.069	0.124	0.124

Controls: Nuclear family, Rural area, Caste (low/middle), Income, W education (yes/no), W Age.
Standard errors in parentheses;*** p<0.01, ** p<0.05, * p<0.1

The regressions confirm the results brought by the rough correlations. Indeed, the mother's outstanding debt increases with her number of daughters, while the father's outstanding debt increases with his number of sons. Nonetheless, the two parents' debts are not on the same scale. One daughter leads her mother borrow 1,500 INR while one son leads his father borrow 7,000 INR. The father's additional debt for a girl amounts to about 2,000 INR, which is not statistically significant and will do little to close the gender gap.

The intuition behind these results is that women try to compensate through debt for the unbalanced situation faced by their daughters compared to their sons. Unfortunately, their efforts produce limited effects because the mothers' have only few possibilities of raising funds. On the other hand, boys bring not only superior kinship support, but also higher paternal debt, both largely dominating the meager amounts that mothers can borrow on their own.

This interpretation is corroborated by the qualitative information gathered during the data collection. Indeed, during interviews the women explained that they are borrowing money hoping to help their daughters do better than they themselves did.

[5]Presumably, debt is contracted by the parents in the last instance, when knowing about their earnings and kin support. Hence, endogeneity biases are likely absent. Moreover, earnings and kinship support are not correlated, even when earnings are disaggregated by gender.

4 Concluding remarks

This note shows that the intra-household same-gender solidarity observed in the literature for earnings also applies to borrowing. However, the lack of symmetry between mothers' and fathers' financial situations leads to the perpetuation of gender inequality through generations. Differential borrowing capacities within households are just reinforcing this persistent inequality. Our findings thus confirm that poor households should not be seen as unitary models but as spaces of cooperation and conflict where members have not only their own preferences and constraints, but also an unequal control over resources (Alderman et al., 1995; Sen, 1990).

References

Agnihotri, S., Palmer-Jones, R., and Parikh, A. 2002. Missing women in indian districts: a quantitative analysis. *Structural Change and Economic Dynamics*, 13(3):285–314.

Alderman, H., Chiappori, P., Haddad, J., and Kanbur, R. 1995. Unitary versus collective models of the household : it is time to shift the burden of proof ? *World Bank Research Observer*, 10(1):1–19.

Banerjee, A. V. and Duflo, E. 2007. The economic lives of the poor. *Journal of Economic Perspectives*, 21(1):141–168.

Barrera, A. 1990. The role of maternal schooling and its interaction with public health programs in child health production. *Journal of Development Economics*, 32(1):69–91.

Basu, A. M. 1989. Is discrimination in food really necessary for explaining sex differentials in childhood mortality? *Population Studies*, 43(2):193–210.

Chen, L. C., Huq, E., and D'Souza, S. 1981. Sex bias in the family allocation of food and health care in rural bangladesh. *Population and Development Review*, 7(1):55–70.

Collins, D., Morduch, J., Rutherford, S., and Ruthven, O. 2009. *Portfolios of the Poor: How the World's Poor Live on $2 a Day.* Princeton University Press, Princeton.

Das Gupta, M. 1987. Selective discrimination against female children in rural punjab, india. *Population and Development Review*, 13(1):77–100.

Ganatra, B. and Hirve, S. 1994. Male bias in health care utilization for under-fives in a rural community in western india. *Bulletin of the World Health Organization*, 72(1):101–104. PMID: 8131244.

Haddad, L. and Hoddinott, J. 1994. Women's income and boy-girl anthropometric status in the cote d'Ivoire. *World Development*, 22(4):543–553.

Jensen, R. T. 2010. Economic opportunities and gender differences in human capital: Experimental evidence for india. NBER Working Paper 16021.

King, E. M. and Hill, A. M. 1993. *Women's Education in Developing Countries: Barriers, Benefits, and Policies*. John Hopkins University Press, Baltimore and London.

Kishor, S. 1993. "May god give sons to all": Gender and child mortality in india. *American Sociological Review*, 58(2):247–265.

Lewis, M. and Lockheed, M. 2008. Social exclusion and the gender gap in education. World Bank Policy Research Working Paper 4562. Available at SSRN: http://ssrn.com/abstract=1109261.

Murthi, M., Guio, A., and Drèze, J. 1995. Mortality, fertility, and gender bias in india: A District-Level analysis. *Population and Development Review*, 21(4):745–782.

NCEUS 2009. The challenge of employment in india : an informal economy perspective. Technical report, National Commission for Enterprises in the Unorganised Sector, Government of India, New-Delhi.

Qian, N. 2008. Missing women and the price of tea in china: The effect of Sex-Specific earnings on sex imbalance. *Quarterly Journal of Economics*, 123(3):1251–1285.

Rosenzweig, M. R. and Schultz, T. P. 1982. Market opportunities, genetic endowments, and intrafamily resource distribution: Child survival in rural india. *American Economic Review*, 72(4):803–815.

Sa-Dhan 2010. The bharat microfinance report - quick data. Technical report, Sa-Dhan, New-Delhi.

Sen, A. 1990. Gender and cooperative conflicts. In *Persistent Inequalities: Women and World Development*, pages 123–149. Oxford University Press, New-Dehi, irene tinker edition.

Srivastava, R. 2011. Changing employment conditions of the indian workforce and implications for decent work. *Global Labour Journal*, Forthcoming.

Thomas, D. 1990. Intra-Household resource allocation: An inferential approach. *Journal of Human Resources*, 25(4):635–664.