

Social Premium in Africa : case of Senegal

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Social management of individuals is an important issue in Africa. It is often reduced to the social security system which covers a small part of peoples. Fonteneau (2008) points out that most of the African social security system are based on the salary pattern. However, a quick look on the employment structure shows that the informal sector is a big employer of peoples which are excluded from the official system. According to a report of the International Labour Office (ILO), the part of the peoples covered by the official structures is varying between 5 and 10% of the african subsaharian active population. This raise a question: how does the uncovered part of the people do to protect? Many solutions have been proposed and studied by many papers on that topic. Among them, one can find health mutuals and “tontine”. That protecting means concern network and community organizational forms.

This paper takes another point of view based on an anthropological fact which is a feature of African societies: homo africanus (Hugon, 2006). The idea is the measurement of the returns driven from the investments made during past period. The main hypothesis is that the more were the investments in the past the more will be the social premium. The social premium is correlated to the amount of received transfers. It is composed of one measurable part and one another indirectly measurable. The measurable part can be understood as the transfers received by a person due to his presence in a society and which allow him to face his consumption needs. One of this paper objectives is the measurement of the ability of the informal system in offering individual social protection, so those transfers do not take account of the government transfers. The second part of the social premium is linked to the social rank, the importance or the social status given by society due to age for instance. His interest relies on a second income flows or economies issued from the parents or relationship network. The economies could be simple like the time saved in a queue at the hospital or the cost's reduction of services like health, transport or food. Even that part of the premium is not visible, it is possible to have quantitative estimation of its importance. It is correlated with the individual age, the previous and present transfers he made, job category, situation in administration (mayor, secretary, etc.), etc. An important concept in analyzing transfers is the lifecycle deficit (LCD). It is derived by extracting the revenue from the consumption for each person. For the young and the elderly, the LCD is positive, meaning a need of transfers to achieve their remained demand. For those in working age, the revenue is more important than the consumption and their LCD is positive. A part of that exceeding income will be transferred to other people by social mechanisms.

In summarize, in this paper the social premium should be understood like a remuneration issuing from informal social mechanisms and is benefit for all the age groups. That premium is not directly observable and measurable. But, the received transfers are an indicator of the social premium. That transfers are measurable from surveys data. The other component may be estimated on the basis of a model adapted from human capital ones and including variables such as age, job category, etc. It is important to distinguish the transfers origins which can be intrahousehold or interhousehold, the formal system is excluded.

Introduction

Social protection has been recognized as a right for people. As a national issue, it should be faced in a national strategy framework. In others words, the main actor of a national strategy of social protection is the government. However, a rapid look at the African situation shed light on practical difficulties for government to achieve social protection for all. Firstly, the national security system inherited from colonization relies on formal system. Its principle is simple: subscriptions are deducted from wages and in case of sinister assistance would be provided. The main consequence of such a system is that people who are not able to pay those subscriptions are excluded. In African case, the share of people in this situation is upper than 80 or 90% according to a report of International labor organization (ILO)¹ and research in the continent. Secondly, the financial constraint doesn't allow government to cover the person excluded from the formal system.

Several axes have been adopted by researchers to understand and find solution to this issue. Sectional approach led to consider for example the case of agricultural system. It has been said that the problem was the identification of people who really need assistance. The microfinance way and the use of foreign transfers have been also proposed. Lastly, attempts are made to find strategies in order to pull people from informal economy to formal economy. Implementing those strategies implies availability of huge amounts of money. This paper tries another axe. People are facing needs for assistance and government cannot give them such assistance. It is a fact. However, those persons achieve as they can consumption, health and education, sinister, etc. How do they manage? This paper starts with the hypothesis of homo africanus formulated by Hugon (2006). Some mechanism linked to the African sociology and behavior insures the excluded person to benefit in a certain manner of social protection. The main objective of this paper is to provide researcher with a measure of the resources

¹ See Fonteneau (2008)

transferred to each people and to understand how people do to achieve their needs. Such a measure may give information to the decision maker.

Before going further, we need to clarify what is understood as social protection in this study. The traditional definitions of social protection are generally too wide and may be difficult to implement. In this paper, social protection refers to the ability to achieve consumption needs mainly food, housing, health, education, etc. As said above, this consumption needs involve available resources. Those resources may come from a formal or an informal system. The formal system relies on organisms of social protection often linked to the government and recognized institution like mutual benefits organization, insurance company, etc. the informal system relies on community and family. Usually the means used by the latter system are “tontine” (Hugon 2006), family transfers (Mason and Lee 2005, Hugon 2006) and private loans in a family framework (Bentolila and Ichino 2006). The idea of this paper is that besides these means cited above, the focus has not been put in the ability of people using their relationship or other mechanism to obtain resources or better to save resources. This paper tries to explore this way by finding a mean to identify people in this case and to evaluate the amount of resources involved that are not for instance charged or taxed.

The methodology relies on two points. Firstly, we need a measure of the consumption needs and so on the resources used to achieve it for each people. For this purpose, we use a framework developed by the national transfers account (nta) project. Secondly, we are interested in understanding the social mechanism involved by the homo africanus hypothesis. We use a multinomial model to seek the effects of using relationships in obtaining additional resources for the household. The level of analysis is the individual rather than the household nevertheless the social premium has been estimated by household.

A brief overview of the social protection in African countries: case of Senegal²

In Senegal, the social security systems were designed and implemented exclusively for workers and their family to protect them from consequences of jobless on their abilities to achieve their fundamentals needs. The system is exclusively financed by the subscriptions of workers and their employers without grant from the government. The main criterion to benefit the welfare payment of social security organism is the salary. In some cases, those organisms assist other people in a general framework of social action. In 2001, the active population was 2,915,000 and the covered population was 228,229, representing 7.8%. The estimated number of total benefiteurs of social protection was 1,141,145 when the population was estimated to 9,285,300. The share of covered people was only 12.3% and the uncovered people between 80 and 90%.

The management of the social security is practically implemented by organisms that are charged to execute the policies designed by the government. According to the law criterion, these organisms are subdivided into two groups:

- The “Direction de la Solde” and the national funds of retires
- The private organism with a public mission: IPRES, CSS

These organisms can be distinguished according to the services they provide. Some provide short-term services like state benefits paid to family, professional risks, illness, etc. when others (IPRES and Sold) provide long-term services like pensions, disablement benefits, death, etc. CSS manage state benefits payment to family and professional risks, IPRES and FNR manage retires and old age pensions, the management of illness for the private sector is devoted to certain mutual involving the employers like IPM. It is important to keep in mind that the management for the private and the public people is different.

² This section draws heavily on the following paper that can be found at the address http://www.senegaldevelopment.org/docs/Lutte_contre_la_pauvreté/CARACTERISTIQUES_DE_LA_PROTECTION_SOCIALE_AU_SENEGAL.pdf

The transfers represented 78% of the resources in the same period. The pensions with 74% constituted the most important part of those transfers followed by the benefits paid to family (12%) and the illness benefits (10%). The annual average social protection expenditures by inhabitant were almost 17% of the guaranteed minimum salary (11% in Mali and 4% in Mauritania).

The non formal system is organized around mutual which propose to cover illnesses uncovered by the formal system. Those mutual are defined as non profit organization providing social services to their members. The private insurance firms are not considered as mutual according to the non profit criterion. These mutual provide services in complement to formal system particularly for the uncovered risks. They propose to association in the informal sector some services.

Existing analysis: an overview

This paper deals with the transfers born in the family framework and in an informal way. In general, the transfers that are considered are those effectively received or paid. However, some transfers couldn't be easily measured or evaluated. It is the case of transfers of time (assistance to elderly, to sick people) and savings of the utilization cost of a service (education, health care, transports and restaurant).

The intergenerational transfers replaced insurance from unemployment and social protection (Hugon, 2006) and they are essential for understanding the mechanism of food security, human capital investment and savings.

Bentolila and Ichino (2006) studying the insurance mechanisms employed by household to absorb unemployment shocks found that family plays an important role.

Ulker (2007) analysing the role of household formation in providing consumption insurance to elderly found that co-residing with others supplements social security, pensions and private savings and helps the elderly to smooth consumption in old age.

Anderberg (2001) studied voluntary income sharing between spouses and a family based policy.

Attias-Duffont (2003) presented the results of a comparative study on provision of social security by family system and public system in five EU countries.

Jellal and Wolff (2002) focused on the role of grandparents transferring to the children.

Several theories of family could explain why transfers are made between families: Becker (1974). Children have an economic utility. Their labour force could be used to generate income. They represent also an insurance against aging as a source of future transfers. This latter feature might explain the high fertility rate (5.5) recorded in Africa for Hugon (2006).

Conceptual framework and methodology

The measurement of an individual consumption relies on the works of Lee (1994), Lee, Lee and Mason (2005), Mason, Lee et al (2009). These papers have developed a new system of accounts that provide us with a tool that introduce age into national accounts.

The main idea is that people are facing consumption needs but they don't always have income. As an example, children consume education, health, housing, food, etc. but they don't have any income. How are they doing? They receive transfers from people who earn an income. This discrepancy between the consumption and the income reflect the life cycle model. The NTA define the lifecycle deficit as the difference between consumption and labor income. For children and elderly, the LCD is generally positive meaning that their consumption is upper than their income so they need transfers. According to the NTA financing the LCD is achieved through a reallocation system. Calculating the consumption needs, NTA take into account public consumption. This latter feature is not in opposition with our goal. The consumption needs (private or public) are effectively consumed by people so there should be satisfied. The NTA Flow identity explained this dichotomy. On its one hand,

the resource needs are calculated as the LCD and in its second hand, the equation shows how the LCD is financed (transfers by public or private system, asset-based reallocations). So in our case, the LCD provides us with information on the resources needed to satisfy consumption needs. Our research seeks to evaluate how important is the informal system namely the family in achieving social protection. Comparing the transfers born within family to LCD is a first step. But besides those effective transfers, a system of parallel “remuneration” exists. We call it social premium in this paper.

The second step of our methodology is to estimate the importance of this social premium. We define the social premium as an in-kind “remuneration” issuing from informal social mechanisms which benefit to all age groups. That premium is not directly observable and measurable. Again, we consider that the informal social mechanism is the family support. For example, a family which has a relationship with a doctor would not likely pay fees for consultation when one of his member go to hospital. As a consequence, his expenditures will likely be lesser than a family with the same characteristics but which hasn’t any relationship with a doctor. A similar case can be imagined for education or transports. These savings generated by these particular relationships are not captured although there are counterparts of a production process. We think that they should be important as the social link is strong in African economies (Hugon, 2006). We are then interested in estimating its importance. As explained above, the difference in expenditures paid by an household compared to another household with the same characteristics is likely due to a particular relationship with a doctor or a personal of hospital, a social rank, etc. we assume that the cost is the same according to the type of hospitals and there is not any error in the data collection. The main issue is to find the reference cost to which the expenditures of each household will be compared. We derived an indicator of receiving or not social premium based on network relationship using. We construct a model to explain why a household can receive this social premium by including

variables such as age, job category, etc. The idea is to study the relationship between the use of the network relationship and the social premium. In a first time we classify the households using a classification method to find the groups and their features involved by the network relationship using.

Source of data

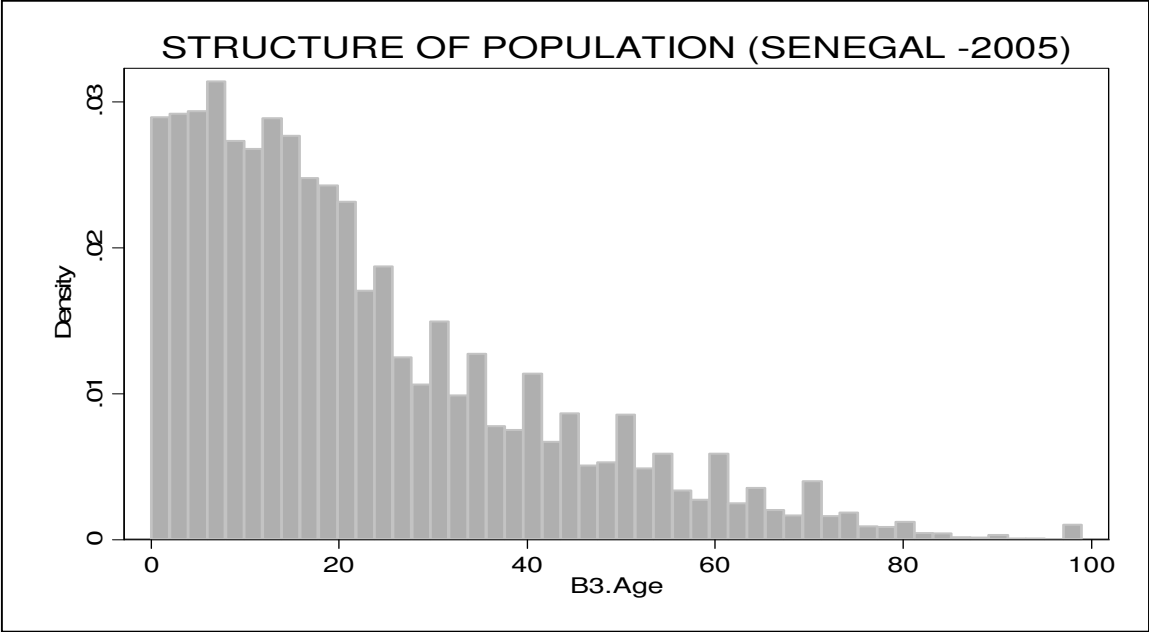
The data used in this paper come from the Senegal poverty monitoring report (SPMR-2005) “Enquête de suivi de la pauvreté au Sénégal” so called ESPS-2005 and from enquête 1-2-3 in 2001. The SPMR-2005 provided us with data on demography, education, health, expenditures and it was a national survey. The main limitation of SPMR is the absence of data on income. To deal with this issue, we used enquête 1-2-3 which is a survey that was conducted in 7 cities of western African countries belonging to “Union économique et monétaire ouest-africaine (UEMOA)”. The last complete survey with data on income and expenditures was ESAM1-1994. We thought that those data might not reflect accurately the actual situation. It’s why we preferred a combination of two dataset issuing from two surveys.

The sample of SPMR-2005 used in our calculation was 13,208 households for 122,200 persons.

Some figures on Senegalese population

The NTA estimates rely on population age structure and on expenditures and income profiles.

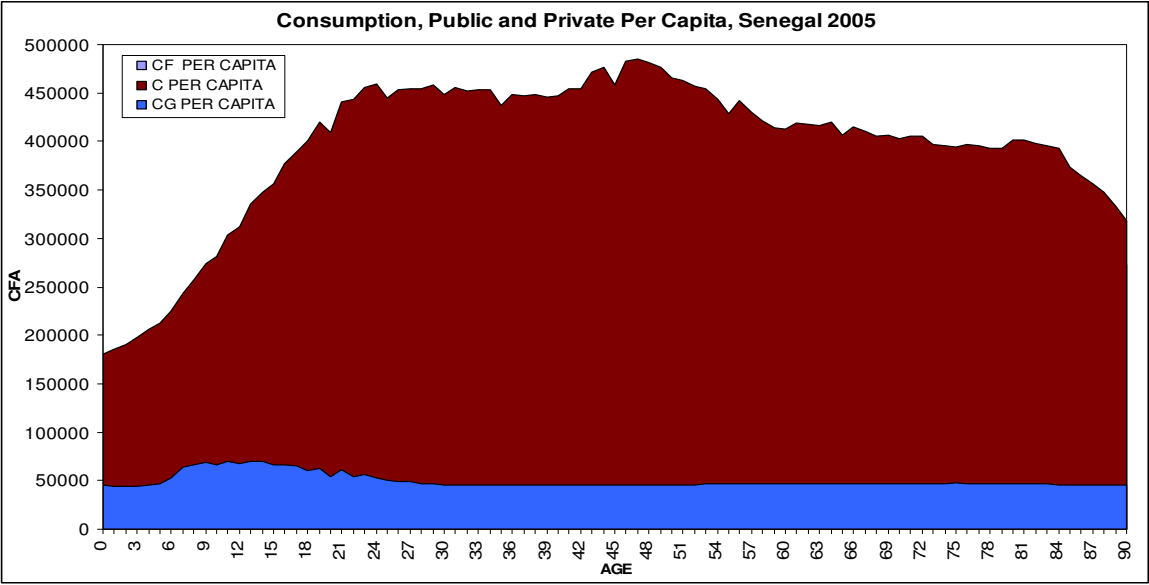
The age profile shows that Senegalese population is young. ESPS-2005 found that 55% of the population was less than 20 years old.



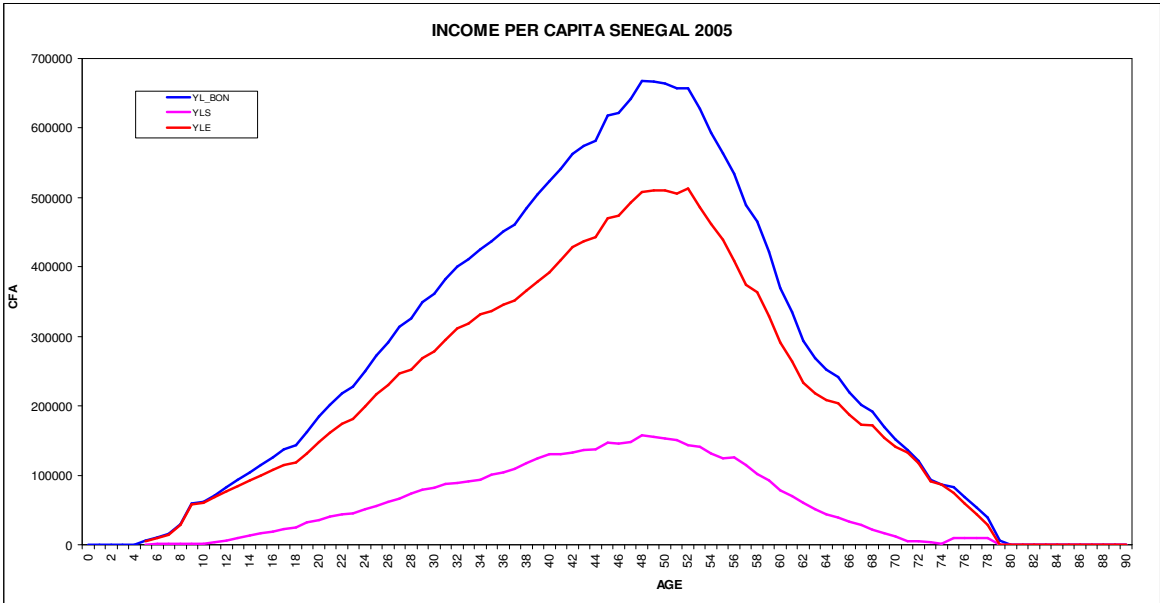
Estimation and Results

A measure of the resources and the consumption needs

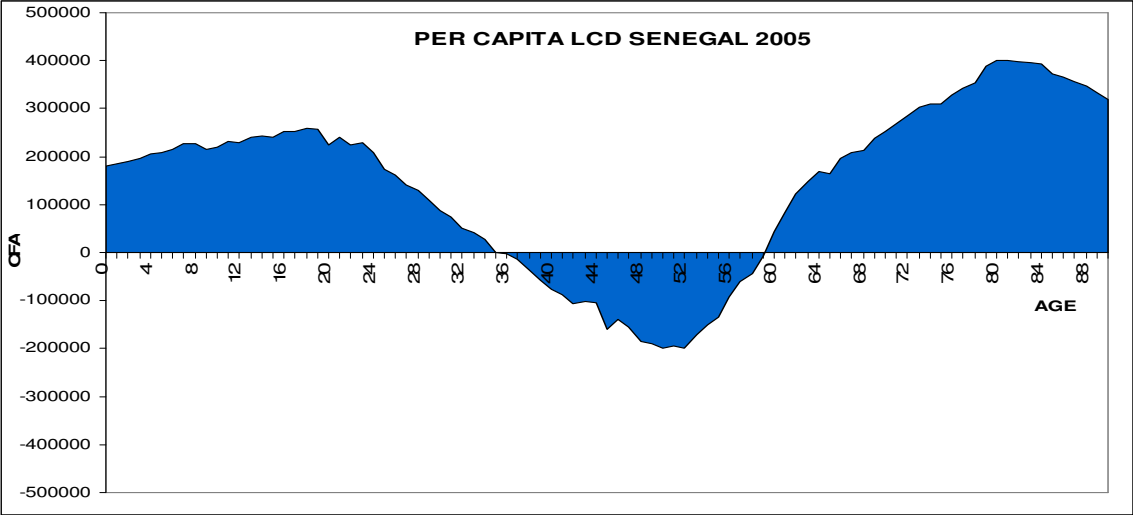
The graph 1 show how important is private consumption in the total consumption achieved by each age group.



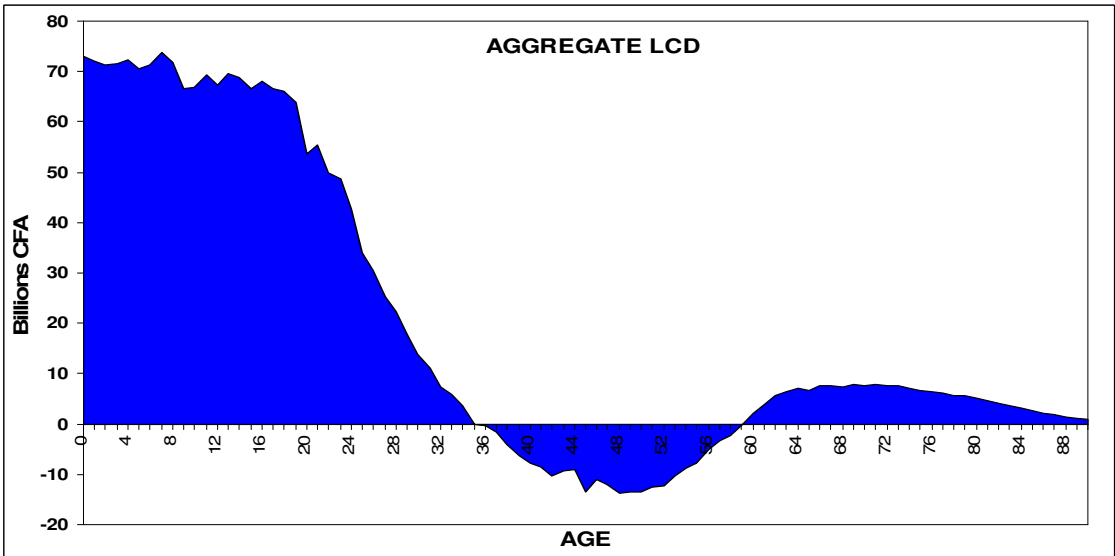
The graph shows the income distribution according to the age profile. The peak is reach around 50. This feature can be explained by the fact that people did not find decent job early.



The graphs show the deficit for each age group. The first one indicates the per capita deficit in each age group. The per capita deficit is higher for the elderly and people generate surplus between 36 and 60. These features show how difficult is to find a decent job that allow to be autonomous in achieving consumption needs.



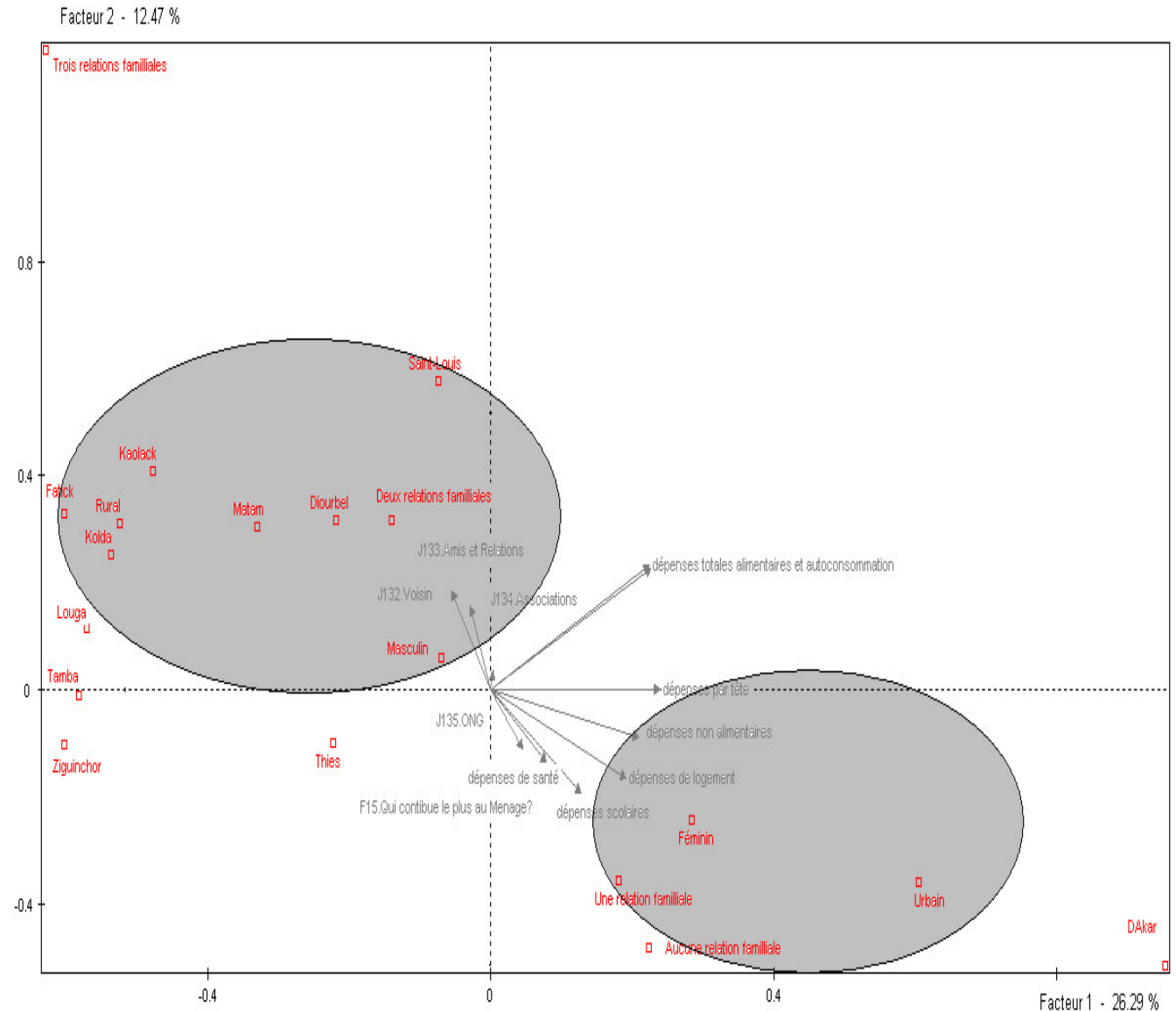
The second graph presents the aggregate deficit calculated by multiplying the per capita deficit by the population in each age group. It shows how heavy the deficit is for the young and the dependant persons. This feature is close to the age profile that showed the importance of the youth in the Senegalese population.



The social premium: who benefit the more, why and how important it is?

As explained in the methodology, the social premium can be earned by everyone due to relationship, age or social rank for instance. To simplify our identification of social premium earner, we do focus first on health consumptions and on households that declare utilization of hospitals but don't pay any fees for that.

Who benefit the more



L'analyse des interactions entre le réseau familial et les autres variables (régions, zone de résidence, sexe, dépenses) par une analyse en composantes principales montrent les résultats suivants :

- Dans les régions autres que Dakar, les relations familiales sont plus utilisées en milieu rural qu'en milieu urbain.
- Les ménages ruraux des régions autres que Dakar utilisent plus d'une relation familiale pour bénéficier d'un appui financier que les ménages urbains ; tandis qu'à Dakar, les ménages urbains utilisent une relation ou pas de relation familiale.
- Il ressort également de ce graphique qu'à Dakar, le réseau familial est plus utilisé par les femmes chefs de ménages que les hommes chefs de ménages ; alors que dans les autres régions du Sénégal, ce sont les hommes chefs de ménages qui utilisent le plus le réseau familial.
- Outre les relations familiales, les hommes chefs de ménages qui résident en milieu rural dans les régions autres que Dakar font également appel à leur voisinage, aux amis et relations et aux associations, tandis qu'à Dakar, les femmes chefs de ménages utilisent en plus du réseau familial, les ONG pour financer leurs dépenses.

Cette féminisation des transferts à Dakar peut s'expliquer par le fait que les femmes chefs de ménages qui n'utilisent pas le réseau familial ont une activité génératrice de revenus qui leur permet de financer la totalité de leurs dépenses de consommation. Cependant, ces femmes chefs de ménages sont exposées à la vulnérabilité car certaines d'entre elles recourent une fois au réseau familial.

Par ailleurs, en plus de la relation familiale, ces femmes chefs de ménages recourent également aux ONG pour financer une partie de leurs dépenses. Le développement du réseau des ONG traduit la prise en compte de l'aspect genre dans la lutte contre la pauvreté par les pouvoirs publics et la mobilisation des organisations non gouvernementales sur cette problématique.

En revanche en milieu rural, les résultats montrent que les hommes chefs de ménages sont très vulnérables en termes de mesure de pauvreté car ils sollicitent deux à trois relations familiales en plus des voisins, des associations et des amis et relations. Ceci révèle la forte présence des relations sociales en milieu rural. Des efforts restent à faire dans la définition de programmes de création d'emploi dans les régions.

Réseau familial

Familial Network	AGE	Expenditures per capita	Total Expenditures	Social Premium Mean	Gross Social Premium
None	Less than 36 years	1,923.84	2,587,732.32		
	Between 36 et 659 years	1,583.18	3,332,935.63		
	60 years +	1,132.78	2,932,497.91		
	Total	1,511.44	3,139,835.47		
one	Less than 36 year	1,832.19	2,389,824.33		
	Between 36 et 659 years	1,545.81	3,193,920.08		
	60 years +	1,130.27	3,278,146.44		
	Total	1,466.74	3,096,726.84	- 43,108.63	- 8,782,780,224.58
Two	Less than 36 year	1,598.18	2,185,643.84		
	Between 36 et 659 years	1,312.51	2,826,137.91		
	60 years +	1,018.15	2,956,825.82		
	Total	1,278.38	2,757,414.13	- 382,421.34	- 275,253,495,334.70
Three	Less than 36 year	1,088.84	1,924,408.37		
	Between 36 et 659 years	983.31	2,351,320.66		
	60 years +	906.94	2,526,804.29		
	Total	980.59	2,322,777.75	- 817,057.72	- 304,183,235,319.46
Total	Less than 36 year	1,658.07	2,276,935.79		
	Between 36 et 659 years	1,423.94	3,014,955.88		
	60 years +	1,074.51	3,076,740.65		
	Total	1,360.36	2,916,669.14	- 223,166.33	- 289,177,149,460.03

As noted from the factor analysis, the familial network can help in defining group into the population. What is expected is to find a relationship between the ability to use the familial network and the social premium. As the social premium is linked to the ability of achieving consumption, a variable of interest may be the total expenditures. The mean in each group defined by the number of familial network item available is calculated. The table shows that the less a household declare the number of familial network item it could use in case of needs, the more are its total expenditures. At the contrary, the more is the number of familial network item, the less are its expenditures. This fact could mean that the social premium is likely linked to the ability of household in achieving its consumption needs. In fact, our hypothesis is that the richer households benefit more of the social premium. This latter feature can be understood by another type of system involved by mutual aid and association between those peoples.

Taking the richer households, namely the one which not need to use the family network, as the reference, we computed the social premium as the difference between their expenditures and the other groups expenditures. The amount of the aggregated premium found is 289 billions.

Variables description

Variable	Obs	Mean	Std. Dev.	Min	Max
a6	13568	1.367925	.4822584	1	2
menb3	13568	50.65898	14.63983	16	99
menb2	13568	1.212412	.4090296	1	2
menb4	13568	2.546064	2.191657	1	9
educ3	13568	.4136203	1.624624	0	9
empe7	9591	5.141383	1.756688	1	6
sitj1	13568	1.32643	.503049	1	3
sitj2	13568	1.341539	.511049	1	3
sitj3	13568	1.347509	.5076619	1	3
sitj4	13568	1.349425	.5086685	1	3
sitj5	13568	1.900354	1.107786	1	4
sitj6	13568	1.787515	1.129109	1	4
sitj7	13568	1.230542	.4524133	1	3
sitj8	13568	3.721624	.8668899	1	5
sitj9_1	13568	2.359006	2.575838	1	14
sitj9_2	13495	3.89359	2.732791	1	14
sitj9_3	13280	5.396837	3.034266	1	14
sitj9_4	12640	6.692168	3.663784	1	14
sitj_f	13568	1.424307	.8528614	0	3
povppa	13568	1.635687	.4812547	1	2

Multinomial logistic regression

Number of obs = 9353

Wald chi2(54) = 542.98

Prob > chi2 = 0.0000

Log pseudolikelihood = -10204.046

Pseudo R2 = 0.0524

sitj_f		Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
1							
Resid		-.2440593	.1261636	-1.93	0.053	-.4913353	.0032168
Age		-.0283808	.0334254	-0.85	0.396	-.0938933	.0371318
Sex		.3871253	.2308386	1.68	0.094	-.06531	.8395606
sitmat		.0050811	.0345387	0.15	0.883	-.0626134	.0727757
EDUC		-.0550257	.0349454	-1.57	0.115	-.1235175	.013466
Food		.2142744	.1636909	1.31	0.191	-.106554	.5351027
SITJ2		-.1916569	.1636617	-1.17	0.242	-.5124279	.1291142
SITJ3		-.2060876	.162631	-1.27	0.205	-.5248385	.1126632
SITJ4		.2274585	.1670011	1.36	0.173	-.0998576	.5547747
SITJ5		-.0560434	.0551434	-1.02	0.309	-.1641225	.0520357
SITJ6		-.0928262	.0551071	-1.68	0.092	-.2008342	.0151817
SITJ7		-.0161824	.1782789	-0.09	0.928	-.3656026	.3332377
SITJ9_1		-.0218342	.0212602	-1.03	0.304	-.0635035	.019835
SITJ9_2		-.0440875	.0204453	-2.16	0.031	-.0841595	-.0040155
SITJ9_3		-.0229578	.016273	-1.41	0.158	-.0548524	.0089368
age2		.000291	.0003334	0.87	0.383	-.0003625	.0009445
POV		.151201	.1312085	1.15	0.249	-.1059629	.4083649
EMPE7		-.0398849	.044129	-0.90	0.366	-.1263761	.0466063
_cons		3.239274	.9420355	3.44	0.001	1.392919	5.08563
2							
A6		.0918833	.1424812	0.64	0.519	-.1873748	.3711414
MENB3		-.0370967	.0349189	-1.06	0.288	-.1055364	.031343
MENB2		.3322908	.2528378	1.31	0.189	-.1632622	.8278438
MENB4		-.0033592	.0381806	-0.09	0.930	-.0781917	.0714733
EDUC3		-.0893661	.0405981	-2.20	0.028	-.1689368	-.0097953
SITJ1		.4620113	.1803302	2.56	0.010	.1085705	.815452
SITJ2		-.2221736	.1785224	-1.24	0.213	-.5720712	.1277239
SITJ3		-.4678113	.183969	-2.54	0.011	-.8283839	-.1072388
SITJ4		.2881621	.187452	1.54	0.124	-.079237	.6555613
SITJ5		-.0591352	.0597776	-0.99	0.323	-.176297	.0580267
SITJ6		-.0459563	.0604239	-0.76	0.447	-.164385	.0724725
SITJ7		.0923412	.196607	0.47	0.639	-.2930014	.4776839
SITJ9_1		-.0239326	.0226692	-1.06	0.291	-.0683635	.0204982
SITJ9_2		-.0159675	.0224158	-0.71	0.476	-.0599018	.0279667
SITJ9_3		-.0230819	.0185792	-1.24	0.214	-.0594965	.0133326
age2		.0003367	.0003447	0.98	0.329	-.0003389	.0010123
POV		-.1473941	.1453612	-1.01	0.311	-.4322968	.1375087
EMPE7		-.0005869	.0478716	-0.01	0.990	-.0944135	.0932396
_cons		1.773352	.9946452	1.78	0.075	-.1761169	3.722821
3							
A6		1.603555	.1522039	10.54	0.000	1.305241	1.901869
MENB3		-.0622635	.0350463	-1.78	0.076	-.130953	.006426
MENB2		.5292961	.2652735	2.00	0.046	.0093696	1.049222
MENB4		-.042186	.0413823	-1.02	0.308	-.1232938	.0389219
EDUC3		-.1510595	.0731675	-2.06	0.039	-.2944653	-.0076538
SITJ1		.2708125	.2005378	1.35	0.177	-.1222343	.6638593
SITJ2		-.3385802	.197319	-1.72	0.086	-.7253183	.0481579
SITJ3		-.4577206	.2084734	-2.20	0.028	-.8663209	-.0491204
SITJ4		-.0724767	.2086994	-0.35	0.728	-.4815201	.3365667
SITJ5		-.2127131	.0639074	-3.33	0.001	-.3379693	-.087457
SITJ6		.0478827	.0639047	0.75	0.454	-.0773682	.1731336
SITJ7		.0688875	.2316204	0.30	0.766	-.3850802	.5228552
SITJ9_1		-.0146529	.0230372	-0.64	0.525	-.059805	.0304993
SITJ9_2		-.0619881	.0250157	-2.48	0.013	-.111018	-.0129583

SITJ9_3		-.0216516	.0203568	-1.06	0.288	-.0615502	.0182469
age2		.0006313	.0003468	1.82	0.069	-.0000484	.0013111
POV		-.7247873	.1561778	-4.64	0.000	-1.03089	-.4186845
EMPE7		.1079909	.0586221	1.84	0.065	-.0069062	.2228881
_cons		-.2024122	1.050145	-0.19	0.847	-2.260659	1.855835

Les Résultats

L'observation du tableau 1 montre les résultats du modèle logistique en prenant comme variable endogène, le nombre de fois que le réseau familial a été utilisé par un chef de ménage pour résoudre ses problèmes.

La situation de référence dans le modèles logistique multinomial que nous estimons est définie comme celle des chefs de ménage qui n'utilisent pas le réseau familial. Dans la suite de ce papier, tous les commentaires sont faits par rapport à ce groupe de ménages.

1- Le groupe des chefs de ménage qui sollicitent une seule fois le réseau familial

On observe que dans ce groupe, le milieu de résidence, et les signes manifestes de pauvreté ont un impact significatif et négatif sur la probabilité d'utiliser le réseau familiale une fois par les chefs de ménages. Les autres variables n'ont aucun effet significatif sur cette même probabilité.

2- Le groupe des chefs de ménage qui sollicitent deux fois le réseau familial

La satisfaction des ménages en matière de consommation alimentaire, ainsi que la satisfaction des ménages en matière de soins de santé reçus ont un impact positif sur la probabilité d'utiliser deux fois le réseau familial. Sur un autre registre on note que l'éducation et plus particulièrement, les diplômes obtenus de même que la satisfaction des ménages en matière d'habillement ont un effet négatif sur la probabilité d'utiliser deux fois le réseau familial.

3- Le groupe des chefs de ménage qui sollicitent trois fois le réseau familial

Le milieu de résidence, le sexe, et l'âge plus précisément les personnes âgées, et l'emploi impactent positivement la probabilité d'utiliser trois fois le réseau familial. Tandis que l'âge, le niveau de l'éducation, la qualité de l'habillement, la qualité de l'éducation, la perception de

la pauvreté et la pauvreté influencent négativement, la probabilité des chefs de ménages de solliciter trois fois le réseau associatif.

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