

# **Analysis of the determinants of high fertility in African countries: Niger case**

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**MUTADEMO conference**

**Paris, 22<sup>nd</sup>-23<sup>rd</sup> september 2016**

# Plan

- Background and problem
- Objectives
- Materials and methods
- Results
- Conclusion

# Background and problem (1/2)

- PVD characterized by poverty as well as a high population growth
- Niger: economic growth rate of 4.1% in 2013
- 48.2% of the population lives below the poverty line in 2011
- 186th of 187 (Report on Human Development 2013)
- average rate of intercensal growth of 3.9% in 2012 against 3.3% in 2001 and TFR from 7.1 in 2006 to 7.6 in 2012

# Background and problem (2/2)

- Need to accelerate the demographic transition
- Socioeconomic and demographic variables affecting fertility?
  - Age?
  - Quality of life?
  - Contraception?
  - Level of education?
  - Place of residence?
  - Age at 1st marriage? duration of marriage?
- Impact of these variables on fertility?

# Objectives

- Define the profile of women by number of children
- Identify the determinants of fertility
- Assess the impact of each variable on reducing fertility

# Materials and Methods

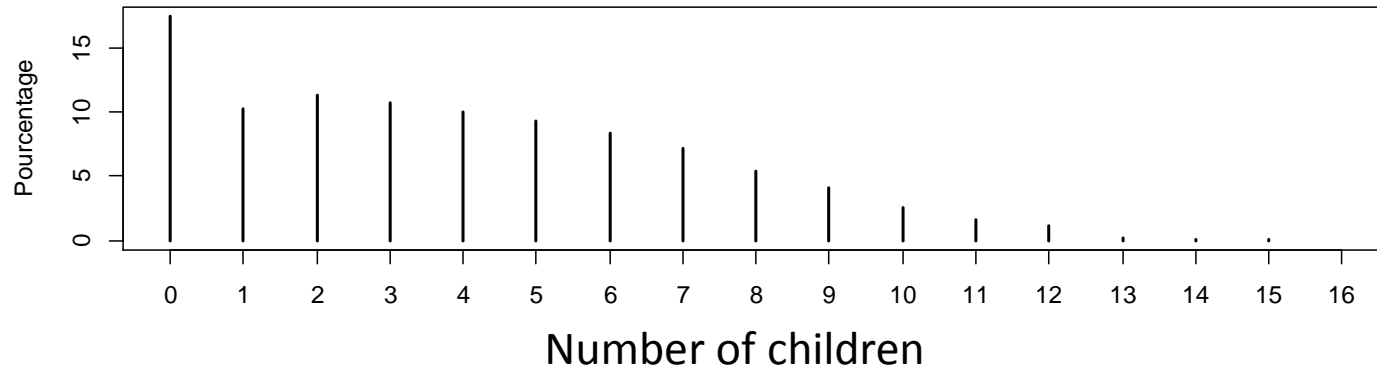
- **Data source:** EDSN-MICS IV 2012
  - 11698 women aged 15-49 years and 95.4% eligible successfully interviewed either 11160 9509 women whose married or in union (85,21%)
- **Dependent variable:** total number of live births per woman
- **Explanatory variables:** socioeconomic and demographic characteristics of women
- **Method of analysis:** descriptive analysis, ACM, Poisson model

# Materials and Methods (2/2)

- R Software used: Foreign Packages, MASS, and missMDA FactoMineR
- Using the weight variable of the sample units
- Exposure to risk / opportunity to have children:  
Duration of marriage
- Analysis of the results is made to all the women and those in union

# Résultats (1/6)

All women



Married women or in union

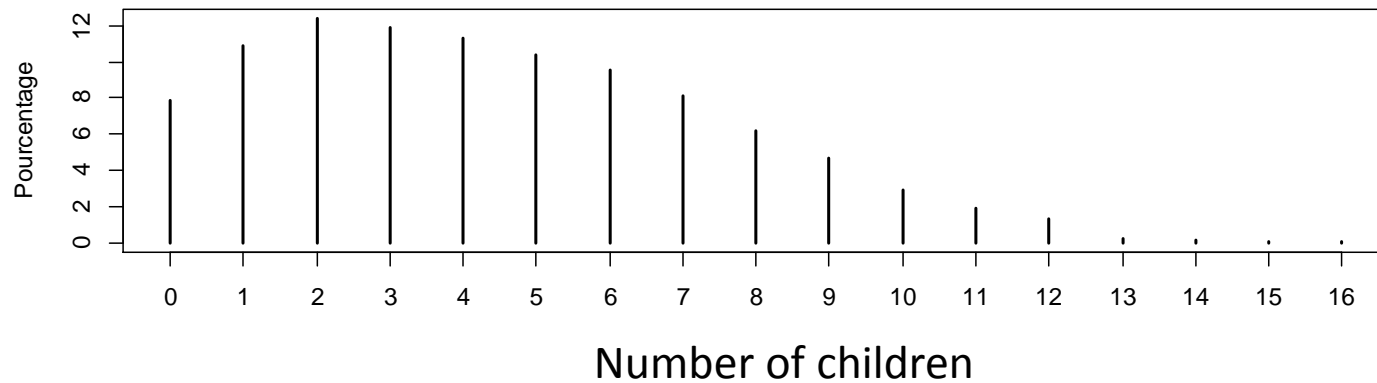
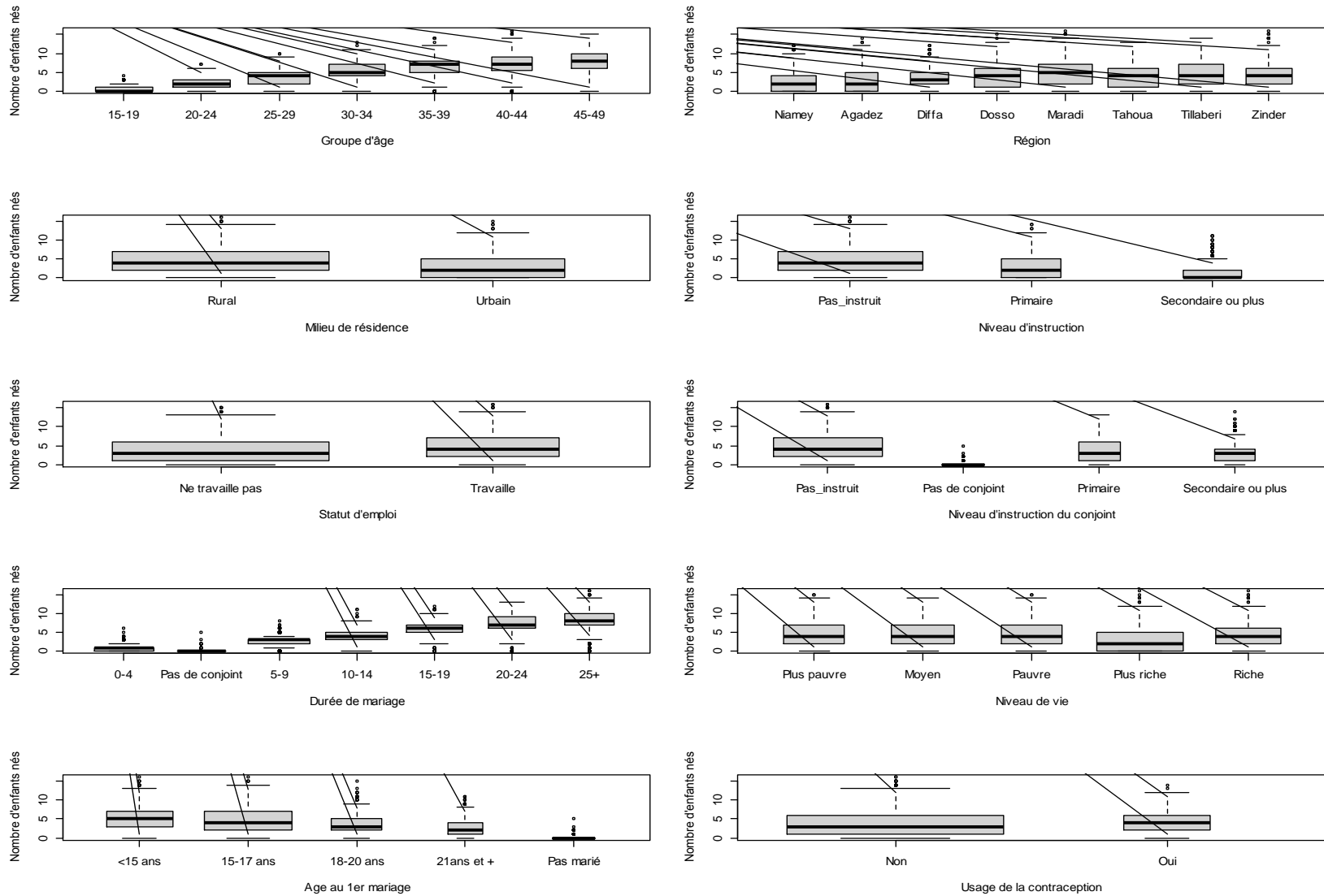


Figure 1 : Distribution of women by number of children



# Résultats (2/6)



**Figure 2 : Number of births according to the characteristics of women**

# Résultats (3/6)

Table: Characterization factorial axes

<b>Negative side</b>	<b>Axis 1</b>	<b>positive side</b>
	<b>Marital status</b>	
<b>Union</b>		<b>Single</b>
	<b>Place of residence</b>	
<b>Rural</b>		<b>Urban</b>
	<b>Level of women's education</b>	
<b>Not educated</b>		<b>Secondary or higher</b>
	<b>Educational level of spouse</b>	
<b>Not educated</b>		<b>Single</b>
	<b>Number of children (illustrative variable)</b>	
<b>3-5 children, 6 or more children</b>		<b>No children</b>
	<b>Axis 2</b>	
	<b>Quality of life</b>	
		<b>Richer</b>
	<b>Place of residence</b>	
<b>Rural</b>		<b>Urban</b>
	<b>Level of women's education</b>	
<b>Not educated</b>		<b>Secondary or higher</b>
	<b>Educational level of spouse</b>	
<b>Not educated</b>		
	<b>Number of children (illustrative variable)</b>	
<b>No children, 6 or more children</b>		<b>1-2, 3-5 childrens</b>

# Résultats (4/6)

**Negative side**

**positive side**

## Axis 3

### Duration of marriage

**0-4 years**

25 years or older

### Age at first marriage

Marriage before the age of 15

### Employment Status

Has job

### Number of children (illustrative)

**No children, 1-2 children**

6 more children

# Résultats (5/6)

Variables	Modalities	All women (M2)				Married women or in union (C2)			
		exp( $\beta$ )	(95%IC)		p-value	exp( $\beta$ )	(95%IC)		p-value
	<b>Constant</b>	0.308	0.29	0.326	***	0.315	0.298	0.333	***
<b>Age group</b>	15-19	1			Réf	1			Réf
	20-24	1.228	1.152	1.311	***	1.207	1.136	1.283	***
	25-29	1.223	1.151	1.302	***	1.199	1.132	1.272	***
	30-34	1.181	1.111	1.257	***	1.159	1.094	1.228	***
	35-39	1.107	1.041	1.178	**	1.084	1.024	1.149	**
	40-44	1.006	0.946	1.071		1	0.944	1.061	
	45-49	0.91	0.855	0.969	**	0.896	0.845	0.951	***
<b>Place of residence</b>	Village	1			Réf	1			Réf
	Capitale city	0.878	0.846	0.912	***	0.894	0.862	0.928	***
	Capital of region	0.976	0.94	1.013		0.985	0.949	1.021	
	Other town	0.892	0.856	0.929	***	0.897	0.862	0.933	***
<b>Education level</b>	No education	1			Réf	1			Réf
	Primary	0.956	0.929	0.983	**	0.967	0.94	0.993	*
	Secondary or +	0.916	0.871	0.963	***	0.925	0.881	0.971	**

# Résultats (6/6)

Variables	Modalités	Ensemble des femmes (M2)			Femmes mariées ou union (C2)				
		exp( $\beta$ )	(95%IC)	p-value	exp( $\beta$ )	(95%IC)	p-value		
<b>Employment Status</b>	Don't work	1			Réf	1		Réf	
	work	1.015	0.998	1.033	.	1.018	1.001	1.035	*
<b>Contraceptive use</b>	No	1			Réf	1		Réf	
	Yes	1.139	1.113	1.165	***	1.126	1.103	1.151	***
<b>Educational level of spouse</b>	Not educated	1			Réf	1		Réf	
	single	0.107	0.077	0.145	***				
	Primary	1.006	0.979	1.034		1.002	0.977	1.029	
	Secondary or +	0.935	0.9	0.971	***	0.948	0.914	0.983	**

# Conclusion (1/2)

**Proven facts:** Age, level of education, place of residence, duration of marriage / union, age at the first marriage associated with fertility



- Intensification of enrollments of girls at school
- Awareness of young girls and their parents to postpone the age at marriage

# Conclusion (2/2)

- Introduction of health modules on reproductive / public and family life in school curricula
- Awareness of women in union for limiting and spacing
- Involvement of religious leaders, community and traditional leaders for the decline in age at marriage

# Limites

- Measured explanatory variables at the time of the survey, while the phenomenon studied is related to the entire reproductive life of women
- Possibility of no reporting of deaths as children born by women



**Thank you for your attention**