

**Economic conditions, employment and urban fertility in Sub-Saharan Africa: An event history analysis of parity progression to third and to four birth among men and women at Accra, Dakar and Kinshasa.**  
**Felly Kinziunga**

**Introduction**

The relationship between resources and fertility has long been a subject of debate in the social sciences (Tabutin, 2007). In the past, children were a resource. Today, they generate costs rather than gains to reduce their number. However, fertility in sub-Saharan Africa remains high than elsewhere. While this level is the subject of many studies, few studies focus on men and consider individual economic comfort to understand this fertility and its evolution. This fertility is associated with poverty at the collective level and rarely at the individual level (Adebowale et al., 2014). Generally, household welfare is considered and a positive association is established between poor living standards and the high propensity to have high fertility (Garenne, 2008; Creanga et al., 2011). Similarly, entry into parenthood is early among the poor (Schoumaker, 2003). However, these studies have the particularity of focusing on women and their final descendants and considering the standing of the household rather than the individual.

However, these studies have the particularity of focusing on women and their final descendants and considering the standing of the household rather than the individual.

This paper opens a chapter in the study of urban fertility in sub-Saharan Africa. Not only does it integrate men into the understanding of fertility, it also aims to highlight the potential relationships between the economic difficulties of urban dwellers and the transition of parities from a male and female faith perspective and between different socio-economic and cultural contexts. The study assumes that the economic difficulties experienced by urban dwellers contribute to the decline in urban fertility. They force people to delay the expansion of their families at higher parities. Especially for men, economic comfort would be more important in the expansion of families than other factors. However, a difference in behavior is expected between men and women, but also between cities. The effects are expected to be more significant among younger generations than older generations and among both men and women.

A comparative analysis between large cities is important not only because of the specificity of the urban context but also because of the singularity of one city compared to another. Kinshasa is particularly interesting because of the multifaceted crises that have characterized it since the 1980s. The cities of Accra and Dakar are distinguished by their stability and the particularity of their cultures.

**Data and methods**

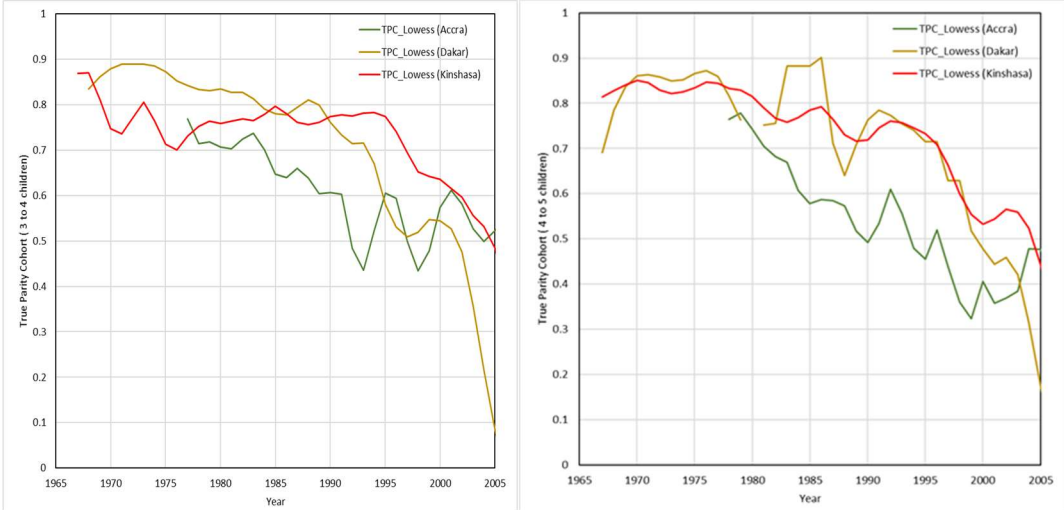
The data used for the study come from the MAFE surveys. These are longitudinal surveys that collected data on life trajectories in Dakar in 2008 and Accra and Kinshasa in 2009. MAFE surveys are among the few international surveys that provide representative and comparative data on different geographical, social, economic and cultural contexts. As their names indicate, the main purpose of the MAFE surveys is to analyze migrations between Africa and Europe. Its modules on family, professional and reproductive histories are especially useful for this study. Biographical data were collected for 3944 adults, male and female, aged 25 years and over, including 1638 persons in Kinshasa, 1244 in Accra and 1062 persons in Dakar (465 males and 597 females). Descriptive and multivariate methods of longitudinal data analysis were used. Kaplan-Meier's estimates are used to describe fertility and labor

market entry. Discrete time event history models are used to analyze factors associated with first birth, including employment.

**Preliminary results**

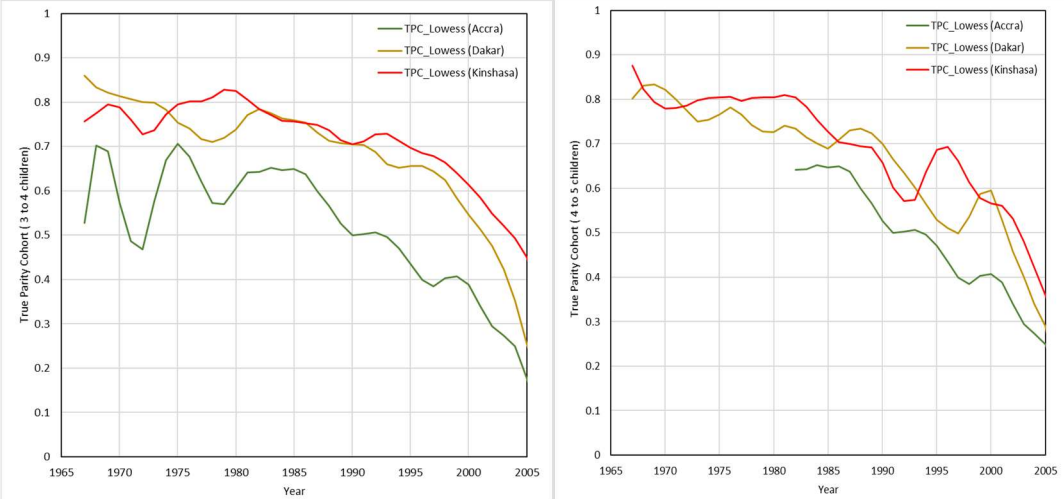
In general, there is a change in the probability of family expansion in all three cities. From one year to the next, the trend is a decrease in the probability of having an additional child. This decline worsened around 1995 and is particularly marked among men with at least 4 children. However, the rhythm of this decline varies greatly between cities (Figure 1). The probability of having a fifth child remains relatively high among men in Kinshasa compared to Dakar and Accra where it is low. In Kinshasa, having a fourth child when there are three seems to have been the norm between 1975 and 1995. While elsewhere, in Dakar and even more so in Accra, there is a decrease in the probability of having a fourth birth among men.

Figure 1: True parity progression from 3 to 4 (left) and from 4 to 5 (right) at Accra, Dakar and Kinshasa among men



The fertility pattern of women is different from that of men. The differences in terms of the probability of family expansion in Kinshasa and Dakar are small but pronounced compared to Accra where the probability of having more than 3 has decreased considerably since 1995 (Figure 2).

Figure 2: True parity progression from 3 to 4 (left) and from 4 to 5 (right) at Accra, Dakar and Kinshasa among women



A ce stade de l'étude, au sujet de la transition de la parité 2 à 3, il ressort que l'influence du niveau économique sur l'agrandissement des familles est variable entre villes mais aussi entre individus. Parmi les hommes, le confort économique accélère la transition aux parités supérieures à Kinshasa, lorsqu'à Accra (Figure 3), la transition à la parité supérieure s'effectue rapidement parmi les hommes ne disposant pas d'une situation économique confortable (Figure 4). Chez les femmes par contre, les différences sont moins marquées à Kinshasa. Alors que le niveau de vie affecte la probabilité d'agrandissement de la famille des femmes de Kinshasa, le confort économique ne semble pas discriminer les comportement reproductif féminin au sujet de l'agrandissement des familles.

Figure 3. Kaplan-Meier estimates parity progression from 2 to 3 child at Kinshasa (man on the left and woman on the right)

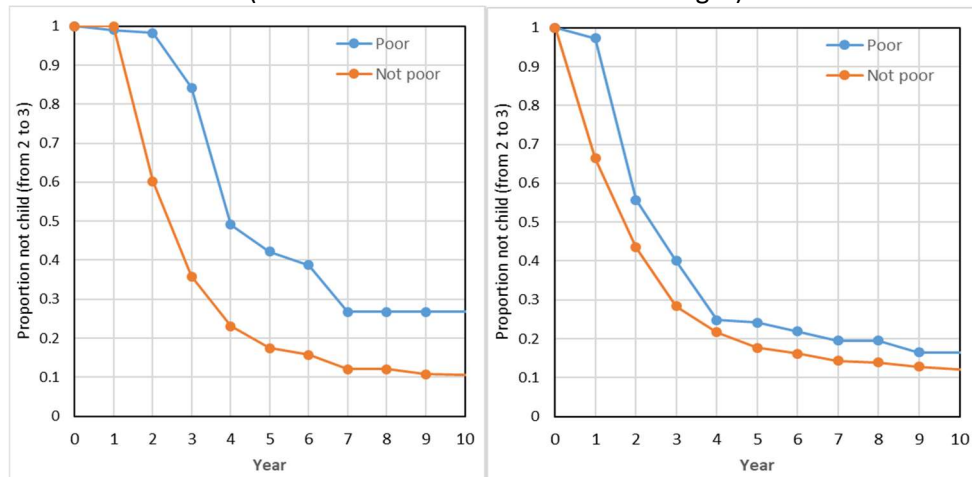
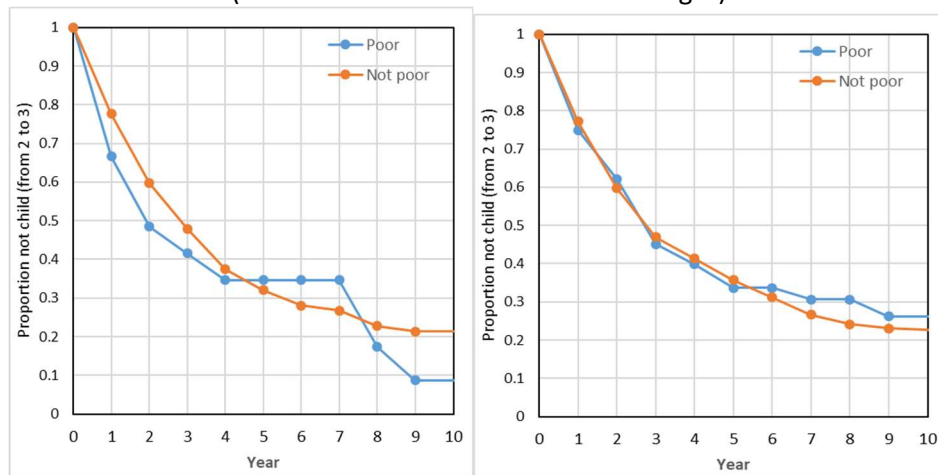


Figure 4. Kaplan-Meier estimates parity progression from 2 to 3 child at Kinshasa (man on the left and woman on the right)



Like descriptive analysis, discrete-time biographical analyses show that the determinants of fertility between men and women differ between people and between cities. Moreover, the risk of having an additional child when you have two children is just as variable. With the exception of Dakar, where younger generations are less likely than others to transit at the third birth, the influence of the cohort remains negligible in Kinshasa and Accra. Access to female employment significantly delays the expansion of families in Accra, while it does not seem to affect the expansion of families in Kinshasa and Dakar. The opposite effect is observed among Dakar men. The chances of having an additional child are greater when they are in stable employment. However, there is a difference in behaviour between men according to their economic comfort. A stable economic situation is accelerating the transition to greater parity among Kinshasa's men, while it seems to be holding back the transition to

Accra. However, it has no influence on the transition from the second to the third dwarf among men in Dakar.

**Event history models of 2 to 3 births among men and women in Accra, Dakar and Kinshasa (odds ratios)**

Explanatory variables	Accra		Dakar		Kinshasa	
	Women	Men	Women	Men	Women	Men
<i>Cohort</i> <sup>TV</sup>						
Born before 1970 (Ref)	1	1	1	1	1	1
Born in or after 1970	0.805	0.694	0.986	0.370**	1.252	0.821
<i>Activity</i> <sup>TV</sup>						
Unemployed and inactive(Ref)	1	1	1	1	1	1
Student	1.646	0.392	0.539	1	0.514	1.405
Elementary job	0.482**	0.57	0.708	2.548**	0.998	1.919
Intermediate job	0.300**	0.634	0.776	2.040***	1.427	1.137
Superior job	1.613	0.445	1.969	2.579	0.749	1.56
Economic level <sup>TV</sup>						
Weak (Ref)	1	1	1	1	1	1
Intermediary	1.636	0.466	1.514	1.527	1.517	2.916**
High	1.112	0.293*	1.506	1.444	1.496	1.78
Years of schooling <sup>TV</sup>						
0 – 6 years (Ref)	1	1	1	1	1	1
7 – 12 years	1.325	0.976	0.593*	2.494**	0.582**	0.451*
13 years and over	1.11	1.073	0.761	2.647**	0.599	0.526
Statistical significance: * : p<0.10 ; **p<0.05 ; ***p<0.01						
TV: time-varying variable. The duration is controlled in all the models by a function of age and its natural logarithm.						

In conclusion, when we consider the biographies of individuals, it appears that the individual economic level discriminates men's reproductive behaviour. However, they adopt different behaviours in different contexts. The next step in the study is to analyse the parity progression at the fourth and fifth births

### Bibliography

Adebowale, S.A., Adedini, S.A., Ibisomi, L.D., and Palamuleni, M.E. (2014). Differential effect of wealth quintile on modern contraceptive use and fertility: evidence from Malawian women. *BMC Women's Health* 14, 40.

Creanga, A.A., Gillespie, D., Karklins, S., and Tsui, A.O. (2011). Low use of contraception among poor women in Africa: an equity issue. *Bulletin of the World Health Organization* 89, 258–266.

Garenne, M. (2008). Situations of fertility stall in sub-Saharan Africa. *African Population Studies* 23.

Schoumaker, B. (2003). Pauvreté et fécondité en Afrique sub-saharienne: une analyse comparative des enquêtes démographiques et de santé.

Tabutin, D. (2007). Les relations entre pauvreté et fécondité dans les pays du Sud et en Afrique subsaharienne. *L'Afrique Face à Ses Défis Démographiques: Un Avenir Incertain* 253.