Gender and intergenerational human capital transmission in Senegal 1940-2009

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PLAN

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The purpose of the study

• The main purpose is to capture the intergenerational transmission of the human capital in Senegal

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• Identify the factors explaining access to education of parents and their Childs aged from 6 to 14 years using biographical survey over the period 1950 to 2009.
Background

• According to the Universal Declaration of Human Rights (1948), education allows "the full development of human personality."

• Education is a necessary and a primary factor for sustainable development

• In Senegal, it is an important and strategic in the process of economic, political and social development (40% of the budget goes to education)

• Strong links between education and poverty is well established
Background…..

• In Senegal, the education system is composed of formal and informal education.

• Education in Senegal is:
  – faced with shortage of supply relative to potential demand,
  – characterized by low quality explained by cyclical strikes of teachers
  – often effective in overcrowded classrooms and student strikes, reducing the annual number of hours required for a quality education.
Data source

• Quantitative survey
  – household surveys conducted in 2008
  – sample of 1200 households representing three strata of Senegal’s population
  – 10,104 individuals were surveyed

• Biographic survey
  – conducted in 2008/2009 with a sample of 2400 individuals
### Stylised facts Schooling

Table 1: Sample distribution by sex and area of residence

<table>
<thead>
<tr>
<th>Sexe</th>
<th>Dakar</th>
<th>Rural</th>
<th>Other urban</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>266</td>
<td>535</td>
<td>232</td>
<td>1033</td>
</tr>
<tr>
<td>Female</td>
<td>462</td>
<td>363</td>
<td>190</td>
<td>1015</td>
</tr>
<tr>
<td>Total</td>
<td>728</td>
<td>898</td>
<td>422</td>
<td>2048</td>
</tr>
</tbody>
</table>
Stylised Facts Education

• Education and place of residence:
  – 80% of people living in rural areas have no education.
  – Within the population of Dakar, this proportion is 32%.
  – For primary education, Dakar recorded 35% against 30% and 14% for other cities and rural areas respectively

• Education, gender and generation:
  – There is an upward trend in the percentage of persons who have attained at least primary education starting from the old to new generations
  – This predominance of the number of people who reached primary level is more pronounced at the intermediate generations (1954 -1978)

• Regarding training,
  – More prevalent in women before 1954 (29.4%).
  – Among the men of the same generation, 19.2% had a vocational training
<table>
<thead>
<tr>
<th>Highest Educational Level</th>
<th>Dakar</th>
<th>Other Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
</tr>
<tr>
<td>None</td>
<td>233</td>
<td>160</td>
<td>719</td>
<td>1112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32%</td>
<td>38%</td>
<td>80%</td>
</tr>
<tr>
<td>Primary</td>
<td>255</td>
<td>125</td>
<td>125</td>
<td>505</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35%</td>
<td>30%</td>
<td>14%</td>
</tr>
<tr>
<td>Professional</td>
<td>56</td>
<td>45</td>
<td>14</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8%</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>Secondary</td>
<td>166</td>
<td>85</td>
<td>37</td>
<td>288</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23%</td>
<td>16%</td>
<td>4%</td>
</tr>
<tr>
<td>Tertiary (university)</td>
<td>18</td>
<td>7</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,5%</td>
<td>1,7%</td>
<td>0,3%</td>
</tr>
<tr>
<td>Total</td>
<td>728</td>
<td>422</td>
<td>898</td>
<td>2048</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Figure 1: Sample Distribution (%) according to the generation and the percentage of people with at least reached the level of primary education.
Figure 2: Comparison of educational attainment by gender and generation

<table>
<thead>
<tr>
<th></th>
<th>Distribution of men by level of education and generation</th>
<th>Distribution of women by level of education and generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supérieur</td>
<td>Moyen/secondaire</td>
</tr>
<tr>
<td>après 1978</td>
<td>11.3%</td>
<td>41.2%</td>
</tr>
<tr>
<td>1969-78</td>
<td>2.6%</td>
<td>41.3%</td>
</tr>
<tr>
<td>1954-68</td>
<td>2.6%</td>
<td>32.3%</td>
</tr>
<tr>
<td>avant 1954</td>
<td>2.6%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
Stylised Facts Education

→ Within the female population, higher education is almost absent until 1969-1978 generations. The proportion of women born after 1968 who have reached higher level of education does not reach 3%.

→ In terms of men:
  - there is 2.6% of individuals who have reached higher levels of education on the generations before 1978

• Education and poverty:
  – There is the low rate of all educational levels in the group victims of chronic poverty
Figure 3: Comparison of the maximum level of education according to the poverty of the individual child

<table>
<thead>
<tr>
<th></th>
<th>Aucun</th>
<th>Primaire</th>
<th>Professionnel</th>
<th>Moyen/secondaire</th>
<th>Supérieur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauvre chronique</td>
<td>73%</td>
<td></td>
<td></td>
<td>18%</td>
<td>3% 6%</td>
</tr>
<tr>
<td>Pauvre transitoire</td>
<td>49%</td>
<td>28%</td>
<td>6%</td>
<td>15%</td>
<td>1%</td>
</tr>
<tr>
<td>Non pauvre</td>
<td>28%</td>
<td>34%</td>
<td>9%</td>
<td>26%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Methodology: Theoretical model

Based on the traditional models of education (Becker, 1964, 1975 and 1993), it is assumed that each individual household member has an individual utility function is written:

$$U_m = U_m(X, l, q, m, w)$$

- $X_m$ represents the goods purchased and consumed by the individual, the consumption of leisure,
- $\theta$, consumer prices produced by the household including elements such as education, health,
- $\mu$ is a set of characteristics that can affect taste of the individual
- $\omega$ a heterogeneous set of variables unobserved.
Methodology: The theoretical model

The function of household welfare $W$ depends on the utility of each household member. For the household member $m$, the function of well-being is written as:

$$W=W[ U_1(X,l,q,m,w).........,U_M(X,l,q,m,w)]$$

Objective of the household is to maximize this function under constraint of production and the household budget

The multi level logit model is used to estimate the theoretical model
Methodology: Empirical models

Two levels of analysis that justifies the use of multilevel modeling: a parent level (level 2) and a child level (level 1).

- The variables of the first level (children) are:
  - gender,
  - Rank on birth
  - Living with a parent or not
  - Going to school or not

- The second-level variables (parents) are:
  - sexbirth,
  - poverty status,
  - area of residence,
  - marital status
  - instruction of the person who take care of the children,
  - age of parent at the time of raised the ascendancy
Results

• Individuals living in neighborhoods lacking social services have 31% less chance to access to school compared to other that are in neighborhoods with access to these services.

• Chronic poverty in childhood reduced 64% chance of being educated.

• Characteristics of the parent (sex, place of residence, education of the parent) explain more than 20% of the probability of children to school.

• If the parents has no education, the chances of a child to go to school fell by 69%.
Results

• Child between 6 to 15 years who don’t live with their parents would reduce their chances of being enrolled at school by **44%**

• children raised in households headed by women had **21%** more chance to attend school compared to those headed by men.

• Childs for no educated parents probability to be enrolled felt by **69%** compared to a child whose parent has educated.

• If the person who brought up the parent is not educated, the chances of the child of this parent to going to school fell by **55%**

• Childs of a transient poor person have **56%** less chance to attend school

• Childs of chronic poor has **59%** less chance to go to school.
POLICIES

To a social minimum on public investment in Senegal

No more temporary shelters in my community

Making accessibility on education it is possible
THANK YOU