

Economic conditions, employment and urban fertility in Sub-Saharan Africa: An event history analysis of male and female fertility in Kinshasa, Dakar, and Accra

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Abstract

Based on biographical data collected in 2008 in Dakar and 2009 in Accra and Kinshasa, this article examines the influences of labor market on urban fertility over the past thirty years. This work shows that in all three cities, parenthood entry is delayed from one generation to another, while the labor market evolves differently from one city to another. The influence of getting the first paid job on the birth of the first child remains marginal. The need to have a first child seems to outweigh any economic constraints associated with the individual's economic status or the child's costs.

Introduction

The economic difficulties and rapid urban population growth are leading to difficulties in access to employment, and to precarious employment for young people in many African cities (Beaujeu et al. 2011). While this issue has been a focus for researchers since the 1990s (Bocquier 1996; Calvès and Schoumaker 2004), it is only recently that its consequences on family transformations have been studied in African literature (Antoine 2006; Antoine and Béguy 2005). Many authors point out that access to employment plays a major part in the transition to adult life. It is associated with the postponement of residential emancipation and family formation in many cities. Some studies highlight a negative association between the economic crisis and family formation (Beaujeu et al. 2011; National Research Council 1993).

However, few researchers have studied the mechanism by which the crisis affects fertility in sub-Saharan Africa (Schoumaker 2003). Moreover, the relationship between male employment and urban fertility has remained the least studied in recent decades. The few studies on women note that they have fewer children than others when they are in paid employment (Shapiro and Tambashe 1994; Béguy 2007; Shapiro 2015; Banjo and Akinyemi 2018). Few studies have examined the effects of employment on male fertility despite their role in providing family resources (Magnani et al. 1995).

This paper contributes to a more in-depth knowledge of the relationship between economic difficulties, family formation, and fertility trends in major African cities. It makes it possible to integrate the question of access to employment into the understanding of African fertility for both male and female fertility, and different contexts (cultural, economic) and for different generations. Life history data are used to describe the events studied their evolution and their potential links with economic conditions over the past decades. Then, an analysis of the factors related to each phenomenon will be studied to understand the probability of having additional children and to compare the situation of men and women from one city to another.

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.

The study is based on the hypothesis that the economic difficulties experienced by young people in African cities contribute to fertility decline, by increasing the age at first parenthood and by limiting the number of births from one generation to another. As a result of the crisis, unemployed men have their first child later than others and would attempt to limit their family's progress to higher parities. The effects are expected to be more significant among younger generations than older generations and among both men and women.

Data and methods

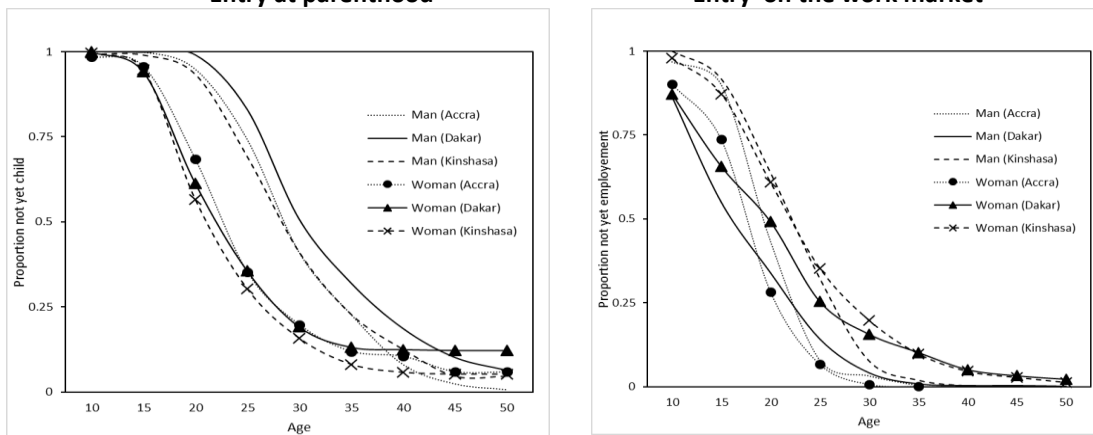
The data used for the study come from the MAFE surveys. These are longitudinal surveys that collected data on life trajectories in Dakar in 2008 and Accra and Kinshasa in 2009. MAFE surveys are among the few international surveys that provide representative and comparative data on different geographical, 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. Data on the children's age

at birth and kinship make it possible to identify biological children. 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

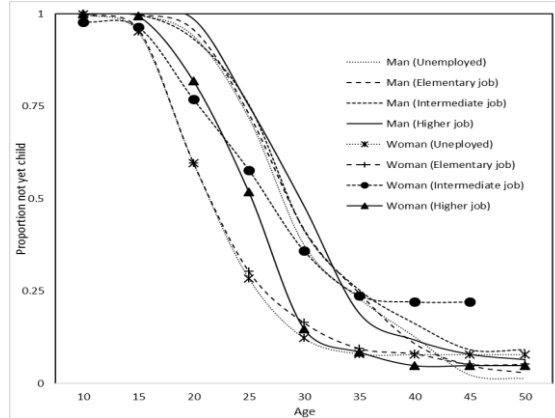
The large majority of women in the three cities have their first birth before the age of 25 (figure 1). However, they enter the labor market at different times. Women entering the labor market earlier in Dakar compared to Accra or Kinshasa. With the exception of Dakar, where men enter the labor market earlier than women, women get their first paid job more quickly than men. Although they have their first paid job earlier, Senegalese men (Dakar) have a first birth later than their counterparts in Ghana (Accra) and DR Congo (Kinshasa).

Figure 1. Kaplan-Meier estimates of entry at parenthood and entry on the work market



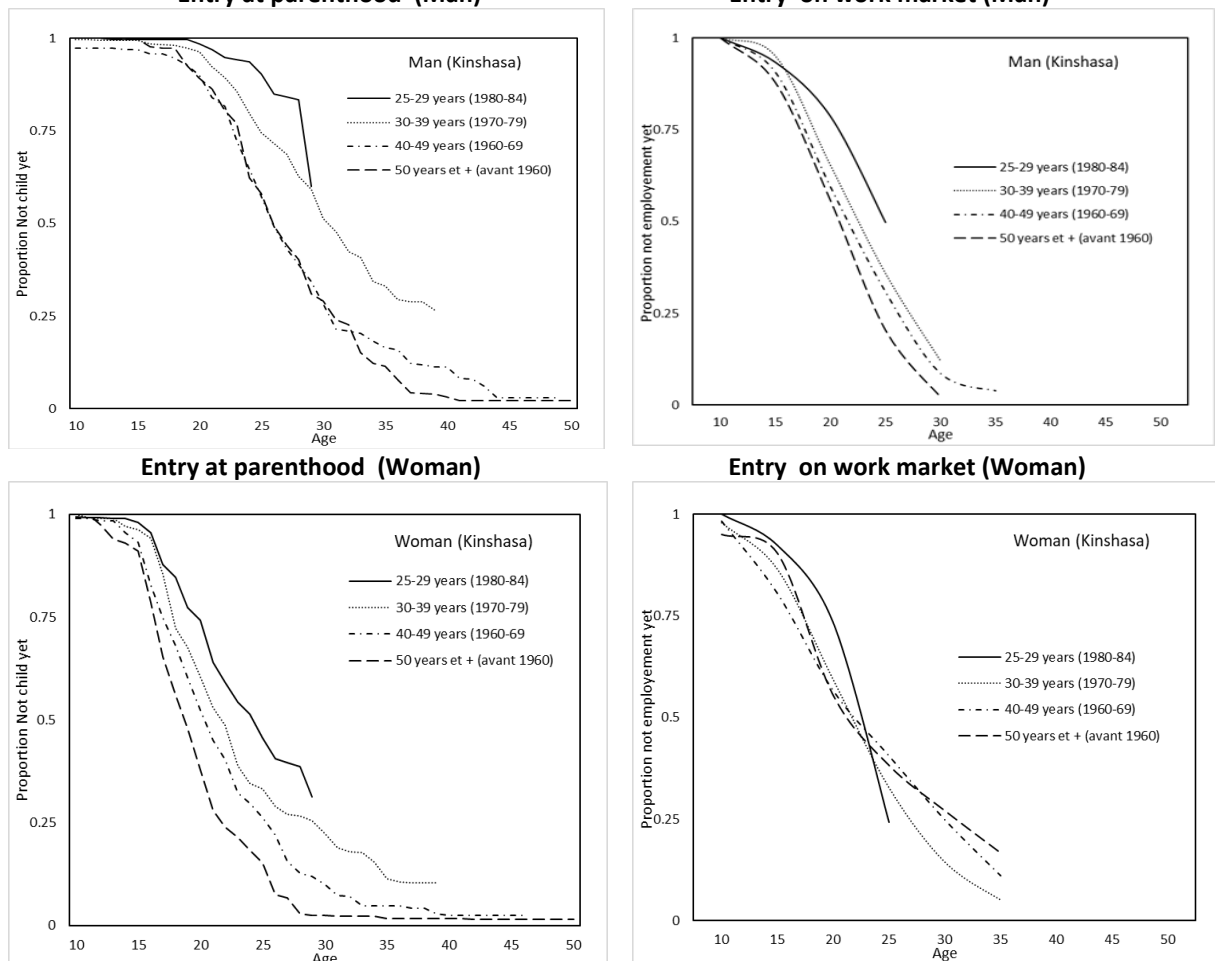
Compared to entry in the labour market, the male reproductive behavior appears to be homogeneous. Many of them have their first birth at the same age. The different tests of equal survival between the different economic statuses are not significant. However, first paternity comes later for men who have a higher level of employment (Figure 2). On the other hand, age at first childbearing appears to be associated with women's economic status. There are significant differences between the survivals curves related to women's economic status. Women who are unemployed or in basic employment have their first birth at around five years before those in higher or intermediate employment.

Figure 2. Kaplan-Meier estimates of entry at parenthood by gender and economic status



Cohort analysis reveals that the age at first parenthood is increasing across generations in the three cities. The age at which individuals obtain their first paid job changes differently from one city to another, but the dynamics are the same for both men and women from one generation to the next. While entry into the labor market is later in Kinshasa, the younger generation in Dakar starts employment earlier than elders. In Accra, on the other hand, entry into the labor market only slightly changed from one generation to the next. Figure 3 illustrates the situation of the city of Kinshasa, which differs from that of the cities of Accra or Dakar.

Figure 3. Kaplan-Meier estimates of entry at parenthood and entry on work market by cohort at Kinshasa



Except for Dakar women, the risks of having a first birth decrease from elders to recent generations. Multivariate analysis revealed that access to the first paid job does not seem to have any influence on the entry into parenthood.

Figure 4: Event history models of entry into fatherhood by African town (age > 20)

First birth	Kinshasa		Dakar		Accra	
	Man	Woman	Man	Woman	Man	Woman
	Net effect	Net effect	Net effect	Net effect	Net effect	Net effect
Cohort						
25-29 years (1980-84)	1	1	1	1	1	1
30-39 years (1970-79)	1.252	1.102	1.337	1.042	1.937*	1.428*
40-49 years (1960-69)	1.720**	1.675***	1.332	1.315	3.395***	1.888***
>=50 years (< 1960)	1.613*	2.249***	1.732*	1.353	3.992***	1.946***
Economic status						
Unemployed	0.887	0.754	1.007	1.019	0.817	0.525
Studies	1.242	1.074	0.889	0.763	1.042	1.066
Basic employment	1.079	1.036	0.885	0.939	1.058	0.674
Intermediate employment	0.979	0.874	1.247	1.266	1.071	0.955
Higher employment	0.887	0.754	1.007	1.019	0.817	0.525
Level of living standards						
Low	1	1	1	1	1	1
Medium	0.898	0.833	1.700*	1.366	1.456	1.514
High	0.908	0.822	1.625**	1.622	1.648	1.463
Years of study (level)						
Primary education	1	1	1	1	1	1
Secondary education	0.787	0.931	0.817	0.849	1.447	0.793
University study	0.683*	0.404***	0.776	0.334***	1.182	0.565**
Size of siblings						
0-2	1	1	1	1	1	1
3-4	1.471	0.981	1.115	0.632	0.951	1.437
5-6	1.332	1.022	1.366	0.735	1.335	1.542*
> 6	1.392	1.074	1.228	0.719	1.249	1.744**
Father's level of education						
No instruction	1	1	1	1	1	1
Primary school	0.834	0.861	0.937	0.720*	1.033	1.057
Secondaire school	0.739*	0.965	0.725	1.087	0.795	1.029
Academic	0.521***	0.874	0.813	1.133	0.591**	1.069
Vocational	0.79	0.653*			0.663	1.293
N	627	875	414	502	467	687

* p<0.10, ** p<0.05, *** p<0.01

The differences are not statistically significant. It would appear that the need to have a first child outweighs any constraints related to the individual's economic status or the cost associated with the child. However, economic reasoning, understood as the availability of resources to meet the needs of the future regulates paternity in Dakar. Unlike economic status, the education of individuals or their parents influences the risks of having a first birth. Women who attend university are more likely than others to delay first birth. The situation is different among men. The delaying effect of

education is more noticeable among Congolese than Senegalese or among the men of Ghana. Having an educated father reduces by half the individual's chances of having a first birth. The father's level of education is particularly important in determining reproductive behavior in Kinshasa. It also influences paternity in Accra but its effect in the city of Dakar is marginal.

This first part of the article shows that the influence of first employment on the first birth of both men and women is marginal in Dakar, Kinshasa, and Accra. Economic pressure seems to have a marginal influence on social pressure or reproductive aspirations. If economic difficulties do not affect the entry into parenthood, what about its effects on parity progression? In the second part of the article, we look at the possible influences of economic difficulties on having additional children.

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