



Sons as widowhood insurance: Evidence from Senegal



Sylvie Lambert^{a,*}, Pauline Rossi^{b,c}

^a Paris School of Economics - INRA, 48 Boulevard Jourdan, 75014 Paris, France

^b Paris School of Economics, 48 Boulevard Jourdan, 75014 Paris, France

^c CREST, 15 Boulevard Gabriel Peri, 92245 Malakoff, France

ARTICLE INFO

Article history:

Received 20 February 2015

Received in revised form 23 October 2015

Accepted 17 January 2016

Available online 27 January 2016

Keywords:

Intra-household insurance

Gender

Fertility

Health

Senegal

ABSTRACT

Exploiting original data from a Senegalese household survey, we provide evidence that fertility choices are partly driven by women's needs for widowhood insurance. We use a duration model of birth intervals to show that women most at risk in case of widowhood intensify their fertility, shortening birth spacing, until they get a son. Insurance through sons might entail substantial health costs since short birth spacing raises maternal and infant mortality rates.

© 2016 Published by Elsevier B.V.

1. Introduction

In many developing countries, the lack of insurance markets and social safety nets is mitigated by family. A large literature describes the use of family as insurance, examining for instance family income diversification strategy through migration (Rosenzweig, 1988), or children acting as old-age insurance for their parents (Nugent, 1985; Hoddinott, 1992). These mechanisms have been thoroughly described, however there is very scarce evidence on the costs to the beneficiaries of those family-based insurance systems. The exchange is likely to be non-monetary and not strictly *quid pro quo*—facts that contribute to the costs remaining hidden. Exposing the existence and extent of these costs could temper the general optimism toward informal insurance mechanisms.

In this paper, we analyze such a family based insurance mechanism—one whereby women in Senegal rely on sons as insurance in case of widowhood. As detailed below, we exploit the variation in widows' vulnerability that arises from the rivalry for inheritance between the husband's children. When the husband already has children from ex-wives, whether divorced or deceased, the current wife's best way to secure future access to his resources—in particular his house—is to have a son.¹ Hence, we

investigate whether fertility choices are partly driven by women's insurance strategies. Our hypothesis is that the existence of children of ex-wives (henceforth we call these children “rivals”) should exacerbate son preference and intensify fertility. This hypothesis is supported by the raw data on birth intervals. Building on demographers' methodology, we use semi- and fully parametric estimations of a duration model of birth intervals to provide evidence that women with rivals and no son do indeed tend to have another child more quickly. We find that when there are rivals, having only girls versus having at least one son multiplies by 1.5 to 2 the probability of short birth spacing (intervals shorter than 24 months). In the absence of rivals, the gender composition of first births does not affect subsequent birth intervals. We show that the effect is clearly evidenced for women who co-reside with their husband, in particular for the poorest half of the population, justifying the prior that the house is the main stake in the bequest process. Also, fertility choices are more strongly affected after the third child.

We focus on the case of Senegal, but such a mechanism may theoretically be at play in other countries as soon as (i) widows run the risk of being dispossessed, and (ii) having sons could mitigate this risk. According to a UN report on widows worldwide, the first statement holds throughout the developing world (United Nations, 2011). The identity of rivals for inheritance varies from one country to another: they might be husband's brothers, parents, nephews, or as in Senegal, children from previous unions. The second statement is more difficult to assess, but several studies report that having sons attenuates the risk of being dispossessed in various parts of the world; e.g. in rural South Asia (Cain, 1986; Agarwal, 1994), in Indonesia (Carranza, 2012), in Nigeria (United Nations, 2011), in Uganda (Akiiki Asiimwe, 2009), in Zambia and Zimbabwe (Kevane, 2004).

* Corresponding author.

E-mail addresses: sylvie.lambert@psemail.eu (S. Lambert), pauline.rossi@ensae.fr (P. Rossi).

¹ Rivalry may also arise in polygamous unions between children of co-wives, but we choose not to consider them for two reasons. First, our identification strategy fails to deal with simultaneity issues: in polygamous unions, women might adjust the number of their children to react to a co-wife's births, so that the rivals of a given wife cannot be considered as exogenous to her own fertility choices. Second, it can be argued that co-wives have an alternative insurance strategy based on cooperation, since they may agree to continue to live together in the late husband's house (see qualitative evidence in Lambert and van de Walle, 2012).

In Senegal, women are highly exposed to the risk of losing their husbands, in particular because of the age difference between spouses: 10 years on average, and often much more. The question of the means available to women to cope with the impact of widowhood on living standards is a very urgent one. Formal mechanisms are weak: finance and insurance markets are very imperfect, social safety nets are missing, and opportunities for self-support are limited due to labor market restrictions and constraints stemming from social norms. Hence, widows are dependent on their access to their late husband's resources.

Furthermore, as 95% of the population is Muslim, inheritance practices are ruled by Islamic and customary patrilineal laws. In practice, wives are excluded from a bequest after the death of the husband; the inheritance is to be shared among the husband's children, sons inheriting more, and more frequently, than daughters (Lambert et al., 2014). Children, especially sons, therefore turn out to be women's best claim to their late husbands' resources in case of widowhood. Any children the husband had with other women may compete for the man's inheritance. Therefore, the number and gender composition of the children of the current wife, relative to other children the husband might have, determine the share of inheritance she might control *de facto*; it influences, in turn, her probability to carry on residing in the late husband's house. Women might therefore have incentives to be pregnant often in order to maximize the number of sons they have.

Demonstrating such a mechanism may matter if we are to better understand the costs of informal family insurance. Indeed, these costs are rarely studied; until recently, it was assumed that taking part in family insurance networks has no cost other than reciprocity. Recent papers have focused on the monetary costs for relatively high-income members, and on the distortions generated by the "kin tax" in African economies (Jakiela and Ozier, 2015). The monetary costs are often considered negligible for low-income members. Non-monetary costs have been totally overlooked, and yet they might be important from a welfare perspective. The cost of widowhood insurance through sons is potentially huge: for both mother and child, health risks related to frequent pregnancies are well-documented in the medical literature on developing countries (e.g. Conde-Agudelo et al., 2006; Conde-Agudelo and Belizan, 2000; DaVanzo et al., 2004). Increasing the interval between births to 24 months is a goal for many family planning programs.² In the economics literature, Jayachandran and Kuziemko (2011) argue that Indian mothers breastfeed girls less than boys because they want to try again for a son quickly after the birth of a daughter. They show that son preference translates into a female disadvantage in child survival rates. In Nigeria and in India, Milazzo (2014a, 2014b) finds that son preference induces short birth spacing, and might be a significant cause of female excess adult mortality.

In Senegal, maternal and infant mortality rates are a matter of concern: out of each 1000 births, four mothers died as well as 47 children before turning a year old—29 of those in the first month, over the period 2007–2011. Further, children born less than two years after a sibling are 2.4 times more likely to die than the others, whatever mortality rates we consider: neonatal, post-neonatal, infant, juvenile, infant-juvenile (ANSD and ICF International, 2012).³ Despite important supply-side interventions, mortality rates remain high, in part because frequent pregnancies persist at a large scale.⁴ Women's needs for widowhood insurance might help explaining why this practice is so difficult to deter.

² Some programs such as the Optimal Birth Spacing Initiative, created under the auspices of USAID, even recommend an optimal birth spacing of three to five years.

³ Ronsmans (1996) shows that in rural Senegal, short birth intervals also increase the odds of dying for the preceding child: if the mother delivers another child within two years, the risk of mortality for the index child is four times higher in the second year of life than if the next birth takes place more than two years after his birth. However, this correlation is not necessarily causal: short subsequent birth intervals may be either a cause (abrupt weaning) or a consequence (willingness to "replace" a dead child) of child mortality.

⁴ Budget of the Health Ministry was multiplied by 3.5 between 2000 and 2010 and it now reaches 10.4% of national budget (ANSD and ICF International, 2012).

Exploiting original data from a nationally representative household survey, we develop a strategy that is close to a difference-in-difference framework. We analyze how the gender composition of the first children influences subsequent choices of women with and without rivals. While the two groups might have other differences, what matters to our identification strategy is that (i) the gender of the children they give birth to is exogenous, and (ii) in the absence of rivals, both groups would have reacted similarly to this exogenous variable: having one son vs. one daughter. Using such a strategy to identify the existence of a widowhood insurance motive for fertility is very similar in spirit to Nugent's (1985) suggestion: in order to evidence old-age security motive, one has to compare similar populations with different intensity of the motive. Here, among women with rivals, we compare those having a son and those having only daughters; they are similar, but the strength of their motivation is different. Then, we factor in women without rivals to cancel out any son preference that prevails in the population but is not related to widowhood insurance.

All in all, we find that son preference only appears in women with rivals, and especially when these women have no independent housing. Women's needs for widowhood insurance seem therefore to play a role in fertility choices, leading to more frequent pregnancies for the most exposed women: those with rivals and no son. This suggests that the lack of formal widowhood insurance hampers birth control efforts and, even more worryingly, imposes a potentially heavy health cost on both women and children, whether widowhood occurs or not. Such non-monetary costs underline the fact that, even if an informal insurance system plays a role in granting access to resources in case of widowhood, it is a poor substitute for a formal insurance scheme. The benefits of implementing some public widowhood insurance scheme, or changing inheritance laws, would thus be far reaching.

The outline of the paper is as follows. Section 2 provides background on widowhood and inheritance practices in Senegal. Section 3 presents the data and some descriptive statistics. Section 4 introduces a simple theoretical model to clarify hypotheses and mechanisms at play. Section 5 discusses the empirical strategy, the identification assumptions and the estimation methods. Section 6 reports the main results, and Section 7 concludes with policy implications.

2. Widowhood and bequest in Senegal

2.1. An ex-ante risk-coping strategy based on children

An idea has emerged from several disciplines, that women's vulnerability in Sub-Saharan Africa is conducive to large family size.⁵ Family law renders women dependent on spouses, or on adult children in case of death or abandonment by the husband. Women therefore have an interest in early marriage and high fertility. Anthropologists such as Bledsoe (1990) also endorse the idea that in all societies, people make efforts to construe marital status and parenthood to their advantages. She claims that in Africa, as long as children remain women's best claim to male resources, women will continue to want many children.

Demographers working on Sub-Saharan Africa have come to the same conclusion: among the key factors shaping the reproductive regime in this region, they mention inheritance patterns and women's subordinate status. In patrilineal societies, in which wives "belong" to the male kin, women's security and status critically depend on their ability to have sons (Lesthaeghe, 1989).

All this requires that fertility is an active choice of women. In Senegal, modern contraceptive methods are widely known, but not much used: over 92% of married women can name at least one modern method; but only 12%—mostly urban, educated and wealthy women—report using one of them. Still, only 7.5% of married women report unmet needs for birth control to limit the number of children. Unmet needs for birth

⁵ In Senegal, fertility is still high: five is both the average and median number of children among women older than 45 years (cf. Fig. A.1 in Appendix A).

Download English Version:

<https://daneshyari.com/en/article/5094285>

Download Persian Version:

<https://daneshyari.com/article/5094285>

[Daneshyari.com](https://daneshyari.com)