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Intergenerational impact of economic shocks on the well-being of households in Senegal

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Introduction

With a surface area of 192,722 km2, Senegal is a country in West Africa with a population estimated at more than 12 million people in 2011 according to estimates by the National Agency of Statistics and Demography. This population is predominantly rural. According to the 2002 census, 40.7% of the population lives in urban areas. The Dakar region represents an area of 550 km2 and concentrates over a fifth of the total population.

Economically, Senegal is ranked 144th in 2010 according to the Human Development Index of the United Nations Development Programme (UNDP). The GDP per capita was 1,700 USD in 2009 and GDP growth was 2.2% that year.

The incidence of household poverty is 48.5% nationally according to the results of the Senegalese Household Survey (ESAM) conducted in 2002. But in 2008/2009, the pattern of household poverty in Senegal revealed 60.4% poor[1]. In other words, 6 out of 10 households are either poor or vulnerable. Moreover, according to the findings of that survey, of six households in the poor category, 4 are poor, while 2 are actually vulnerable to a shock (economic, health, environmental, etc.) that can make them switch quickly into poverty. Thus, chances of getting out of poverty are limited mainly in rural areas and especially among the uneducated. Moreover, the fact of having experienced a disaster (fire, crop loss, flood, theft, insecurity, conflict and social unrest, loss of money, etc.) from childhood increases vulnerability[2] to chronic[3] poverty and when a child is raised by an uneducated person, s/he is even more exposed to this type of poverty.

Faced with household vulnerability to chronic poverty in particular with regard to their exposure to economic shocks and in order to strengthen national programs to fight against poverty in Senegal, it is important to analyze more deeply the impact of shocks on households.

I. Presentation of the data sources

The sample for this survey consists of 75 census districts[4], 1,200 households and 2,400 biographies. In each census district, all households were counted before the random selection of 16 households to be surveyed. Within each sample household, two individuals were interviewed: the head of household and

[1] According to a biographical survey on « vulnérabilités et pauvreté chronique au Sénégal » (vulnerabilities and chronic poverty in Senegal) conducted by the Laboratory for Research on Social Transformations (LARTES) over the 2008/2009 period.

[2] "The concept of vulnerability expresses the multidimensionality of disasters by focusing attention on the totality of relationships in a given social situation which constitute a condition that, in combination with environmental forces, produces a disaster". Bankoff, Greg etal. (2004). *Mapping Vulnerability: Disasters, Development and People*. London: Earthscan. In this study vulnerability is the situation of transient poverty.

[3] Chronic poverty is the state of people who remained poor during their life cycle until the time of the survey.
The transient poor are the individuals who have experienced some periods in poverty and other periods in non poverty; these are people who get sometimes poor and sometimes exit from poverty.
The poor family includes the chronic poor and the transient poor also referred to as vulnerable.

[4] The 75 census districts correspond to half of the 150 census districts on the national scale recorded by the National Agency for Statistics and Demography. The census districts are distributed across the 14 administrative regions of Senegal.

another household member (usually the main or secondary breadwinner). This biographical type survey allows for an easey evaluation of poverty in "living conditions" by means of items that are used to note down the health, educational and housing characteristics of individuals and households. Biographical data collection was necessary to perform longitudinal analyses that are most appropriate for monitoring the changing conditions of life and appraise their degradation or improvement.

Life history surveys make it possible to view different events on the demographic and social life of an individual from birth until the time of the survey. These events relate to various aspects of their life, namely their residential route (mobility, leaving home, residential autonomy), their career, including the education and training, their marital life (i.e. wedding and divorce), their reproductive life. This information is also supplemented by other types of information[5] that may contribute further insight into the analysis of individual itineraries (such as membership in social networks or support from third parties). These biographies are collected for populations at different ages; which are then used to establish generations in order to capture the changes taking place from one generation to another for both men and women. This goes beyond the traditionally used cross-sectional analysis, which does not account for temporal dynamics within which social processes are embedded.

The investigation tools

The household questionnaire: The household questionnaire includes four (4) sections relating to households (members and living conditions):

- Section 1: Identification
- Section 2: Composition of household
- Section 4: Living conditions in the household
- Section 5: Socio-economic conditions of the household

The biographical questionnaire consists of nine modules:

- Module 1: Demographics
- Module 2: Housing History
- Module 3: Studies, Learning and Occupations
- Module 4: Marital history
- Module 5: Children born alive
- Module 6: Health
- Module 7: History of influential people
- Module 8: Associations and Community life
- Module 9: Summary

II. The calculation method of the composite poverty indicator

A composite poverty indicator is defined as the aggregate value of several non-monetary indicators of poverty using a functional form, the calculation of which is necessary for the former. It was used in this case to aggregate the various dimensions of non-income poverty in order to have an overall picture of it as a whole and thus facilitate the monitoring of their evolution as a whole.

[5] Provided that the information is updated along time

A composite indicator of non-income poverty has then been developed longitudinally to reclassify each period of life of the individual as poor or non poor:

- 1- childhood spans from 0 to 14 years,
- 2- youth spans from 15 to 34 years,
- 3- adulthood from 35 to 54 years,
- 4- and seniority (over 55 years) from the following characteristics taken from the main file:
- Type of accommodation during the period
- Electricity in the house at the end of the period
- Main source of energy at the end of the period
- What type of toilets did you have at end of the period?
- Did the housing seem over-crowded?
- How many people was the respondent sleeping with in the same room?
- Type of bedding
- Did the household have a housemaid?
- Adequate income to live on
- Who used to help you regularly?
- Water point in the house at the end of the period
- Sale of properties during the period to cover basic needs
- Assessment of income requirements during the period
- Estimated resources available to the individual during the period

Following a classification method, we divided all periods of life into three classes (see method for assessing the poverty indicator above). Periods being sorted by date, it is possible to merge the files and characterize the different periods of the life of every individual.

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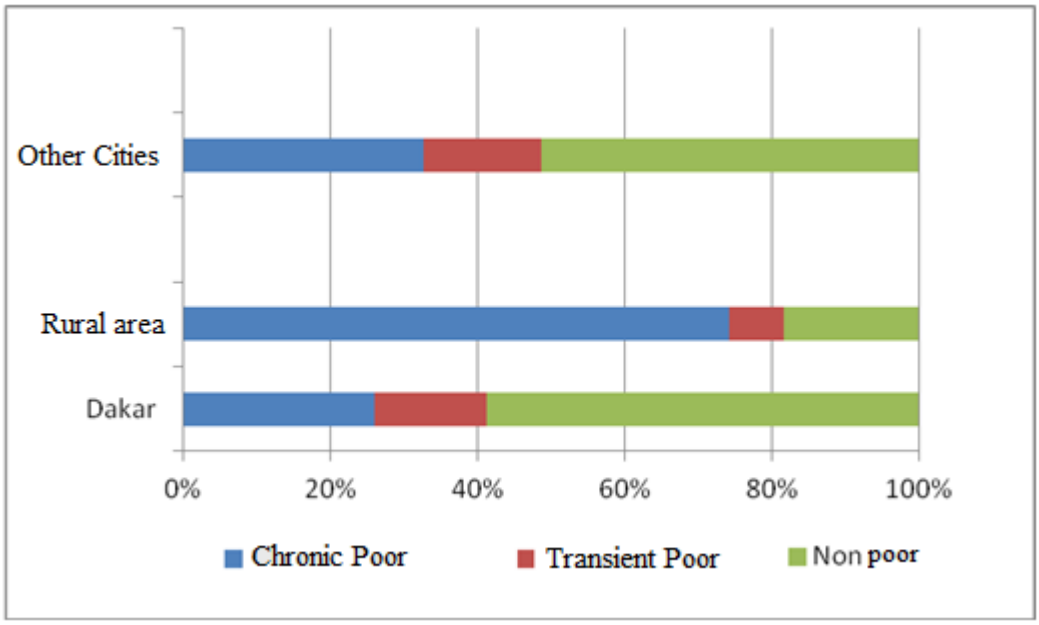
III. Possibilities for analyzing the survey data in relation to the research questions

On the poverty profile and poverty history

In 2008/2009, the pattern of household poverty in Senegal revealed that 60.39% of households were poor(chronically poor and vulnerable). In other words, 6 out of 10 households are either poor or vulnerable. On 6 households in the poor category, 4 were chronically poor and 2 are actually vulnerable to a shock (economic, health-related, ecological, etc.) that can quickly make them fall into poverty.

Graph 1 : poverty profile and poverty history



Moreover, the chances of exiting form poverty are limited especially in rural areas and especially among the uneducated. The fact of having suffered a disaster (fire, loss of harvest, flood, theft, insecurity, conflict and social unrest, loss of money, etc.) during childhood increases vulnerability to chronic poverty. When a child is raised by a non-educated person, he/she is even more exposed to this type of poverty.

On shocks and recovery periods

The data provide for the link between the occurrence of a shock and the differentiated impact on different categories of poor persons (chronically poor and transiently poor) and non-poor persons. It is possible to measure the effect of a shock as a disaster in different age groups (childhood, youth, adulthood, old age) for different categories of poor or non poor.

IV. Selective literature review

Either positive or negative, shocks can have favorable or unfavorable impacts on the welfare of households. This section first presents the definition of a shock and then an update of some stylized facts to illustrate the impact of economic shocks on the economies on the one hand, and on households on the other hand. Economic shocks on households are generally analyzed in terms of the impact of shocks on their poverty status.

IV1. The concept of economic shock

A shock is by nature an exogenous phenomenon. There is only shock in case of sudden reaction against an exogenous event. The shock induces a shift from the natural operation of the system.

Generally there are two types of shocks: shocks called symmetric and shocks known as asymmetric. In fact, this distinction is made on the issue of scale of the impact and/or spread speed.

A shock is said to be symmetric when it affects the economy as a whole and in the same way at a given time. The shock hits consistently the whole economic system.

An asymmetric shock is a shock that affects one part of the overall economy. This does not mean that the shock has no effect on the rest of the economy. An asymmetric shock does not hit the whole economy simultaneously, or to the same extent.

Shocks are the major factor of impoverishment or for remaining in poverty. The poor are less resistant than the wealthier people because they have fewer means of production available to them to recover in the event of a shock. In such a situation, they may be forced to resort to survival strategies involving debt, sale of goods or removing children and young people from school - which worsens especially their vulnerability to future shocks.

They face not only the usual risks associated with diseases, climate variability, markets, but also many others related to the degradation of natural resources and climate change, access to land, and the continued volatility of staple food prices. (Report on rural poverty 2011).

IV2. Some stylized facts

At the macroeconomic level, the management of economic shocks has been the subject of debate since the work of Mundell (1961), McKinnon (1963) and Kenen (1969), particularly in relation to the theory of optimum currency zones where shocks on the economy may depend on membership in a monetary union or not. Other authors were interested in opening economies to the outside world, and especially the shocks that an economy can suffer due to the opening of some sectors to the outside world and the risk of loss of some significant revenue for the survival of nations.

Responses to shocks under fixed and fluctuating exchange rates have been tested empirically, using different models. Emerson (1992) has used the Quest model to show that a 5% shock on the French export demand had a significant incidence on French production, and that with a fixed parity of the franc, production fell by 1.3 % the first year, only to regain its initial level after seven years, while with a floating exchange rate of the franc, the collapse of initial production was only 0.6%, but recovery is longer. Belke

and Gros (1997) conducted a similar study using the MultiMod model of the International Monetary Fund (IMF) where they found that the fall in production due to a 5% drop in exports is only higher by half a point of GDP in case of a fixed exchange rate in comparison to a floating exchange rate.

In the adjustment mechanisms in the face of macroeconomic shocks, the research of Vaubel (1976, 1978), Eichengreen (1991), Grauwe and Vanhavebeke (1993), Von Hagen and Neumann (1994) indicate that fluctuations in wage levels and real prices tend to be smaller between regions of a single monetary zone than between different monetary zones.

On the international capital markets, shocks that occur have indirect effects on the poor through complex mechanisms of transmission, Krugman (1991).

At the external level, Ames et al. (2001) identified external economic shocks that affect poverty. They argue that macroeconomic shocks, shocks originating from the terms of trade, world interest rates, the sudden interruption of capital flows, weather shocks, droughts, cyclones, earthquakes, etc. can have a very strong impact on the poor, given their inability to effectively protect themselves against fluctuations in income. They distinguish shocks with transitory incidence on poverty from shocks with permanent incidence and support the idea that the poverty status changes due to a shock and does not remain the same. In addition, Kiyotaki and Moore (1997), Izquierdo (1999) found that the response of companies to positive and negative shocks is asymmetric, that is to say that adverse shocks hit companies harder than positive shocks do, because of the constraints in terms of credit, and because of the collapse in value of collaterals.

Balassa (1982) shows that in many African countries, the first oil crisis was largely offset by higher export prices. Winter (2001) and Ravallion (2005) pointed out that the economic theory suggests an a priori ambiguous impact of openness on poverty. In the ECOWAS, the impact surveys of Economic Partnership Agreements, for example, on poverty have been conducted. Thus, authors like Hammouda, Lang and Sadni-Jallab (2005) highlighted the risk that a significant and uncompensated decrease in customs revenues may reduce the flexibility of the state to fund programs against poverty.

In Senegal, Dramani et al (2007) have shown by simulations of the effects of monetary policy shocks on the Senegalese economy that a restrictive monetary policy (e.g. an increase in the rate of interest of the Central Bank-BCEAO) is characterized by a contraction of economic activity in general. This decline results from a fairly significant decline in activity in the tertiary sector (0.10%) and the secondary sector (0.27%).

It is important to remember the shock at the macro level because they have direct or indirect effects on households, and the latter, depending on their poverty status may be in a transitional situation of poverty and in a recurring situation. It all depends on the state of the shock to the economy that will impact on households through their consumption habits.

At the microeconomic level, faced with the occurrence of sudden shocks to income level and in the absence of inter-temporal markets to transfer income from one period to another, households are forced to adapt their behaviors. Indeed, they may in particular be required to temporarily divert an optimal path to smooth the impact of a shock, running the risk of not being able to catch up later with the original path. Thus, a shock, even temporarily, can have a very high long-term cost.

Economic shocks at the micro level are analyzed at the household level through their well-being or consumption behavior. Shocks faced by households may influence their expectations of future income and

the fact of suffering a direct or indirect impact on income, whether positive or negative, indicates that the household's income is particularly volatile.

Following the price shocks that occurred in 2008, the study by the World Food Programme (WFP) on food security in urban areas in Senegal in the cities of Pikine, Kaolack and Ziguinchor shows that the high price of food is the main shock that 90% of households have suffered and that households are looking for alternative livelihoods in the informal sector, particularly in the small business sector where women predominate. The study also shows that at least 10% of households have reduced the number of daily meals, while others have replaced their food products which have become inaccessible to them by others, which are less preferred. Declines were noted in revenue both among poor households and those who are better off. Moreover, for more than 20% of households with savings, a reduction or exhaustion was noted in their savings. In Ziguinchor the prevalence of food insecurity was higher than in the other two cities. Nearly 14% of households in that city had “poor” food consumption and 13% had the minimum accepted diet. In Pikine, 15.6% of households had “poor” and “minimum” food consumption while in Kaolack, 8.6% of households had “poor” food and “minimum” food consumption.

Some authors have analyzed the impact of economic shocks on households throughout the labor market and the risks to children's schooling. Appelbaum and Katz (1991) showed that under the assumption that shocks are independent of income within a family, the uncertainty on parental income increases the demand for children as insurance-related means, and that involves lesser schooling for each of them. Adama (2006) shows that in sub-Saharan Africa, rural exodus leads to a more pronounced insecurity likely to continue, even in case of favorable economic shocks, given the low level of human capital of rural migrants in a logic of survival.

Zerbo (2002) shows by simulation of changes occurring on the local labor market in urban sub-Saharan Africa in times of adverse economic shocks and population growth, that these adverse shocks lead to a marginalization which causes a deterioration in the capacity of households, and hence the quality of the job on the long run. Thus, a high number of households fall into the poverty trap or in a vicious circle of poverty.

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V. Methodology

V.1. Methodology clarification

It is important to make some methodology clarification about the indicators of poverty (incidence: P0; severity: P1; and in-depth: P2). As part of the EVPC investigation (Survey on vulnerabilities and chronic poverty in Senegal), it should be noted that the problem was to build a multidimensional indicator of poverty. In this sense, it is methodologically impossible to build conventional measures P0, P1 and P2. Remember that these static indicators for measuring poverty cannot be calculated, since they are fundamentally based either on monetary aspects or on basic needs (e.g. calorific value of the individual or household).F

However, in comments that were made, the following adjustments will be made to the analysis:

- Introduction of two variables. The one on the perception of poverty during youth, and the other on the perception of poverty at the time of the survey vis-à-vis peers.
- Using the distribution of the multidimensional poverty variable built according to classes:
- 1- never-poor,
- 2-Less than 25% of time[6] in poverty
- 3-Between 25% to 49% of time spent in poverty
- 4-Between 50% to 74% of time spent in poverty,
- 5-Between 75% and 99% of time spent in poverty
- 6-100% of the time spent in poverty

The distribution of the indicator shown above will cross the variable on the occurrence of disasters, as well as the variable on “time” to be divided in a five-year or ten-year basis.

V.2. Methodological approach

The plan of analysis focuses on the heads of households and is to cross-tabulate the dynamic multidimensional poverty indicator with the variables of shocks available:

- Fire
- Loss of harvest
- Cattle rustling
- Theft of money

[6] Lifespan until the time of the survey

- Floods
- Insecurity/social unrest
- Other disasters.

Then, a composite indicator of disaster occurrence is calculated. This indicator captures the frequency of shocks. The analysis with this variable is to test the connection between the control groups that did not undergo any shock with groups that have suffered either one shock or two shocks, or more than two shocks.

Finally, the analysis will examine the timeframe of exit from shocks, by making a comparative analysis between the paths of household heads who have suffered shocks and those of household heads who have not undergone shocks.

VI. Analysis of time spent in poverty, per generation and per number of shocks suffered

This analysis has two parts. First, an intra-generational analysis to see the impact of different levels of shocks to households and the time spent in poverty. On the other hand an inter-generational analysis to compare the response of different generations to shocks and the time spent in poverty.

VI.1 Intra-generational Analysis

The different categories of poor people that we consider in this analysis are: the chronic poor (always poor), the transient poor (less than 25% to 99% of time spent in poverty) and the non-poor (never poor).

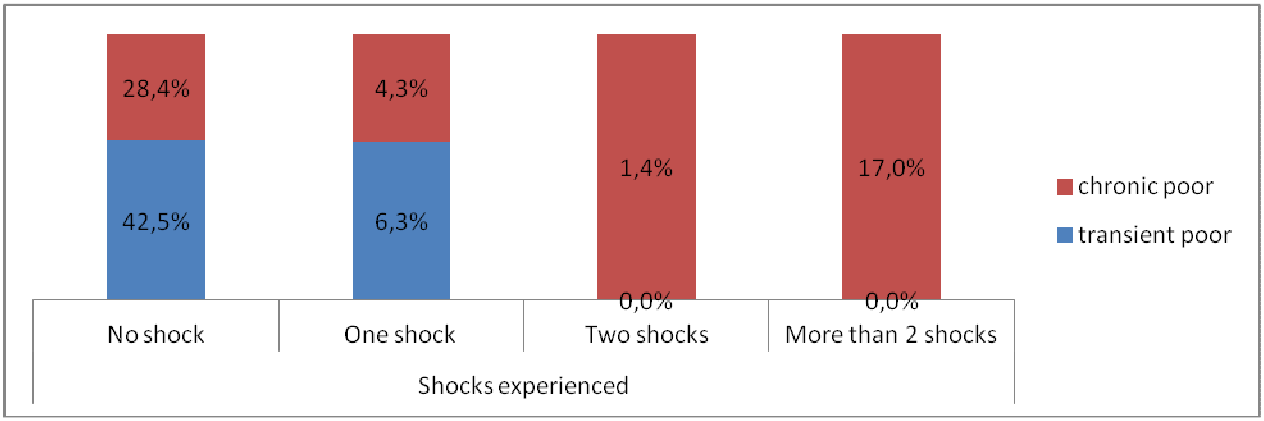
- **The 1918 – 1928 generation**

The occurrence or absence of a shock to household heads is analyzed through the number of shocks over the period and the proportions of household heads who have suffered such shocks. Thus, the majority (70.9%) of household heads have undergone no impact in this generation. Nearly 10.6% of household heads have undergone a single shock, while 17.0% have suffered more than two shocks. About 1.4% of household heads have suffered two shocks during their lives.

In this generation, 51.1% of people are in a situation of chronic poverty, in comparison with 48.9% who are in transient poverty. Then in this generation we don't observe non poverty.

Responses to shocks show that 42.5% of household heads of this generation who are living in transitional poverty have undergone no shock, while 6.3% suffered a single shock. The proportion of household heads living in chronic poverty and those who suffered no shock is 28.4% in comparison with 17.0% who underwent more than two shocks, and 5.7% who underwent one to two shocks.

Graph 2 : Distribution of household heads of the 1918-1928 generation per poverty status and number of shocks suffered



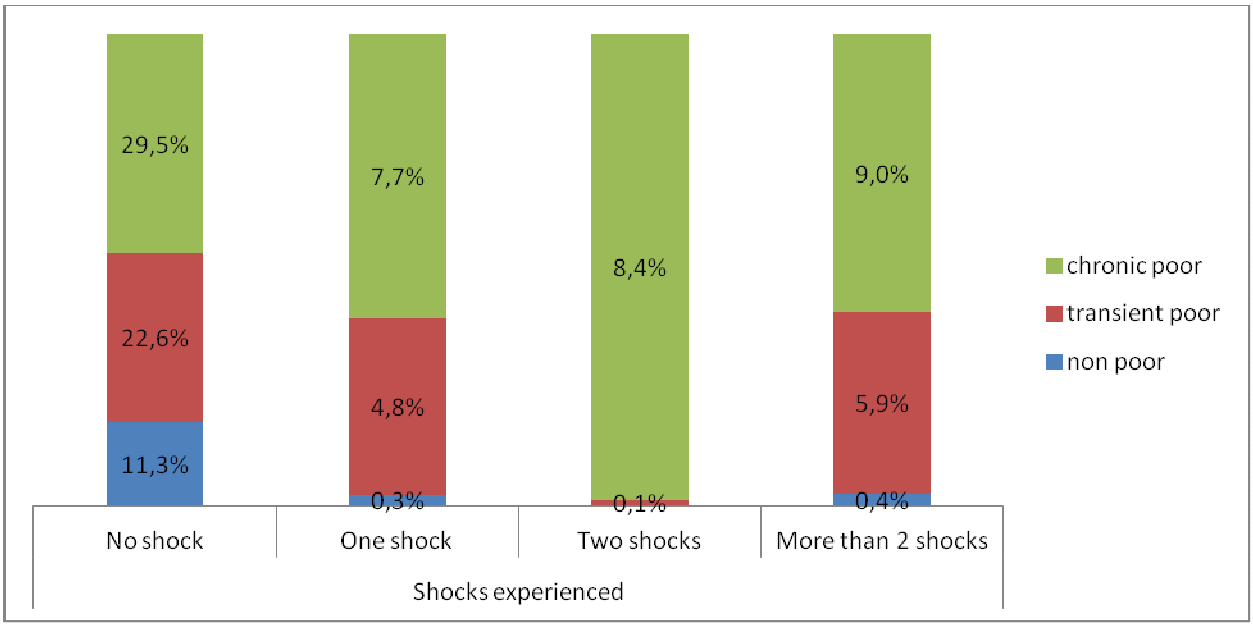
- **1929 – 1938 generation**

Here too, the majority (63.3%) of household heads have undergone no shock. Approximately 12.8% of household heads have undergone a single shock in the period, while 15.3% had more than two shocks. The proportion of household heads who have suffered two shocks during their lives was 8.6%.

In addition, 54.7% of people are in chronic poverty against 33.4% who are in transient poverty. The non-poor on the other hand, represent 11.9%.

Approximately 22.6% of household heads of this generation and who are living in transient poverty have not suffered any shock, while 4.8% suffered a single shock, 5.9% suffered more than two shocks and only 0.1% experienced two shocks. The proportion of household heads living in chronic poverty and who suffered no shock is 29.5% in comparison with 9.0% who underwent more than two shocks and 16.1% who experienced one to two shocks. As for the situation of the non-poor, we see that 11.3% experienced no shock while 0.4% suffered more than two shocks. Only 0.3% of them underwent a single shock.

Graph 3 : Distribution of household heads of the 1929-1938 generation per poverty status and number of shocks experienced



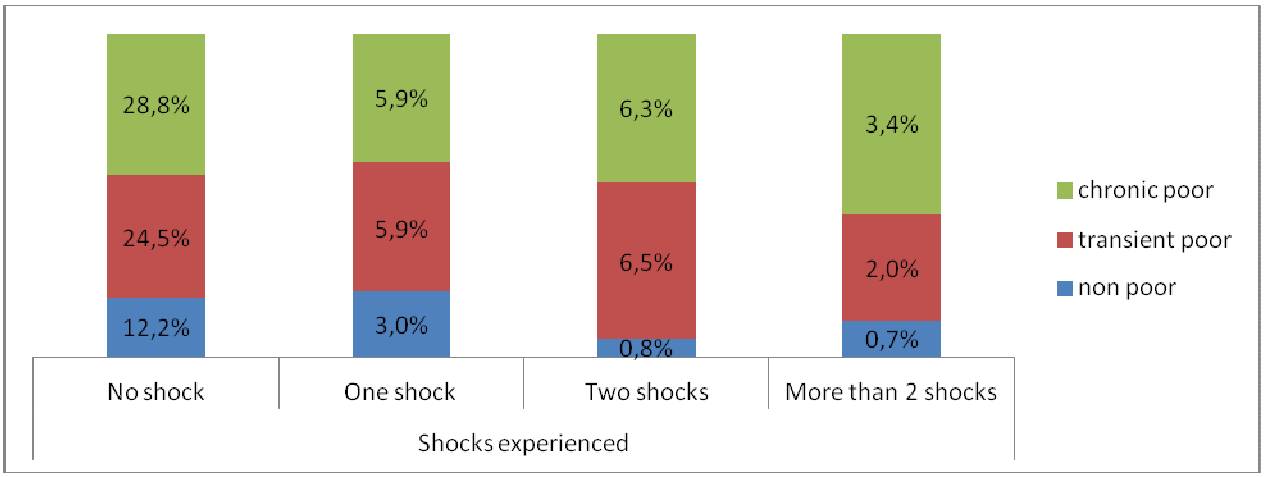
- **The 1939 – 1948 generation**

Within this generation, the majority (65.5%) of household heads have not suffered any shock over the period. Approximately 14.7% of household heads have undergone a single shock, while 6.2% had more than two shocks. However, 13.6% of household heads in turn suffered two shocks during their lives.

It is found that 44.3% of people are in chronic poverty against 38.9% who are in transient poverty. The non-poor 16.8%.

A proportion of 24.5% of household heads of this generation who are living in poverty have not suffered any transitional shock while 5.9% had a single shock, 6.5% had two shocks and 2.0% have suffered more than two shocks. The proportion of household heads living in chronic poverty and who suffered no shock is 28.8% in comparison with 3.4% who underwent more than two shocks and 12.2% who underwent one to two shocks. As for the situation of the non-poor, we see that 12.2% experienced no shock while 0.7% had more than two shocks and 3.0% had a single shock. Those who have suffered two shocks in this category represent 0.8%.

Graph 4 : Distribution of the household heads of the 1939-1948 generation per poverty status and shocks suffered



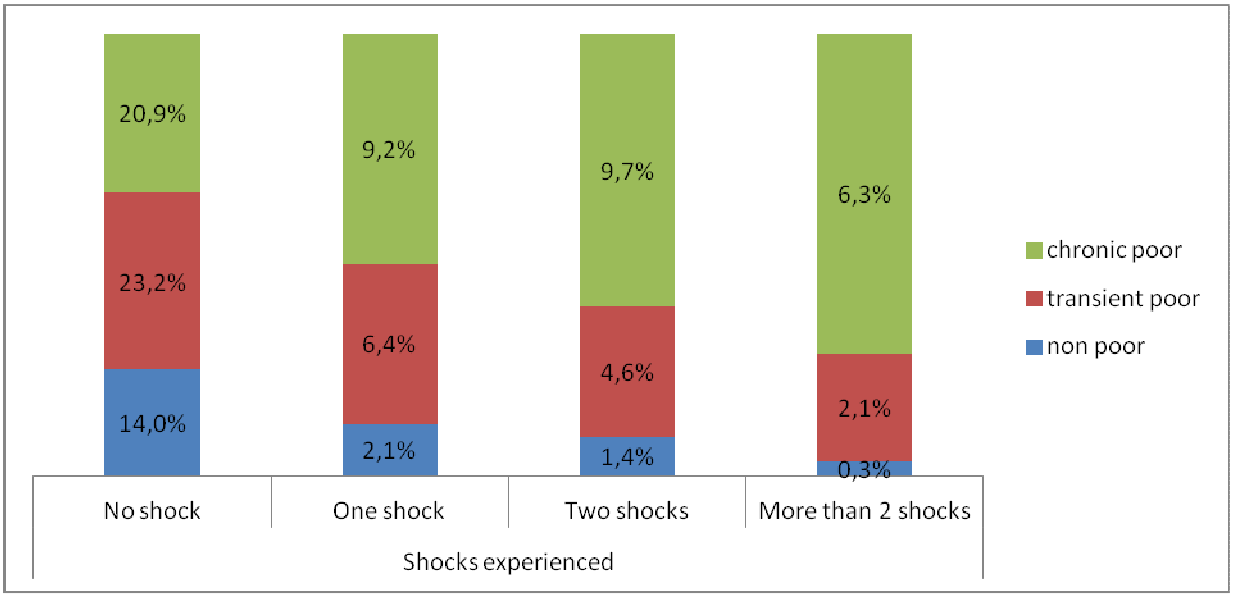
- **The 1949 – 1958 generation**

The majority (58.0%) of household heads of this generation have suffered no shock as other generations during the period. Approximately 17.7% of household heads have undergone a single shock, while 8.7% had more than two shocks. In addition, 15.6% of household heads have faced two shocks during their lives.

Note that in this generation, 46.0% of people are in chronic poverty while 36.1% who are in transient poverty. The non-poor represent 17.8%.

A proportion of 23.2% of household heads of this generation who are living in transitional poverty have not suffered any shock while 6.4% had a single shock, 4.6% had two shocks and only 2.1% experienced more than two shocks. The proportion of household heads living in chronic poverty and who suffered no shock is 20.9% against 6.3% who underwent more than two shocks and 18.9% who underwent one to two shocks. As for the situation of non-poor, we see that 14.0% experienced no shock while 0.3% had more than two shocks and 2.1% had a single shock. Those who have suffered two shocks in this category represent 1.4%.

Graph 5 : Distribution of household heads of the 1948-1958 generation per poverty status and number of shocks experienced



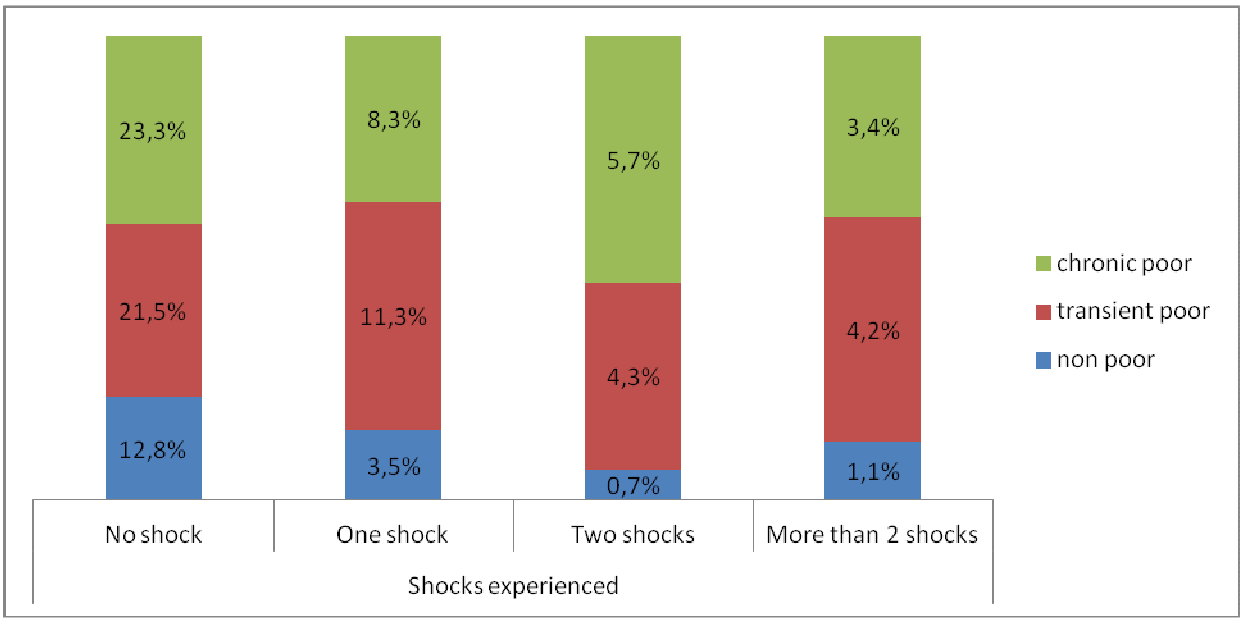
- **1959 – 1968 generation**

Just over half of household heads of this generation (57.6%) have never experienced a shock over the study period. Nearly a quarter (23.1%) of household heads has undergone a single shock, while 10.7% had two shocks. Those who have suffered more than two shocks during their lives are in the minority, representing 8.6% of household heads of this generation.

The poverty status of household heads of this generation shows that 40.7% are in chronic poverty and 41.2% are in transient poverty. Household heads who were never poor represent only 18.0%.

Approximately 21.5% of household heads of this generation are living in transient poverty and suffered no shock, while 11.3% had a single shock. The proportion of household heads living in chronic poverty and who suffered no shock is 23.3% compared to only 3.4% who underwent more than two shocks and 14.0% who underwent one to two shocks.

Graph 6 : Distribution of household heads of the 1959-1968 generation per poverty status and number of shocks suffered



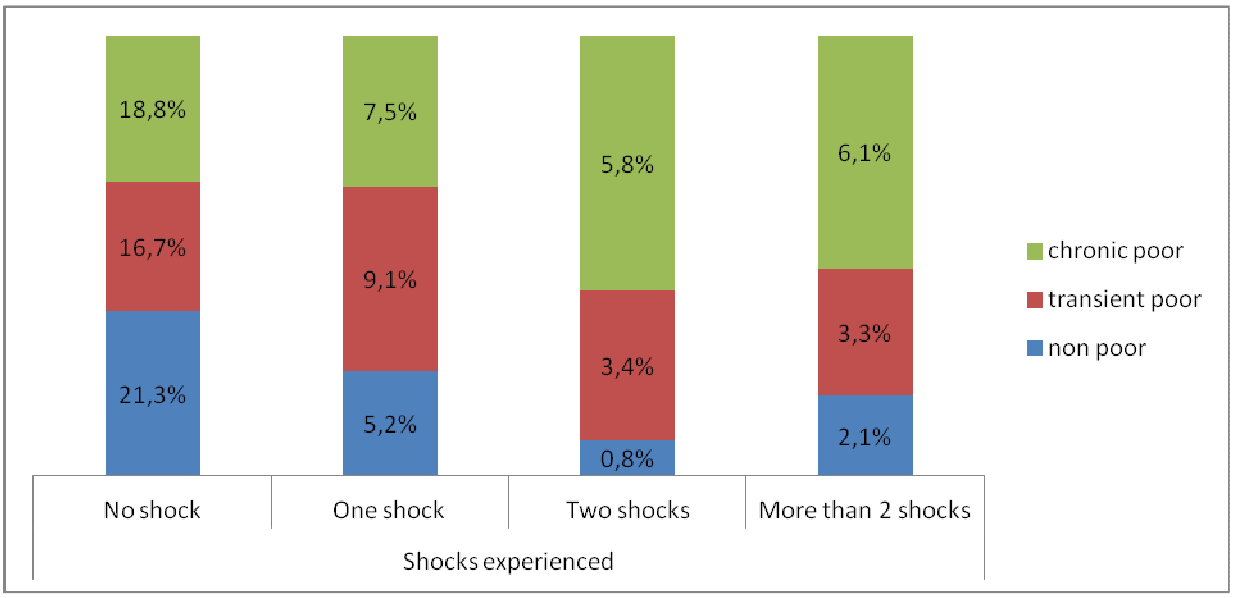
- **1969 – 1978 generation**

Of all household heads of this generation, 56.8% have never faced a shock over the period. The proportion of household heads that have had a single shock is around 21.8%. Those who have suffered two shocks account for 10.1% and the others who had more than two shocks during their lives represent 11.4%.

Within this generation, less than half of household heads are in chronic poverty (38.1%) and 32.4% are in transient poverty situation. The non-poor are still in the minority like for the other generations, and represent only 29.4%.

A proportion of 16.7% of household heads of this generation in transient poverty have never had a shock, while 9.1% had a single shock over the period. In this category of transient poor, there are about as many heads of households who have suffered two shocks (3.4%) as heads of household who have suffered more than two shocks (3.3%). The proportion of household heads living in chronic poverty and who suffered no shock represent 18.8%, compared to 6.1% who have suffered more than two shocks and 13% who suffered one to two shocks. As for the situation of the non-poor, we see that 21.3% experienced no shock, while 2.1% faced more than two shocks, and 5.2% had a single shock. Those who have suffered two shocks in this category represent only 0.8%.

Graph 7 : Distribution of household heads of the 1969-1978 generation per poverty status and number of shocks suffered



- **The 1979 – 1988 generation**

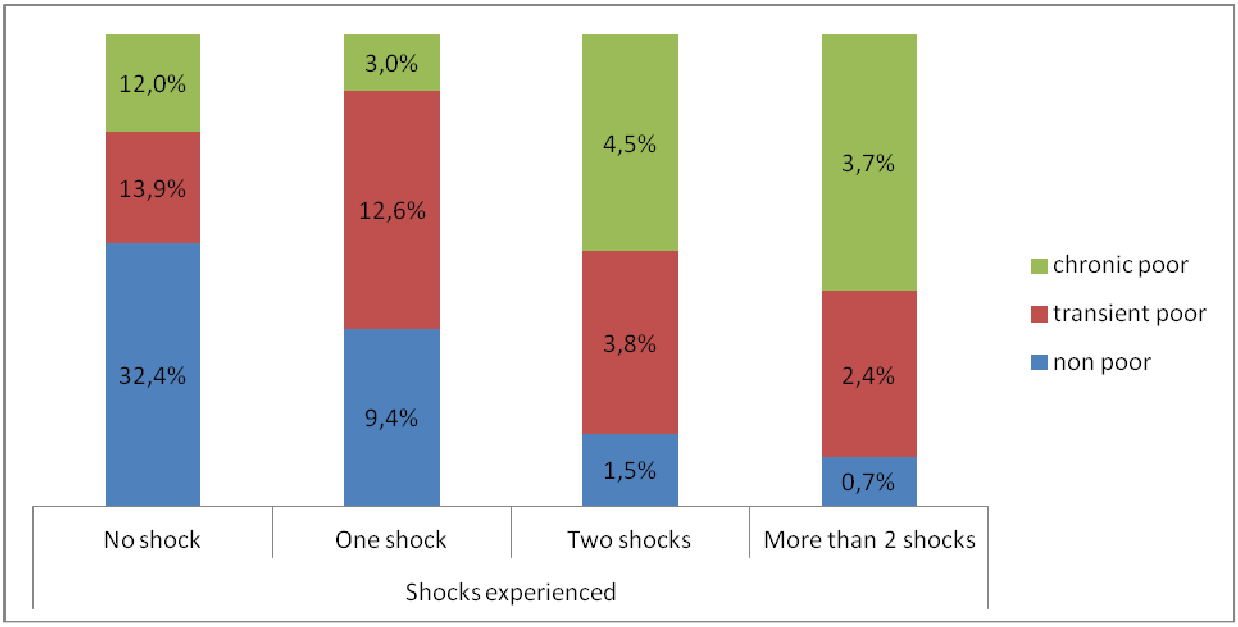
Approximately 58.3% of household heads born between 1979 and 1988 have never suffered a shock. A quarter of household heads of this generation experienced a shock once, while only 6.8% of them suffered more than two shocks. Those who have suffered two shocks during their lives are 9.8%.

In this generation, 23.3% of people are in chronic poverty situation compared to 32.8% who are in transient poverty. The non-poor are in the majority in this generation unlike other generations and represent 44.0% of household heads. The generation of household heads born between 1979 and 1988 has fewer poor compared to other generations.

A proportion of 13.9% of household heads of this generation in situation of transient poverty has never suffered a shock over the period, while 12.6% experienced a single shock, 3.8% had two shocks and only 2.4% underwent more than two shocks. This generation does not have household heads who spent less than 25% of their time in poverty.

The proportion of household heads living in chronic poverty and suffered no shock over the period represent 12.0% against 3.7% who underwent more than two shocks and 7.5% who underwent one to two shocks. As for the situation of the non-poor, we see that 32.4% have never had a shock, while 9.4% had a single shock. Those who have had two or more shocks in this category represent only 2.2%.

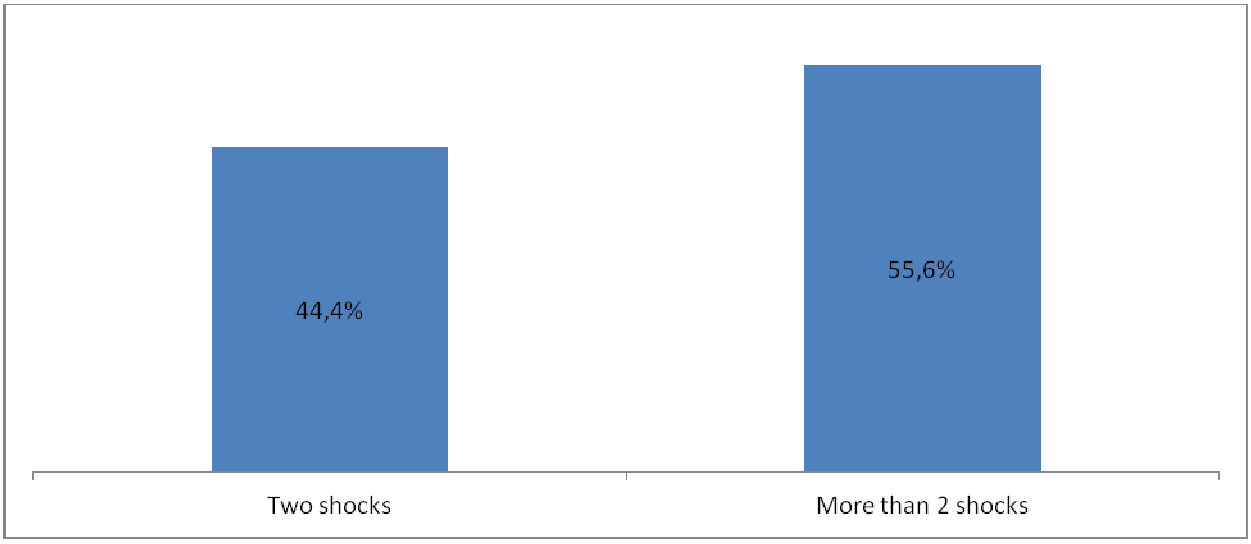
Graph 8 : Distribution of household heads of the 1979-1988 generation per poverty status and per shocks experienced



- **The 1989 – 1998 generation**

All household heads in this generation are in chronic poverty situation. Of these, 44.4% experienced two shocks over the period, while the majority (55.6%) underwent more than two shocks.

Graph 9 : Distribution of household heads of the 1989-1998 generation per poverty status and per shock suffered



VI.2 Inter-generational Analysis

Encadré sur l'analyse intergénérationnelle à incorporer

When moving from the older generation (1918-1928) to the younger generation (1989-1998), the first observation that can be made is that the proportion of those who have suffered no shock decreases. This means that younger generations were much more exposed to shocks. The occurrence of shocks is much more marked starting from the 70s in a context oil shocks and structural adjustments. Again in January 1994, the CFA franc was devaluated.

The proportion of those who have suffered a single shock goes from 10.6% of the 1918-1928 generation to 25.0% for the 1979-1988 generation. In addition, the proportion of the poor in relation to the time spent in poverty increases.

The proportion of those who suffered two shocks increases from 1.4% for the 1918-1928 generation to 44.4% for the younger generation (1989-1998). But between the 1949-1958 and 1979-1988 generations, the proportion of those who suffered two shocks is lower than the 1939-1948 generation.

The observation is done for the proportion of those who have suffered more than two shocks. Indeed, the proportion of those who have suffered more than two shocks has increased from 17.0% for the older generation to 55.6% for the younger generation.

For the 1918-1928 and 1929-1938 generations, the proportion of those who still poor is higher than 50% and this proportion is 100% for the younger generation. As for the other generations, the proportion is between 23.3% and 44.4%.

In moving from the old to the new generation, the proportion of heads of households in chronic poverty decreases while that of the non-poor household heads increases.

This analysis allows us to conclude that the new generation is much more exposed to shocks. The more shocks to household heads, the higher the chances to be in chronic poverty. One could say that the older generations have taken time to adapt their behavior and have developed strategies to cushion the shock to escape poverty. L'évidence vient du temps vécu par les differents chefs de ménage dans les chocs. En d'autres termes, les jeunes chefs de ménages ont connu beaucoup plus de périodes de crises (programme d'ajustement structurel, dévaluation, crise financière) et n'ont pas eu de répit pour développer de stratégies de sortie de crise ou accumuler des capitaux. La génération de 1978 par exemple est née juste après la grande crise pétrolière de 1975 et à connu déjà en 1980 plus de 15 ans de programme d'ajustement structurel, pour finir en 1994 par une dévaluation. Les autres générations ont connu plus de temps de repit dans le cycle des chocs.

Experiencing shock can expose to poverty in terms of severity but not in terms of chronicity. After the shock, the younger generation takes less time than the older to recover.

Our previous analysis shows that the age range – 15 to 35 years –is decisive mostly for the resilience in the poverty history. It is during the youth that the opportunities and the chance to get out of poverty are highest. These results are confirmed by the qualitative part, where the stories have shown that household heads

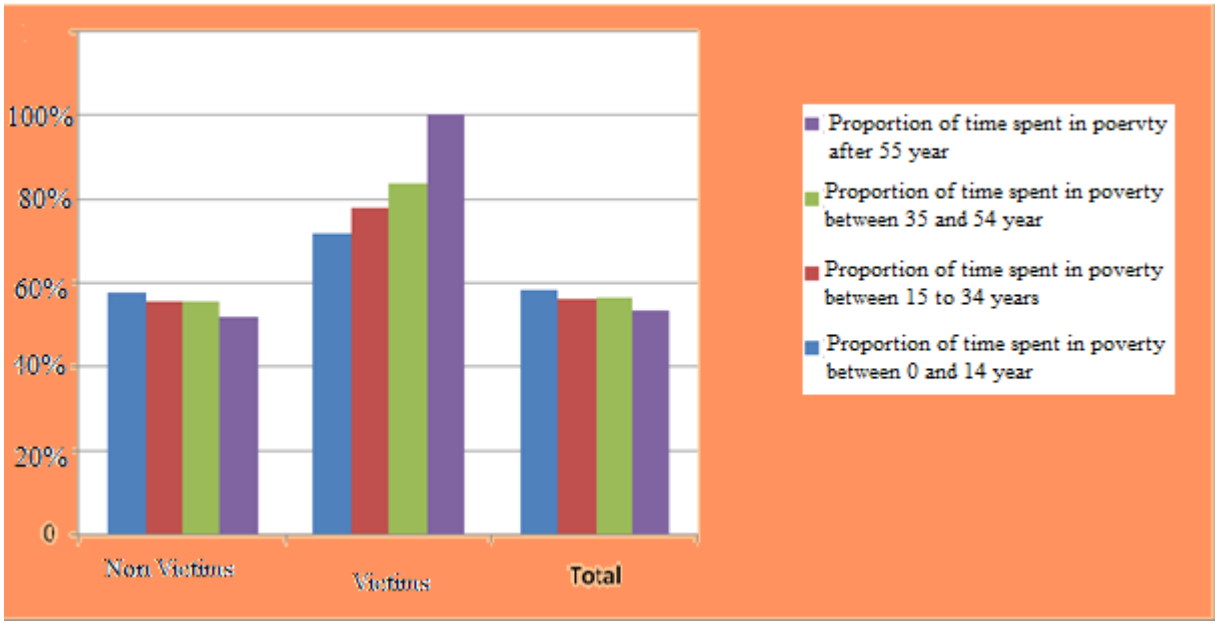
who exited poverty at youth have succeeded through specific initiatives to get integrated into the economic and social life. They give evidence that they are not inhibited like their ancestors by feelings of inferiority, helplessness or fatalism. The fact of experiencing a shock could obviously undermine the achievements of heads of households. But here, this may cause them to adopt individual strategies boosted by the embracing of new social and economic roles; there seems to a potential for them to transform the impact of shocks into new social and economic capacities.

VI- 3 Average time spent in poverty depending on the shock experienced

The issue of shocks and poverty reduction is analyzed through the path of household poverty. This involves analyzing the proportion of average time spent in poverty according to the shocks. These shocks can include a fire, crop loss, flood, theft or loss of livestock, insecurity or social unrest, loss of money and other disasters. Distributional effects of these shocks are responsible for changing the life paths of the victims and lead or keep them in poverty for different proportions of time.

VI- 3-1 Path of poverty after a fire

Graph 10: Path of poverty after a fire (%)

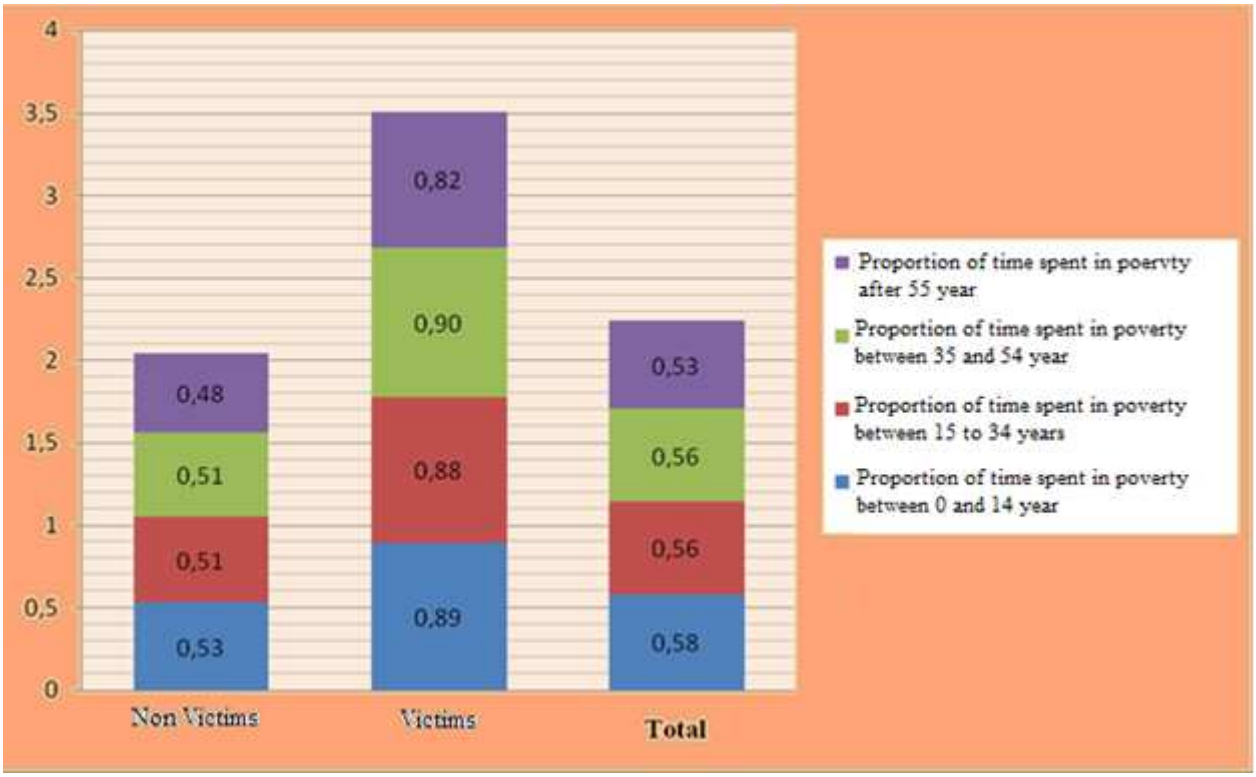


The chart above shows that the average proportion of time in poverty is higher amongst all the victims[7] in all age groups than amongst the non victims. Indeed, the average proportion of time spent in poverty is above 65% for the victims regardless of age, while the non victims do not spend more than 55%. It shows that the elderly victims spend the rest of their time in poverty (100%). However, for this same age group, the non victims have spent a relatively small proportion of time in poverty (51%).

VI- 3-2 Path of poverty after loss of crops

[7]Victim: person who experienced at least one of the above-mentioned shocks; non victim: person who experienced none of the aforementioned shocks.

Graph 11: Path of poverty after loss of crops (%)



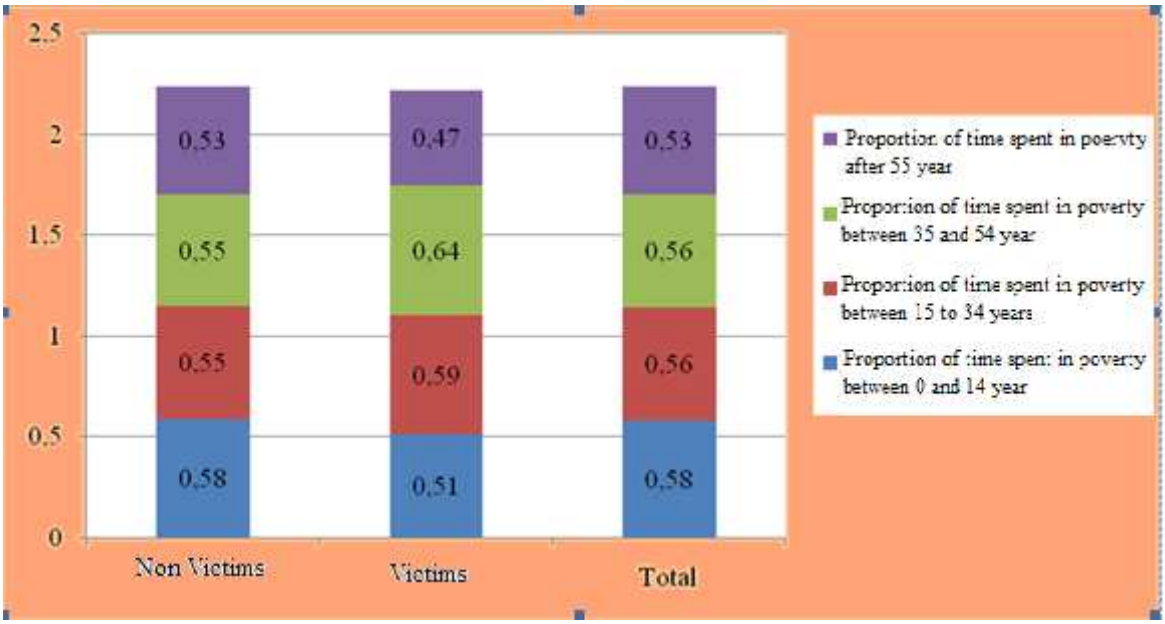
We note that for all age groups, the victims spent more time in poverty after a crop failure. Note that the proportion of time spent in poverty between 0 and 14 years, 15 and 34 years, and from 35 to 55 years by the victims is approximately equal (89%, 88% and 90%). It is the same for the time spent in poverty by the non victims between 15 and 34 years and between 35 and 55 years, representing 51%. The proportion of time spent in poverty after 55 years is relatively lower for those affected and the non-affected. It is 48% for non-victims and 82% for the victims. There is a big difference between the proportion of time spent in poverty by the shock victims and of the non victims. We can say that the loss of harvest has a significantly negative effect on those affected versus the non-affected, which keeps them much longer in poverty.

VI- 3-3 Path of poverty after floods

After a flood, the proportion of time spent in poverty has different paths depending on age. Indeed the proportion of time that victims of 15 to 34 years and 35 to 54 years spent in poverty is relatively higher than that of non-victims of the same age, respectively 60% and 64% for the victims against 55% and 55% for non-victims. Unlike the victims, the non victims have spent much more time in poverty between 0 and 14

years as well as after 55 years. Among them, the non-victims spend 58% and 54% of their time in poverty while the non victims spend 51% and 47% respectively between 0 and 14 years and more than 55 years.

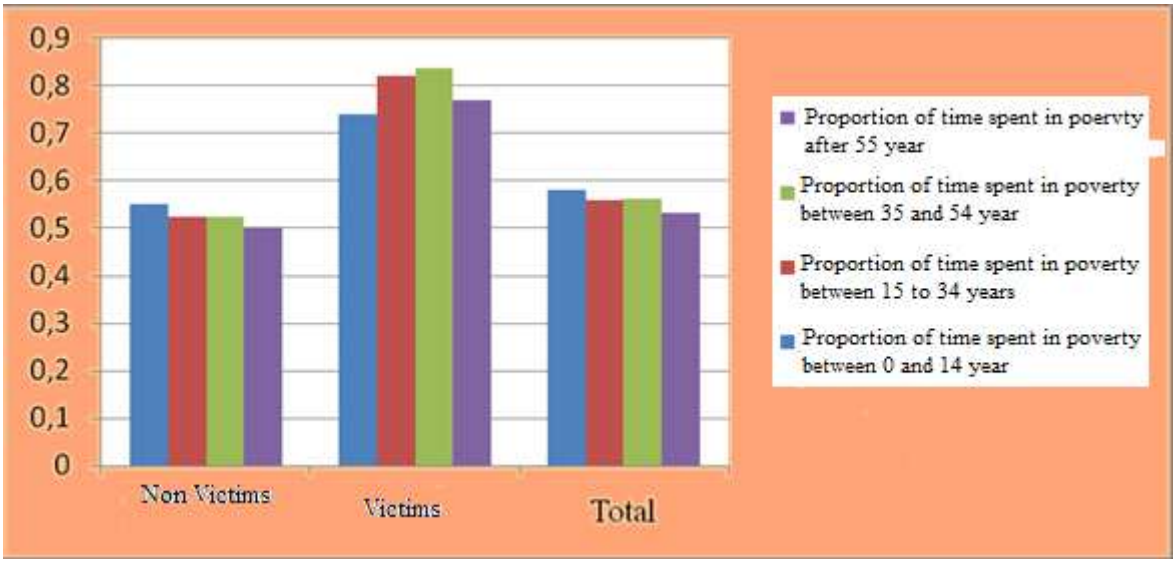
Graph 12: Path of poverty after floods (%)



VI- 3-4 Path of poverty after theft of loss of livestock

Shock after a loss of livestock affects more the victims than non-victims. The proportion of time that the first stays in poverty is higher than 74% whatever the duration. Whereas the non-affected spend a relatively low proportion of time for all time durations. But the victims who have spent more time in poverty are between 35 and 54 years (84%) while the lowest proportion of time spent in poverty in this category involves the age range of 0 to 14 years, representing 74%.

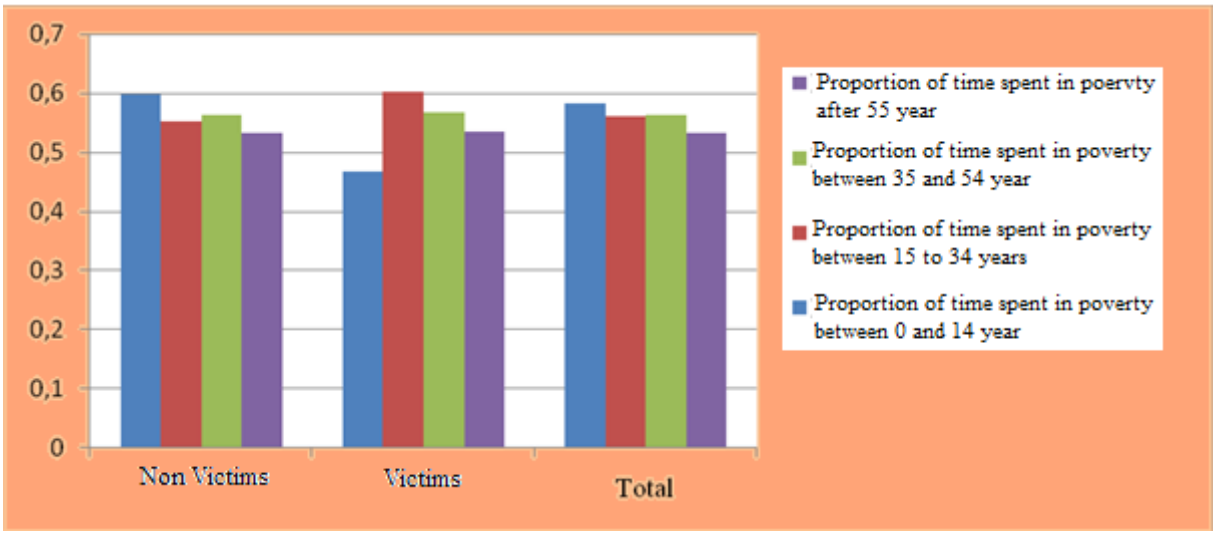
Graph 13: Path of poverty after theft or loss of livestock (%)



VI- 3-5 Path of poverty after theft

Regarding the impact of other thefts, the path differs depending on the time spent in poverty per age groups. While the proportion of time spent by the victims in poverty between 15 and 34 years is higher than that of the non-victims, the trend is the opposite for the proportion of time spent in poverty between 0 and 14. One gets the impression that the shock had no negative effects on the welfare of the former; however we cannot comment on the effect of this shock on the victims in the light of the information we have. As for the time spent in poverty between 35 and 54, and after 55 years, the proportion is roughly the same for those affected and the non-affected.

Graph 14: Path of poverty after theft (%)



VI- 3-6 Path in poverty after insecurity or social unrest

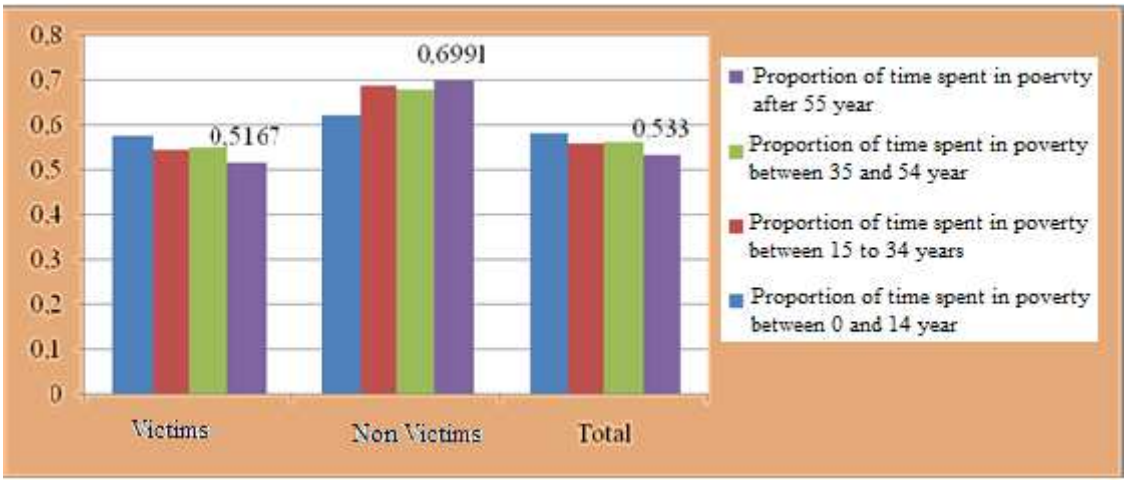
Graph 15 gives an unexpected result. The intuition would be that the proportion of time in poverty for the victims should be higher than for the non-victims. Contrary to this intuition, we found out that the non victims had a proportion of time spent in poverty higher than that of the victims. Only the proportion of time in poverty between 15 and 34 years for the victims (58%) is higher than that of non-victims of the same age (55%).

Graph 15: Path of poverty after food insecurity or social unrest (%)

VI- 3-7 Path of poverty after loss of money

The loss of money keeps more the victims in poverty than the non-victims. The analysis of Graph 16 enables us to see that whatever the age group, the proportion of time spent in poverty by the victims is higher than that of non victims. The highest proportion among the victims is reached after 55, representing 70%. The non victims in same age range, achieved the lowest proportion of time spent in poverty, 51%. Note, for those affected and the non-affected, that the proportion of time spent in poverty is above 50%. This means that in case of loss of money, the victims and non victims spend more than half their time (0 to 14 years, 15 and 34 years, 35 and 54 years and after 55 years) in poverty.

Graph 16: Path of poverty after loss of money (%)



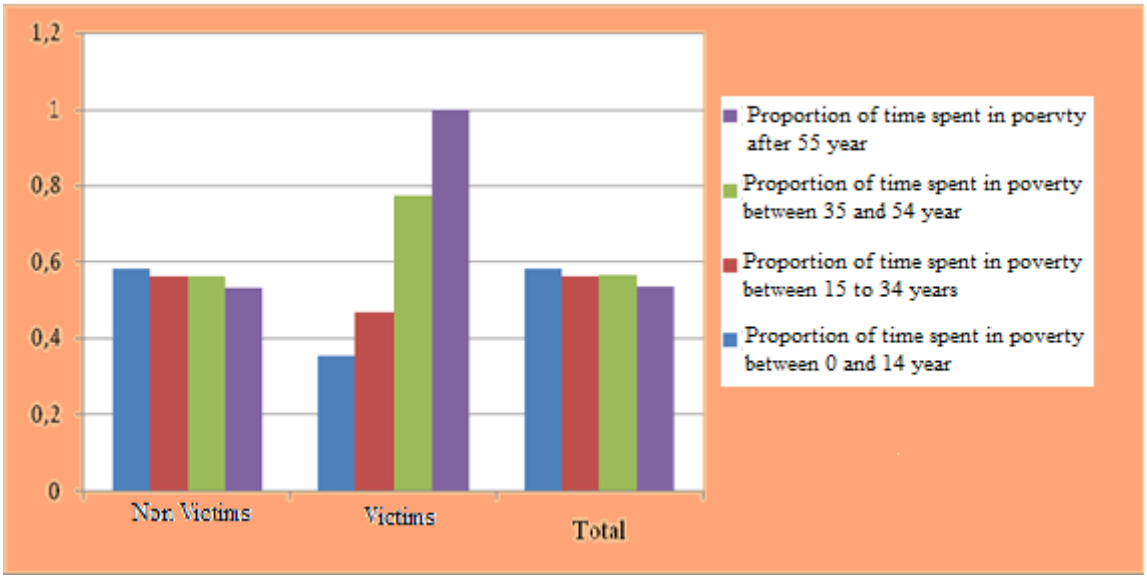
VI- 3-8 Path of poverty after another disaster

A disaster other than those mentioned above shows particular effects. Indeed there is a clear difference between the proportion[8] of time spent in poverty according to different age groups. First, we note that the

[8] This percentage is calculated according to the life span of the individual until the time of the survey.

victims spend all their time in poverty after 55 years (100%). On the other hand, while the proportion is 77% for time spent in poverty between 35 and 54 years, it is 35% between 0 and 14. In other words, the proportion of time spent in poverty between 35 and 54 is twice as that between 0 and 14. Among the non-victims, the trend is different. The proportion of time spent in poverty between 15 and 34 is substantially equal to that spent in poverty between 34 and 54.

Graph 17: Path of poverty after another disaster (%)



VII. Impacts of shocks according to the level of education of the head of household

This analysis relates to the path of household heads in response to different types of shocks, depending on their levels of education and according to their poverty status.

VII.1. Overall Impact

Overall, we see that the household heads spent 67% of their time in poverty. The number of months spent in non poverty situation is 7.7 months on average. Males spent much of their time in poverty (74% in comparison with 60% for females). Women do not get out of poverty the same way as men. For them, it is rather a combination of demographic events (weddings, travel) and care (childcare) unlike men for whom the employment factor is more decisive.

This result is understandable given the socio-economic status of women generally lower than men and at the same time their relative dependence vis-à-vis the latter in terms of mobilization of material resources. It is therefore not surprising to note that their chances of exiting poverty are achieved through events such as marriage, fostering and care-giving. Women seem to be more sensitive to changes in the situation around them. The exit paths of women are related to the implication of other categories of actors, and are more than uncertain and can be broken by divorce or the loss of a spouse.

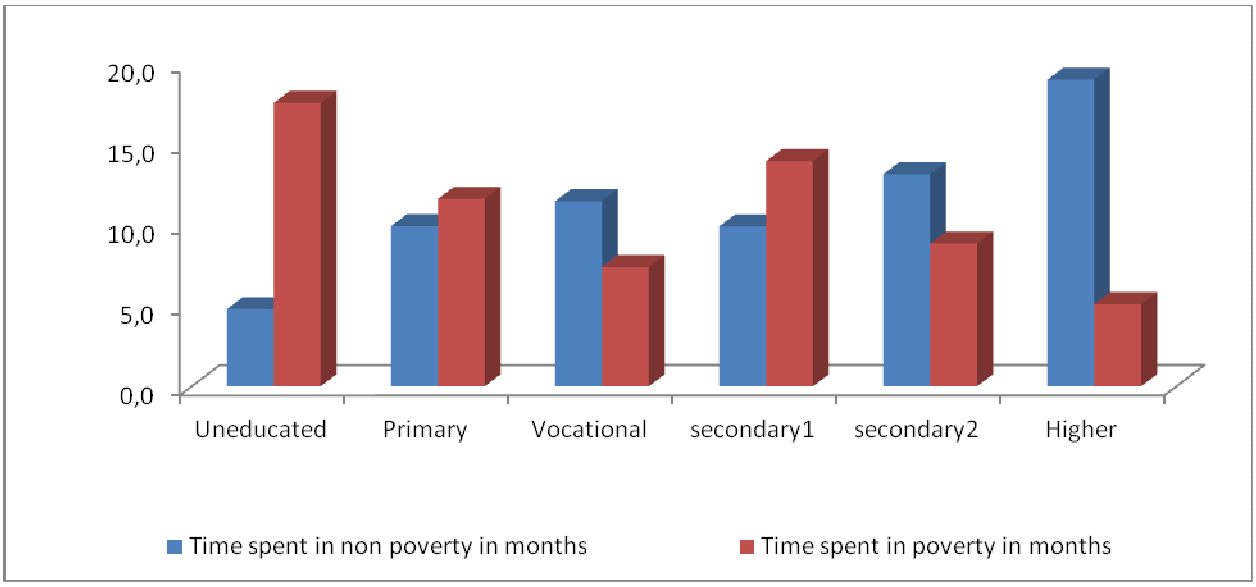
Whatever the level of education, men spent more time in poverty than women. Indeed, the proportion of time spent by men in poverty is 84% (vs. 71% for women) for the uneducated, 62% (vs. 36% for women) for the primary school level, 68% (vs. 38% for women) to the professional level[9], 57% (vs. 31% for women) for those with the first year of secondary education, 45% (vs. 29% for women), for the second year of secondary education, and 37% (vs. 9% for women) for higher education level.

The uneducated spent the majority of their time in poverty. Indeed, they spent an average of 5.4 months in non poverty situation in comparison with 17 months in poverty situation. This implies a proportion of 78% of time spent in poverty.

Those who have attended primary education exit 1.38 times faster from poverty than the uneducated, and those with high school education, almost 3 times faster. As early as 23 years, half of those who went to school have exited out of poverty and at 45; nearly 85% are out of poverty. The exit pace is much slower for the uneducated: only about 30% are out of poverty after 30 years. The effect of educational level of the parent or guardian is also highlighted: if they attended school, chances to get out faster from poverty are 1.5 times higher.

When moving from primary to secondary level, we note that the proportion of time spent in poverty by household heads is less than 50%. Indeed, this decreases from 49% for those with primary education to 32% for those with the higher education level. While household heads from primary to secondary level education increased from 11 months to 14 months in non poverty situation, those with higher education spend more than 18 months in this situation.

Graph 18 : Breakdown of the path of household heads based on their education level and number of months spent in poverty (months)



[9] Cette situation est due au chômage et d'insertion des professionnels qui ne trouvent pas de débouchés après leurs études.

VII.2. Impact of a single shock

Household heads that experienced a single shock spent an average of 62% of their time in poverty and men spent more time (69% vs. 55% for women) in poverty.

Depending on the level of education, the uneducated are those who have spent most of their time (75%) in poverty and the number of months spent in poverty is 15.2 months. Here too, it is men who have spent more time (83%) in poverty. This proportion is 68% for women. The men spent about 4.6 months in non poverty where women spent 7.6 months.

Household heads with primary education spent less than 50% of their time in poverty. Indeed, the proportion of time spent in poverty is 44% and in terms of months, they spent about 12.3 months in non poverty. The men spent most of their time (57%) in poverty. This proportion is 31% for women. The men spent about 10.7 months in non poverty while women spent 13.8 months.

Those who have the professional level spent about 31% of their time in poverty knowing that they spent about 15.8 months in non poverty situation. Men spent most of their time (68%) in poverty. This proportion is 22% for women. The men spent about 15.1 months in non poverty situation while women spent 16 months.

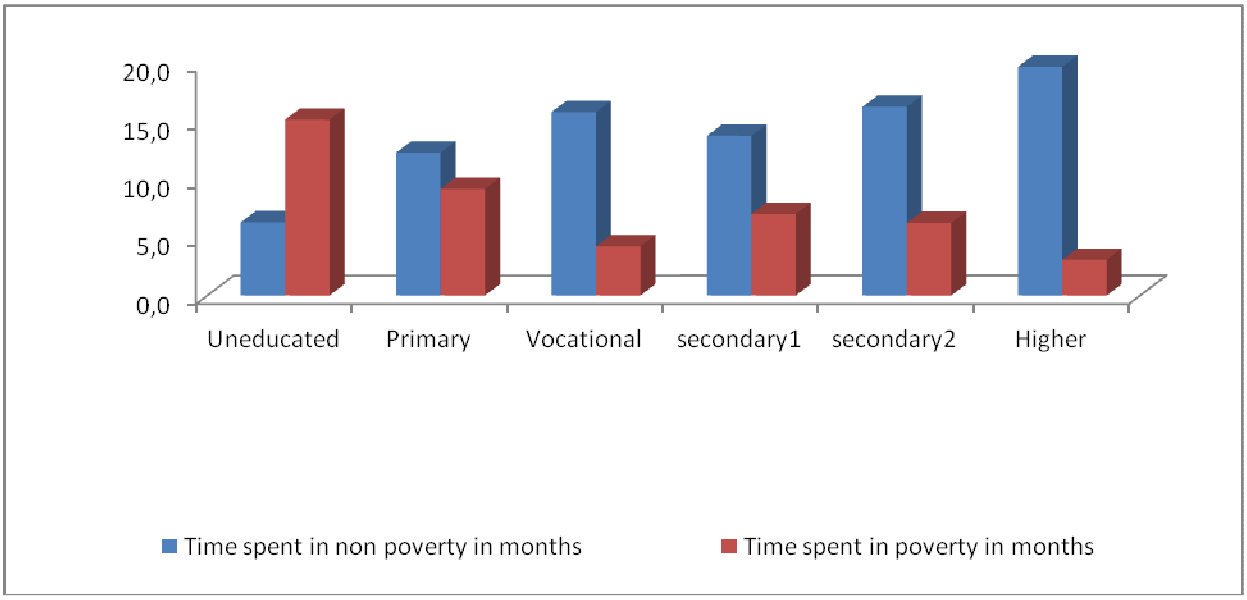
Those with first year of secondary school education level spent about 44% of their time in poverty knowing that they spent about 13.8 months in non poverty situation. Men spent most of their time (57%) in poverty. This proportion is 29% for women. The men spent about 12.2 months in non poverty situation, while women spent 15.5 months.

Household heads[10] of the second year of secondary school education level spent about 38% of their time in poverty situation, knowing they spent about 16.3 months in non poverty situation. Unlike others, women spent more of their time (38%) in poverty situation. This proportion is 37% for men. Both men and women spent more than about 16 months in non poverty.

As for those who have higher education level, they spent about 29% of their time in poverty knowing that they spent about 20 months in non poverty situation. The men spent most of their time (30%) in poverty; this proportion is 21% for women. The men spent about 19 months in non poverty situation, while women spent about 26 months.

[10] Household heads who experienced a single shock.

Graph 19 : Distribution of the path of household heads who experienced a single shock depending on their level of education and number of months in poverty situation (months)



VII.3. Impact of two shocks

From Graph 20, the heads of households that experienced two shocks spent an average of 73% of their time in poverty and men are those who have spent more time (80% vs. 65% for women) in poverty. Men spent about 18 months in poverty, while women spent 13.5 months.

Depending on the level of education compared to other categories, the uneducated are those who have spent most of their time (80%) in poverty and the number of months spent in poverty is 17.5 months. Here too, it is men who have spent more time (86%) in poverty. This proportion is 73% for women. The men spent about 3.7 months in non poverty situation, while women spent six months.

Those who have the primary education level have spent more than 50% of their time in poverty. Indeed, the proportion of time spent in poverty was 59% and in terms of months, they spent about 9.9 months in non poverty situation. The men spent most of their time (68%) in poverty situation. This proportion is 50% for women. The men spent about 7.8 months in non poverty, while women spent 12 months.

Those who have the professional level[11] spent about 43% of their time in poverty knowing that they spent about 11.5 months in non poverty situation. This category is composed solely of women.

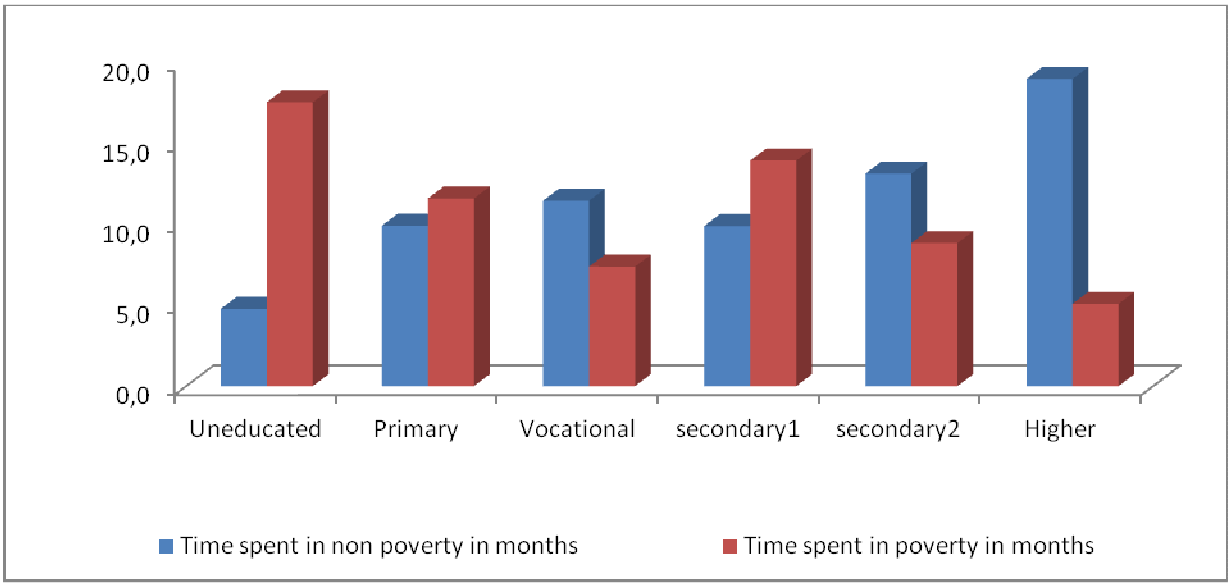
[11] Those with vocational training background.

Those who have the first year of secondary school level spent about 52% of their time in poverty knowing that they spent about 9.9 months in non poverty situation. Men spent most of their time (59%) in poverty. This proportion is 33% for women. Men spent about eight months in non poverty, while women spent 15.3 months.

Household heads of the second year of secondary school education level spent about 39% of their time in poverty knowing that they spent about 13 months in non poverty situation. Men spent most of their time (53%) in poverty. This proportion is 2% for women. Men spent about 12 months in non poverty situation, while women spent about 16 months.

As for those who have the higher education level, they spent about 26% of their time in poverty situation, knowing that they spent about 19 months in non poverty situation. It is only men who have spent their time in poverty. Regarding the non poverty situation, men spent about 14 months, while the women spent about 24 months.

Graph 20 : Distribution of the path of household heads who suffered two shocks based on their level of education and number of months spent in poverty (months)



VII.4. Impact of more than two shocks

Graph 21 shows that the heads of households that experienced more than two shocks spent an average of 73% of their time in poverty and men spent more time (77% vs. 67% for women) in poverty situation. Men spent about 18.6 months in poverty, while women spent 15.7 months.

Depending on the level of education compared to the other categories, the uneducated are those who have spent most of their time (80%) in poverty situation and the number of months spent in poverty is 19.4 months. Here too, it is men who have spent more time (83%) in poverty. This proportion is 76% for women. The men spent about four months in non poverty situation, while women spent five months.

Those who have the primary education level have spent more than 50% of their time in poverty. Indeed, the proportion of time spent in poverty situation was 56% and in terms of months, they spent about 10.3 months in non poverty. The men spent most of their time (70%) in poverty. This proportion is 36% for women. The men spent about 7.3 months in non poverty, while women spent 14.3 months.

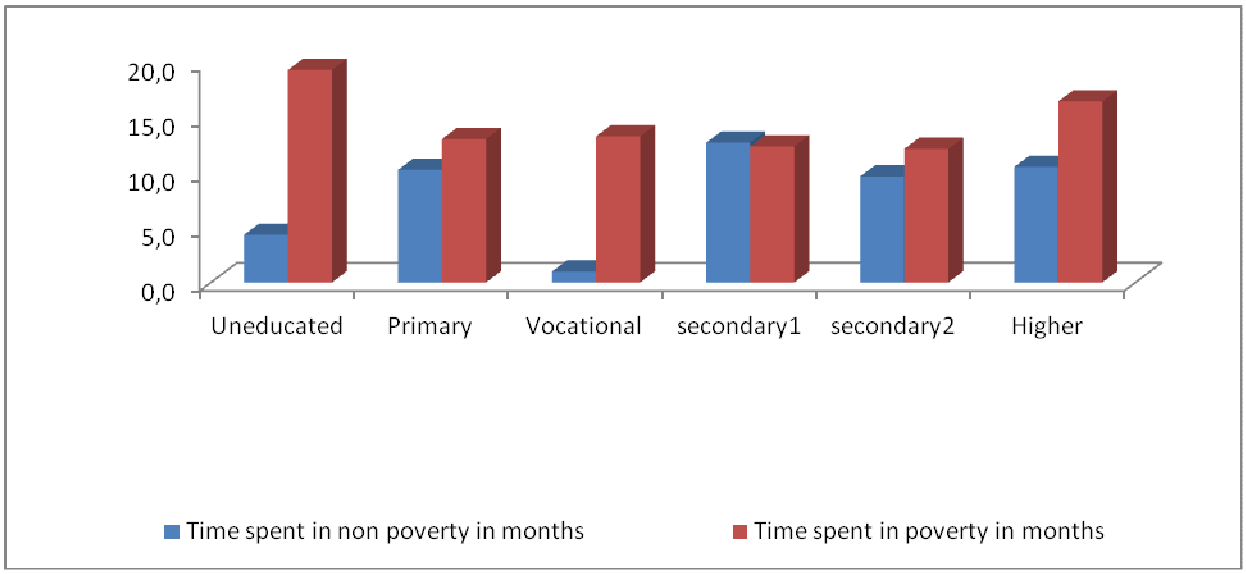
Those who have the professional level spent almost all of their time (99%) time in poverty knowing that they spent about one month in non poverty situation. This category is composed solely of women.

Those who have the first year of secondary education level spent about 48% of their time in poverty knowing that they spent about 12.7 months in non poverty situation. The men spent most of their time (53%) in poverty. This proportion is 39% for women. The men spent about 9.7 months in non poverty situation, while women spent 18.9 months.

Household heads of the second year of secondary school level spent about 52% of their time in poverty knowing that they spent about 9.7 months in non poverty situation. Men spent most of their time (58%) in poverty. This proportion is 1% for women. The men spent about 7.4 months in non poverty situation, while women spent more than three times (28.2 months).

As for those who have the higher education level, they spent about 54% of their time in poverty knowing that they spent about 10.5 months in non poverty situation. The men spent about 55% of their time in poverty, while women spent about 44%.

Graph 21 : Distribution of the path of household heads who experienced more than two shocks based on their level of education and number of months spent in poverty (months)



According to the results of the EVPC[12] results, Women are more sensitive to socio-demographic shocks. Poverty begins or is perpetuated by events such as weddings, deaths of parents, divorce, separation or abandonment by the spouse. In the event of transient poverty, they are mostly in Dakar and in rural areas, as access to employment or support by children or others remain the only bulwark against the degradation of living conditions and therefore switching to a new episode of poverty.

The strong dependence of women vis-à-vis the parents, and then vis-à-vis the spouses partly explains the transient nature of their situations. Indeed, they are vulnerable and suffer the indirect effects of shocks experienced by the breadwinners. However, they are able to mobilize more support particularly by diversifying the sources of possible support from descendants, the extended family, the neighborhood, etc. Because of their socially accepted dependent status, they do tend less to hide their vulnerability, and seek assistance more readily than men.

Among the latter, rather the factors related to the weakness of the economic capital keeps them in poverty. These include sudden disease that hampers the productive activity, loss of employment or assets after a disaster (theft of cattle, fire, loss of land). It is not surprising to find most often these chronically poor men in Dakar, where having an employment is one of the decisive factors for socio-economic insertion and in rural areas where the means of production are slow to accumulate, and the loss of which generates irreversible situations in a downward spiral.

Besides the effects of place of residence, we note that depending on whether one is male or female, the factors keeping in poverty have been identified in different age groups. Among women, it is from the period of youth that we identify the factor or factors that will give a certain sense to the path, including school dropout, early work, marriage but also the separation, divorce and the loss of a spouse... The consequences of these shocks are fast enough, because the response capacities of women are generally more limited. The change in status is also fast in the sense of degradation and improvement depending on the positive or negative impact, and only the dependence relationship to others remains unchanged. It is more about severity of the episodes of poverty rather than chronicity.

[12] See EVPC survey report.

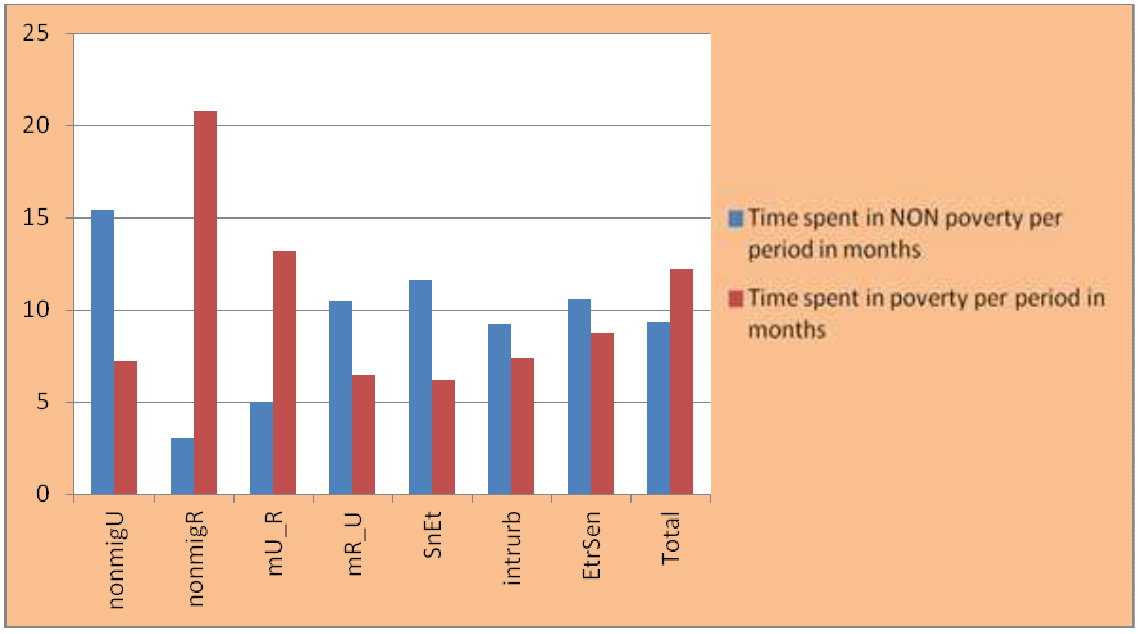
VIII. Impact of shocks according to status of migrant and the area of residence

VIII.1. Impact of a single shock

The chart below shows that the shock does not have the same effects when you are in rural or urban area. After a shock, while a non-migrant resident in an urban area would switch into poverty, a rural resident spends more than 20 months in poverty over that period. Moreover, the migrant from a rural to an urban area is more[13] vulnerable than the migrant from an urban to a rural area. While in the event of a shock, the former spends almost 15 months in poverty, the latter will only spend six months.

Similarly the time spent in non-poverty situation after a shock is best for those living in urban areas than those living in rural areas. After a shock a city resident spends 15 months in non-poverty situation; those in rural areas spend only three months over a period. Note that in rural settings the time spent in poverty (21 months) is much more than the time spent in non-poverty situation (4 months). The situation is reversed when we move to urban areas. Whether for those already in urban areas or those who have migrated, the time spent in the non poverty situation is less than the time spent in poverty situation. We can conclude that for a period, rural populations tend to be most affected by poverty than their peers in urban areas.

Graph 22: Impact of a single shock on poverty in months



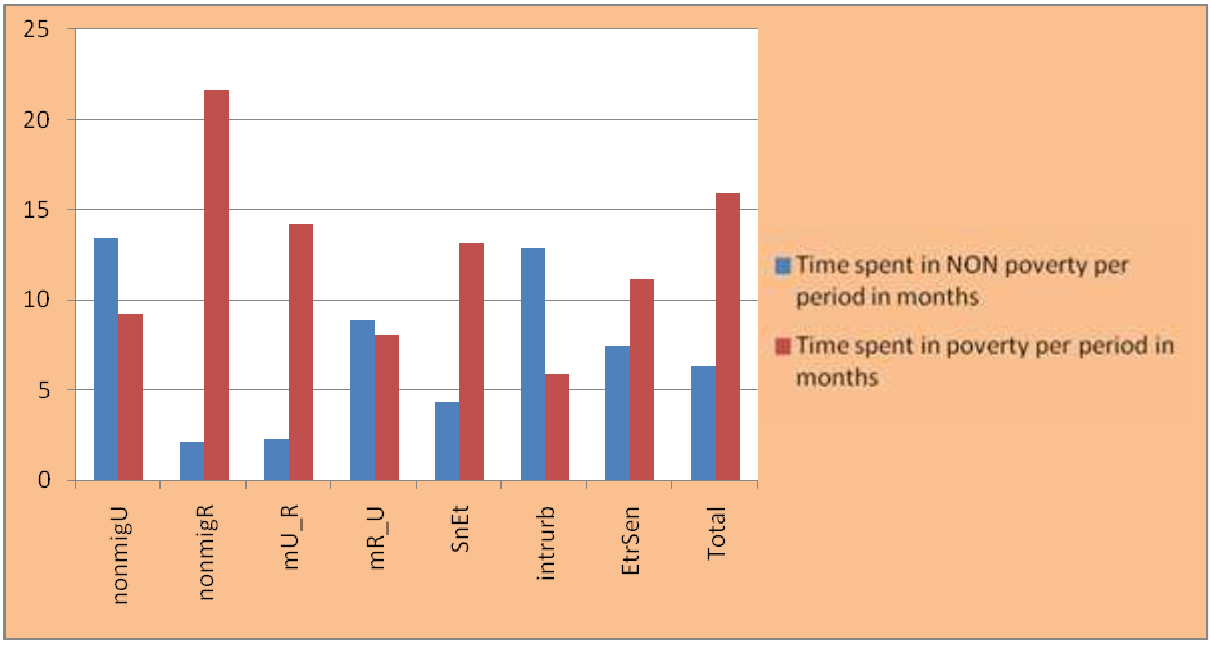
VIII.2. Impact of two shocks

If in the event of a shock, poverty affects both people in rural areas and urban areas, one can wonder what would happen if the shock is repeated. By making a projection of the graph above and the one below, we

[13] A migrant who leaves a rural area and goes to an urban area is much more disoriented in relation to the very high living standards in urban areas.

note that the poverty situation is more protracted in the two shocks case regardless of the migrant status, compared to the previous situation; which seems obvious or normal. On the other side, the duration in non poverty situation is reduced in the event of two shocks. For non- migrants urban residents, it goes from 15 months to 13 months, for non-migrants in rural areas, it goes from 5 to 3 months for a period.

Graph 23: Impact of two shocks



VIII.3. More than Two Shocks

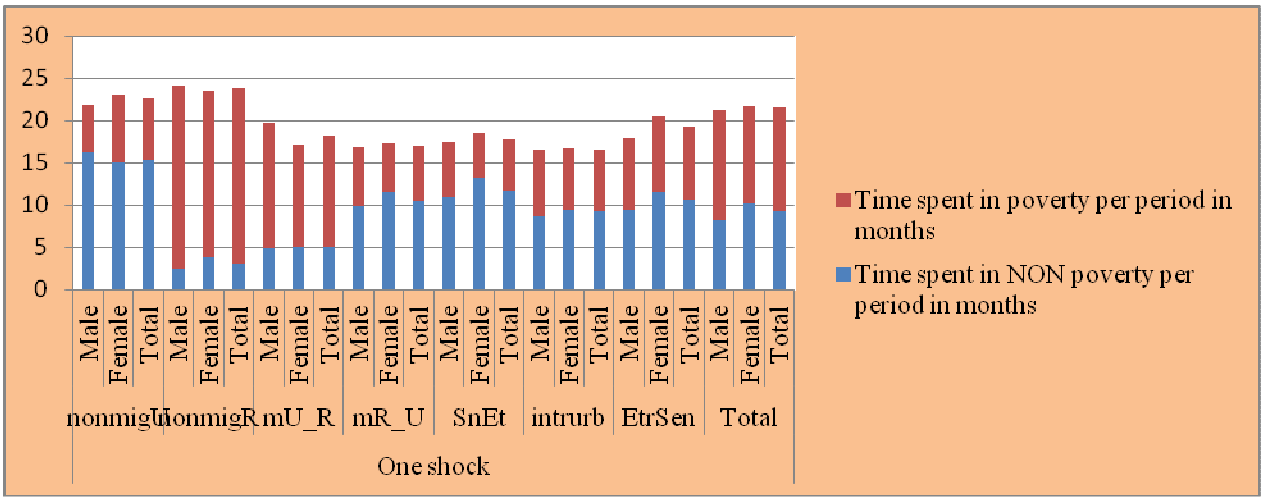
When people are hit by several shocks, the time spent in poverty is much greater than the time spent in non-poverty situation, except for non-migrants in urban areas for whom the time spent in poverty is substantially equal to the time spent in non poverty for a period of one month. But, people living in urban areas see their condition deteriorated when shocks are increasing. Indeed for one shock, they spend 21 months in poverty, but when faced with more than two shocks they spend 23 months in poverty, representing an increase of 10% of the duration in poverty.

Graph 24: Impact of more than two shocks

In the analysis above, we have highlighted the impact of the shock on migrants. It is clear from this analysis that the time spent in poverty is relatively important for rural residents than their urban counterparts. This trend can hide disparities by sex of migrants. In the next section we will do this analysis while integrating this time the gender dimension in the analysis.

VIII.4. Impact of a single shock by sex

Graph 25: Impact of a single by sex

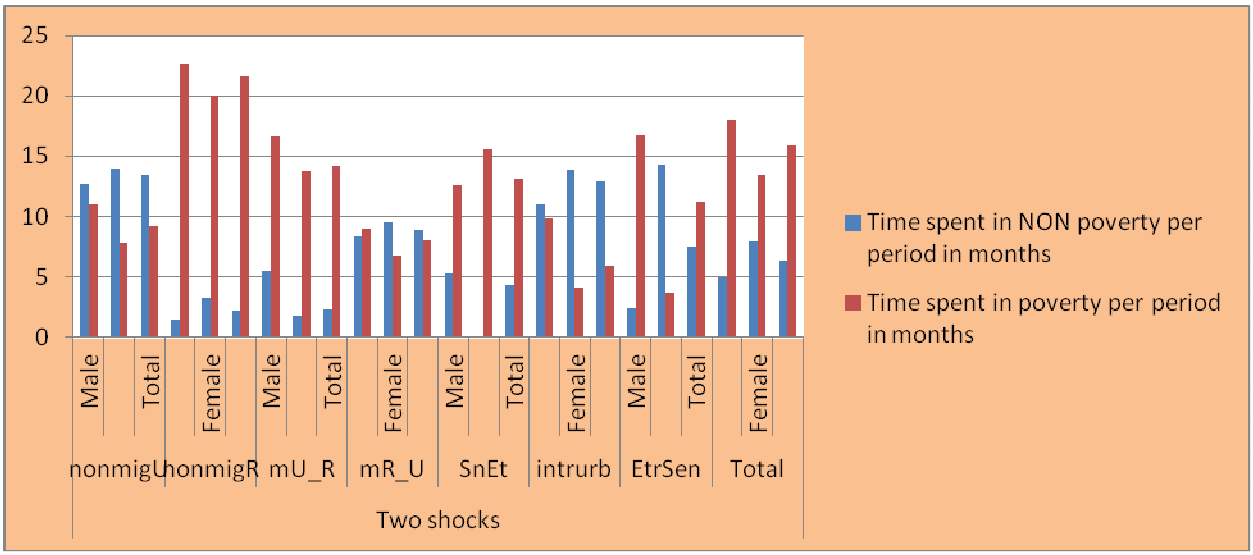


In the case of a single shock we can see that men and women suffer the effects of the shock in the same way. Both for women and men the time spent in poverty in rural areas is more than the time spent by males and females in poverty in urban areas. However there is a difference between the effect of the shock on men and on women regardless of the location, and sometimes opposite in nature. While in rural areas women are more vulnerable, in urban areas men are vulnerable. Indeed, for a period, urban men spend 6 months in poverty against 9 for women. However, in rural areas, women spend 20 months in comparison with 22 months for men.

VIII.5. Impact of two shocks per sex and per type of migrant

The reading of the chart below shows two effects. On the one hand, the two shocks protract the time in poverty for people in both urban and rural areas; on the other hand, they reduce the time in non poverty situation for the same people. And this applies for both women and men. In urban areas, men are more affected by the effects of two shocks than women. In fact for a single shock, non-migrant men in urban areas spend about six months in poverty over a period; however, when two shocks occur, the time in poverty for men increases two-fold, representing 100% increase; whereas for women, the duration of poverty is substantially the same for both types of shocks. Similarly, the time in non poverty situation among men has been reduced when going from one shock to two shocks, but this decrease is more remarkable among men than among women. In urban areas, the time in non poverty situation over a period goes from 17 months to 13 months for men and from 15 to 14 months for women. While in the case of a single shock, the time spent in poverty by migrants from urban areas to rural areas is the same, the case of two shocks reveals a big difference. In the latter case, while women spend only 2 months in non poverty situation over a period, men would spend five months. As for the migrant from urban to rural areas the effect is not the same here.

Graph 26: Impact of two shocks per sex

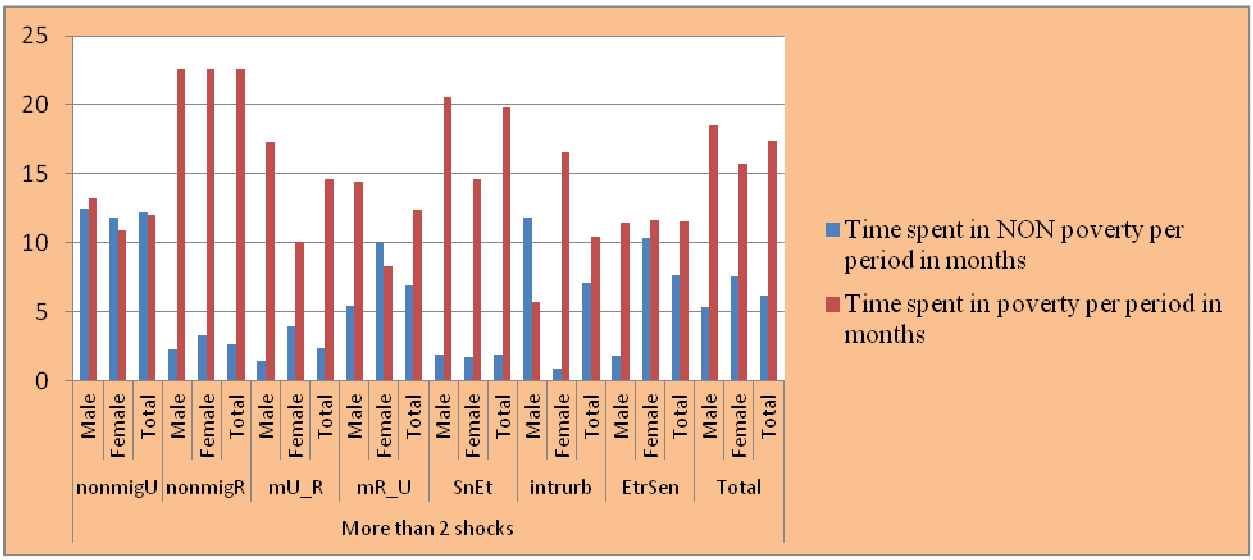


VIII.6. Impact of more than two shocks per sex and per type of migrant

By comparing[14] the effect of a single shock or two shocks with that of more than two shocks, there is a difference. This observation is the same for migrants and non migrants. In all cases, the time spent in poverty has increased and the time spent in non poverty situation has reduced over a period. In rural areas, women and men spend almost the same duration in poverty, about 24 months over a period. But, the time during non-poverty is lower for men than for women. Unlike rural non-migrants, women and men who leave the cities for urban centers do not suffer the effects at the same magnitude. While over a period women would spend 10 months in poverty, men in turn spend 18 months. Similarly, the time spent in non poverty situation is higher for women than for men. In terms of migrants from rural areas to cities, men are more affected by shocks. Over a period of one month men spend 15 months living in poverty in comparison with 8 months for women. Similarly, the transit time in non poverty for women is twice that of men.

Graph 27: Impact of more than two shocks per sex

[14] There are three states of poverty in the study: chronic poor; transient poor; and non poor. The term poor includes the chronic poor and transient poor.



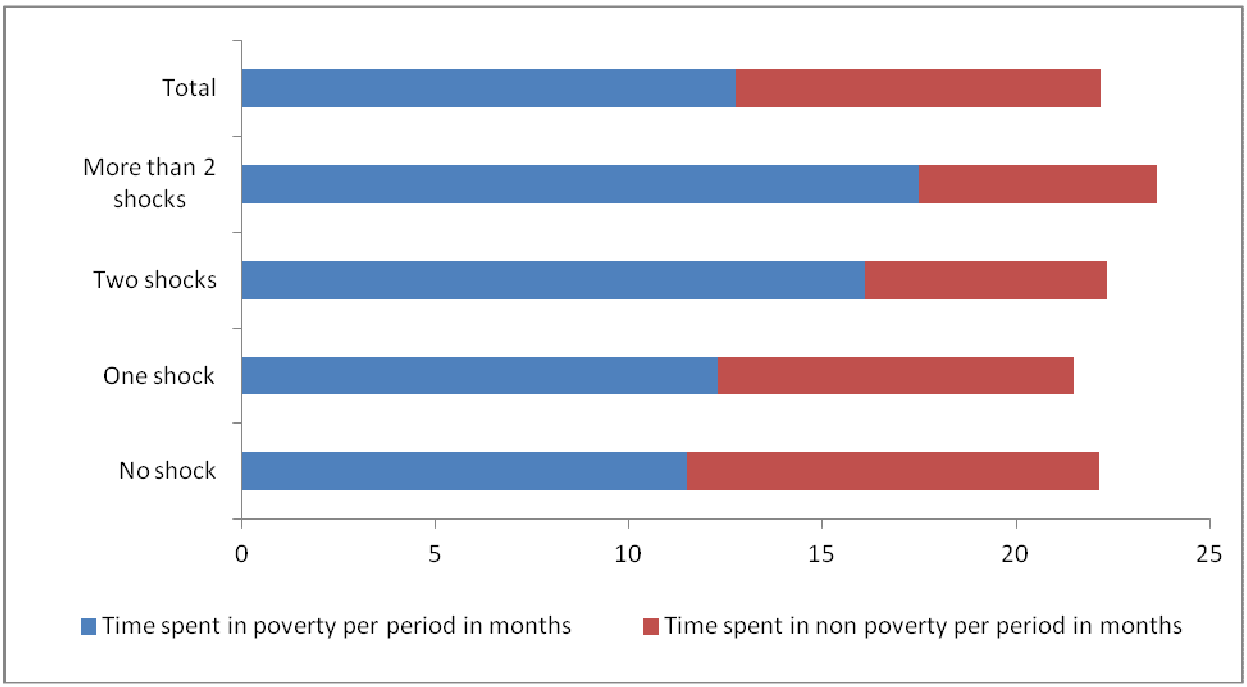
All in all, the analysis of the effect of shocks on non-migrants reveals that rural non-migrants are most affected regardless of the type of shock. The same analysis for males and females shows that men are more impacted than women. Migrants from rural to urban areas are most affected. There is also the fact that, in general, migrants from rural to urban areas are more affected by shocks than those who leave cities for rural areas.

IX. Comparison of the level of improvement (more or less rapid) in human development between households that experienced a shock and those that did not

Overall, 60.5% of the time was spent in poverty and the generation before 1954 is the one that spent more time (69%) in poverty situation compared to other generations. The youngest generation (the one after 1978) spent less time (40.7%) than the others in poverty situation. The proportion of time spent in poverty decreases when moving from the old generation to the youngest.

The proportion of time spent in poverty situation also increases with the number of shocks experienced. Indeed, the degree of improvement of development is higher among heads of households that have not undergone any shock. Approximately 55.3% of the time was spent in poverty by household heads who have not undergone shock, while for those who had at least one shock, the degree of improvement in human development is lower. Household heads who experienced a single shock spent 62.4% of time in poverty situation, while the heads of households who have suffered two shocks spent 73.1% of time. Those who have suffered more than two shocks have spent 72.8% of time in poverty.

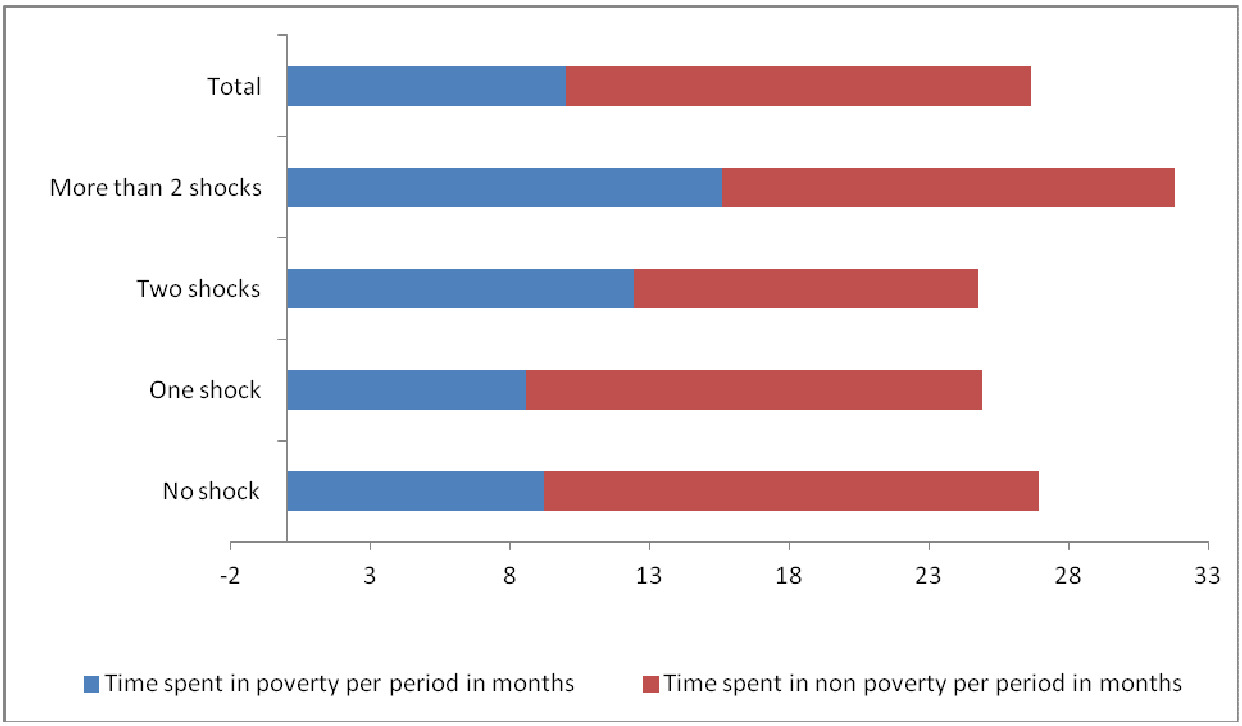
Graph 28: Time spent in poverty and non poverty based on the shocks experienced



One can notice that the three periods of contraction[15] involve the younger generation that spent 34.6% of the time in poverty. Those who did not undergo any shock spent an average of 31.2% of time in poverty while those who had at least one shock spent more time. Indeed, the household heads who have had a single shock spent 43.9% of time in poverty and a proportion of 45.7% of time is spent in poverty by those who have suffered two shocks. Unlike those who have suffered two shocks, household heads who experienced more than two shocks have spent an average of 44.1% of their time in poverty.

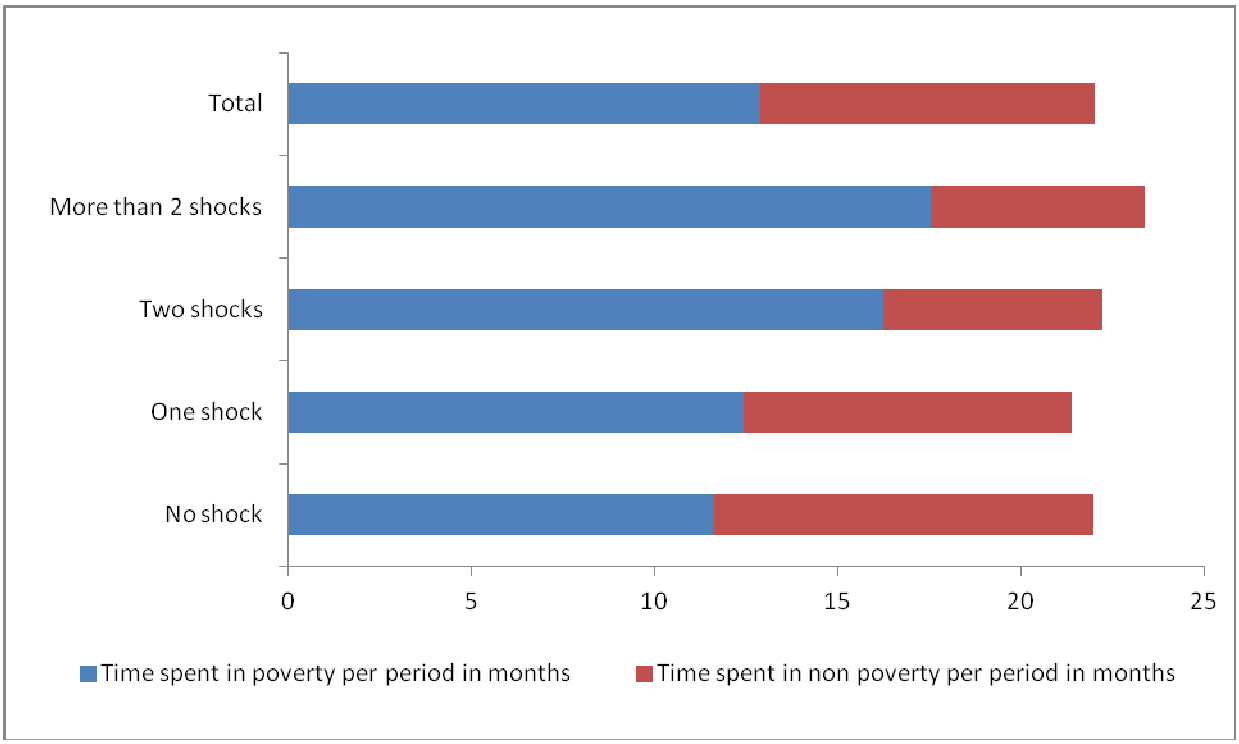
Graph 29: Time spent in poverty and non poverty situations based on the number of shocks experienced and three contraction periods

[15] The periods of economic contraction correspond to the periods of economic recession in Senegal.



For more than four contraction periods, 61.5% of time on average was spent in poverty. The generation before 1954 is the one that spent the largest proportion of time (69%) in poverty. When going from the older generation (before 1954) to the younger generation (after 1978), we can see that the proportion of time spent in poverty decreases. When the number exceeds four economic contractions, older generations are more affected. When analyzing according to the number of shocks, we can also make the observation that household heads who have not undergone any shock spend less time in poverty than those who suffered a shock. Approximately 56.3% of time was spent in poverty by household heads who have not undergone any shock, while those who experienced one shock spent 63.2% of the time. Household heads who have suffered two shocks and more spent respectively 74.2% and 73.7% of their time in poverty.

Graph 30: Time spent in poverty and non poverty based on the number of shocks and for more than four contraction periods



Overall, the proportion of time spent in poverty increases with the number of shocks to household heads and the number of economic contractions. The degree of improvement in human development decreases as the number of shocks increases.

X. The intra-generational path of poverty

Annex 10 shows the path of generations according to the change in their status of poverty and the number of economic contraction periods.

X.1. Path based on 4 economic contractions

With over 4 periods of economic contraction, the case of entries into poverty is estimated at 1.4% and exits at 1.7. In 96.9% of cases, there was no change in status. Among heads of households who experienced more than four periods of economic contraction, we have four generations: childhood, youth, adulthood and old age.

X.1.1. The Youth

This part is about the path in poverty and non poverty of youths.

Among the youths, the non-poor, 5% were non-poor in their childhood and therefore did not experience any change in status, and 1.1% were in transient poverty in their childhood; 0.1% exited from poverty. The non-poor youths have never been in a situation of chronic poverty in childhood.

Young people living in transient poverty consist mainly of young people who were chronically poor in their childhood (2.3% of cases). Young people in transient poverty who were also in that status in childhood

represents 1.3% of cases, and those who were non poor represent 1.8% out of 100% of the paths of the youths. These young people fell into poverty with a 0.2% proportion of cases. However, 0.2% of exits from poverty situations involve young people who, in their childhood, were non poor or in transient poverty.

With regard to young people in chronic poverty, the majority consisted of the chronically poor in their childhood (3.7% of cases). None of these young people were non poor in childhood. Among the cases of entry into poverty, 0.1% of the young people were transient poor in their childhood and became chronically poor.

X.1.2. Adults

For adults who are non-poor, those who were never poor represent 9.9% of the paths and are the majority. Those who were chronically poor and then transient poor represent 6.4% of cases. The latter represent 0.3% of exits from poverty.

Adults in transient poverty in turn, consist mainly of adults who were chronically poor in childhood to become transient poor in their youth (1.9% of cases). These adults did not experience a change of status except from those who were chronically poor in childhood and became transient poor in their youth who represent 0.1% of entries into poverty and 0.1% of exits.

Among the adults in chronic poverty, those who have always been chronically poor represent 17.1% of cases and have not experienced a change in their status. None of them have ever been non poor, neither in their childhood, nor in their youth. Those who have been transient poor in their youth have experienced a change in their status either by entry into or exit from poverty by 0.1% in each category.

X.1.3. The elderly

Among the non-poor elderly, household heads who were non poor as adults, transient poor in their youth and chronically poor in their childhood represent 4.2% of paths. They represent 0.1% of the change in status through exit from poverty. The elderly that have never been poor in their lives represent 4% of cases. The elderly in chronic poverty are mainly composed of old people who have always been chronically poor. They represent 10.8% of cases and have never had a change of status. Those who were transient poor as adults and young, and the chronically poor in their childhood (1.7% of cases) have experienced for 0.1% of cases an entry into and an exit from poverty.

X.2. Path based on 3 periods of economic contraction

According to the results in annex 10, Household heads who are affected by three periods of economic contraction are young. The young non-poor are 52.1% of cases, and among them, those who have never been poor have never had a change of status. However, those who were transient poor in their childhood represent 0.5% of exits from poverty. None of them has been chronically poor in their childhood.

Young people in transient poverty have experience a lot of changes in status. Indeed, those who were non-poor in their youth represent 0.6% of case of entry into poverty and 0.2% of cases of exit. Those who were chronically poor in their childhood represent 0.8% of exit cases.

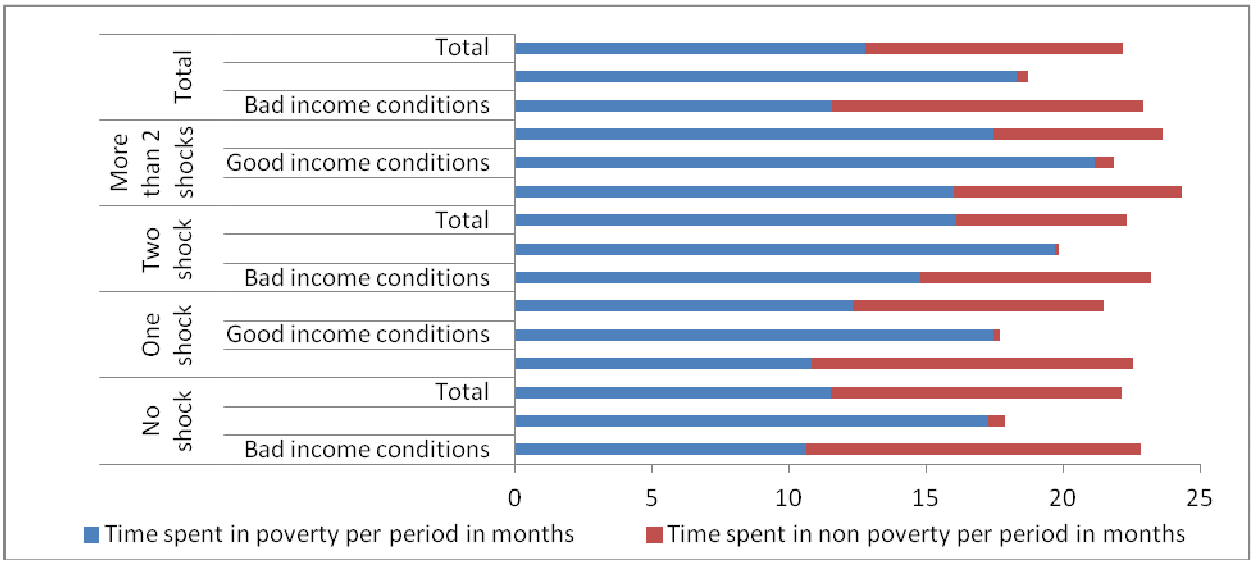
Chronically poor youths who have always been so represent 15.2% of cases that have never experienced change. Those who were transient poor in their childhood represent 0.3% of cases of exit from poverty and 1.3% of exit.

XI. Interrelations between monetary dimensions of human development during a shock and during recovery

This analysis focuses on the interrelations between monetary and non monetary dimensions of human development during the shock and during the recovery period.

Overall 61% of the time is spent on average in poverty and 80% of time was spent in poverty by those who have good conditions[16] of income, while 56% of time was spent by the heads of household with poor incomes. We also note that those with poor income spend less time in poverty than those whose income conditions are good. This analysis is valid regardless of the number of shocks but those who experienced more shocks spend more time in poverty than those who do not experience any shock or suffer less from shocks.

Graph 31: Time spent in poverty and non poverty based on the number of shocks and income conditions

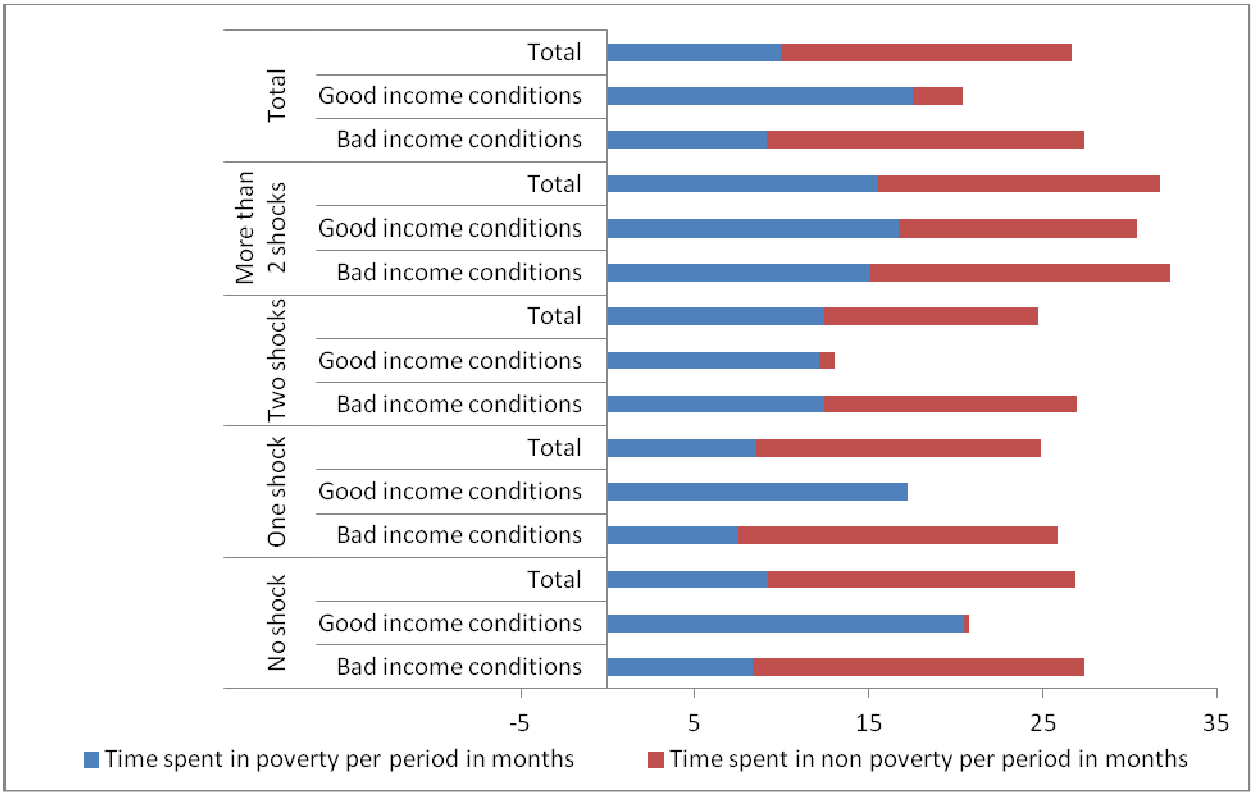


In the category with three periods of economic contraction, we can see that on average 35% of time was spent by heads of households in poverty, and those with good conditions of income spent more time (49%) than those whose income conditions are poor (33%). In relation to the number of shocks experienced, those who suffered no shock or suffer least spend more time in poverty than those who suffer more shocks. Indeed, those who have not experienced a shock spend on average 31% of their time in poverty and those with good conditions of revenue in this category have spent 58% in contrast to those with poor income

[16] Bad conditions means not being able to provide for enough food, for the schooling of children, for the rental of accommodation - for those renting their accommodation - and not being able to cover healthcare fees for oneself and for other household members

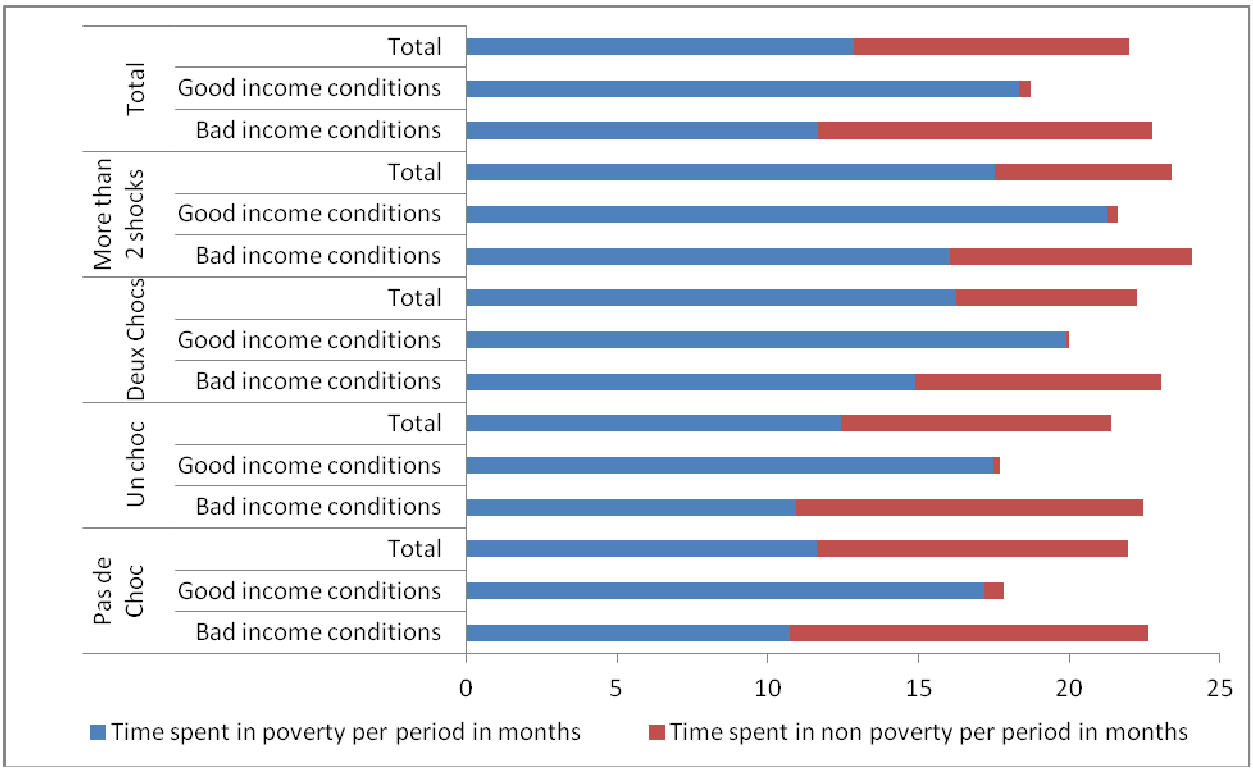
(29%). In the category of those who have suffered more than two shocks, the proportion of time spent in poverty by household heads with poor income conditions is lower than those with good income conditions.

Graph 32: Time spent in poverty and non poverty situation based on the number of shocks experienced, income conditions and three contraction periods



In the category with more than four periods of contraction, 61% of time was spent by heads of households in poverty, and more time (81%) was spent by the heads of household with good income conditions compared to those with poor incomes. Those who did not experience a shock spend on average 56% of their time in poverty and 78% of time is spent in poverty by those who have good income conditions. Household heads who have experienced at least one shock and who have income conditions spend over 80% of their time in poverty. Indeed, this proportion is 81% for those who have suffered a single shock and respectively 87% and 81% for those who have suffered two shocks and more than two shocks.

Graph 33: Time spent in poverty and non poverty situation based on the number of shocks experienced, income conditions and four contraction periods



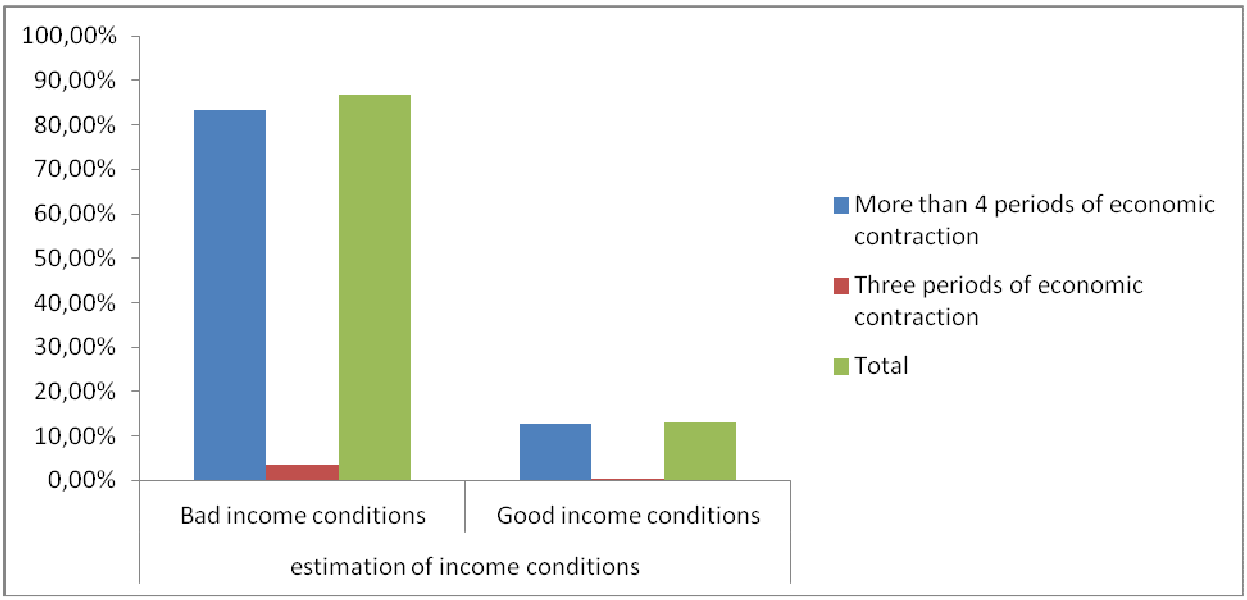
XII. The impact of shocks based on income conditions over economic contraction periods and the poverty status

XII.1. Effect on periods of economic contraction

The table shows the impact of shocks on the economic contraction frequency and under the conditions of income.

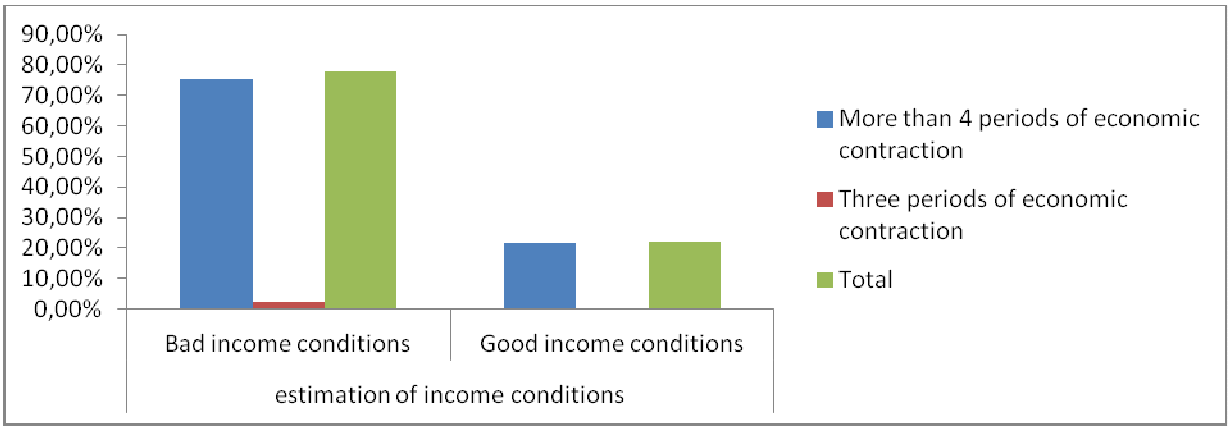
Without the occurrence of any shock, periods of economic contraction are much more common when income conditions are bad with 86.8% of cases for only 13.2% when conditions are good. Whatever the income conditions, 96.1% of cases experience more than 4 periods of economic contraction, with 83.2% who have poor income conditions and 12.9% have good income conditions. Only 3.9% experienced three periods of economic contraction.

Graph 34 : Frequency of periods of economic contraction based on income conditions



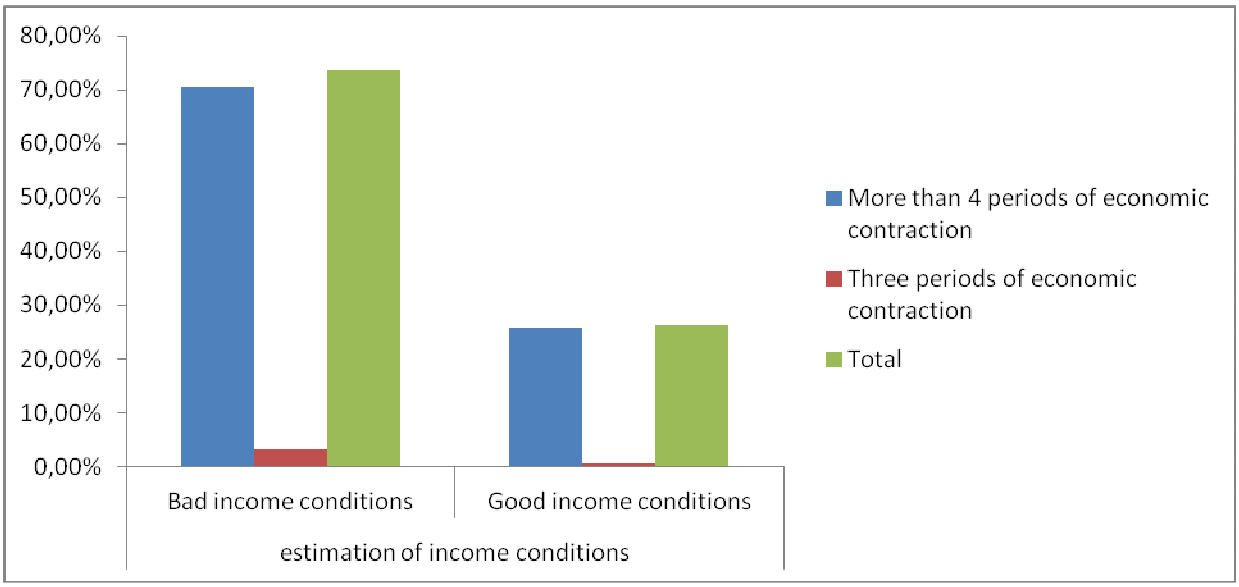
After a shock, the occurrence of more than four periods of economic contraction increases at the expense of the three periods of contraction and increase from 96.1% when there is no shock to 97.2% following a shock. However, they only increase if the event of good income conditions from 12.9% to 21.8% following a shock, but decreases in case of poor income conditions. The occurrence of three periods of economic contraction is decreased due to poor income conditions, but remains unchanged in the event of good income conditions.

Graph 35 : frequency of economic contraction periods based on the income conditions and following a shock



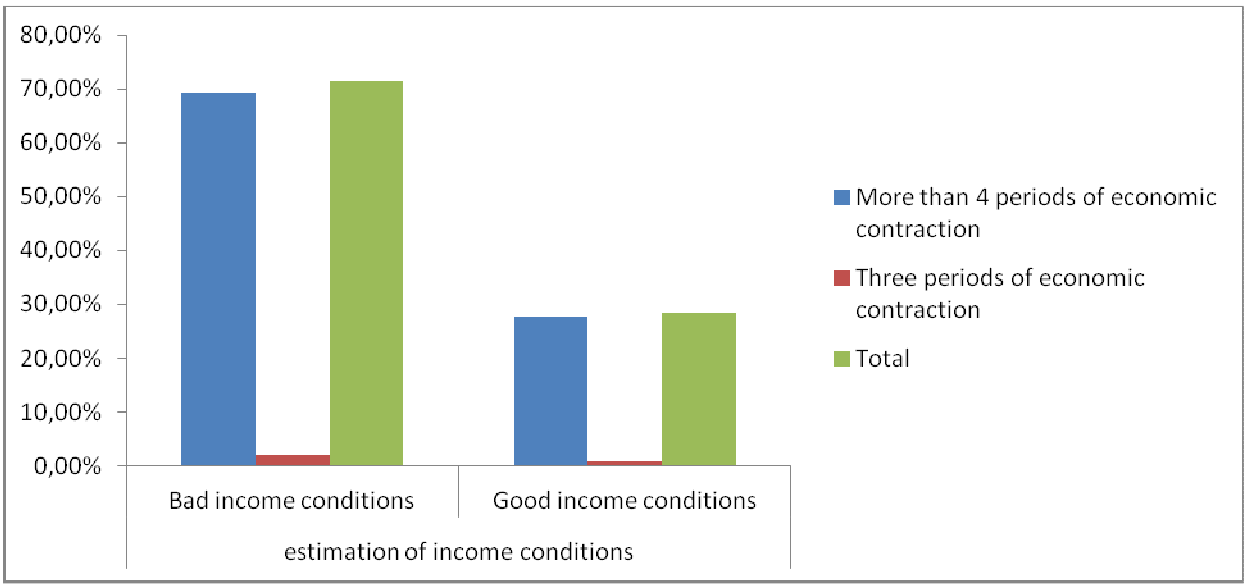
In moving to two shocks, the occurrence of more than four periods of economic contraction is increased with good income conditions, but always decreases with poor income conditions. However, the occurrence of three periods of economic contraction increases regardless of the income conditions.

Graph 36 : frequency of economic contraction periods based on income conditions and following two shocks



After more than two shocks, the occurrence of more than four periods of economic contraction increases even with good income conditions and further reduces with opposite case. The similar phenomenon is noted with the occurrence of three periods of economic contraction. All in all, the more shocks, the more frequent the periods of contractions if conditions are good, and the less the periods of contraction if income conditions are bad.

Graph 37 : frequency of economic contraction periods based on income conditions following more than two shocks

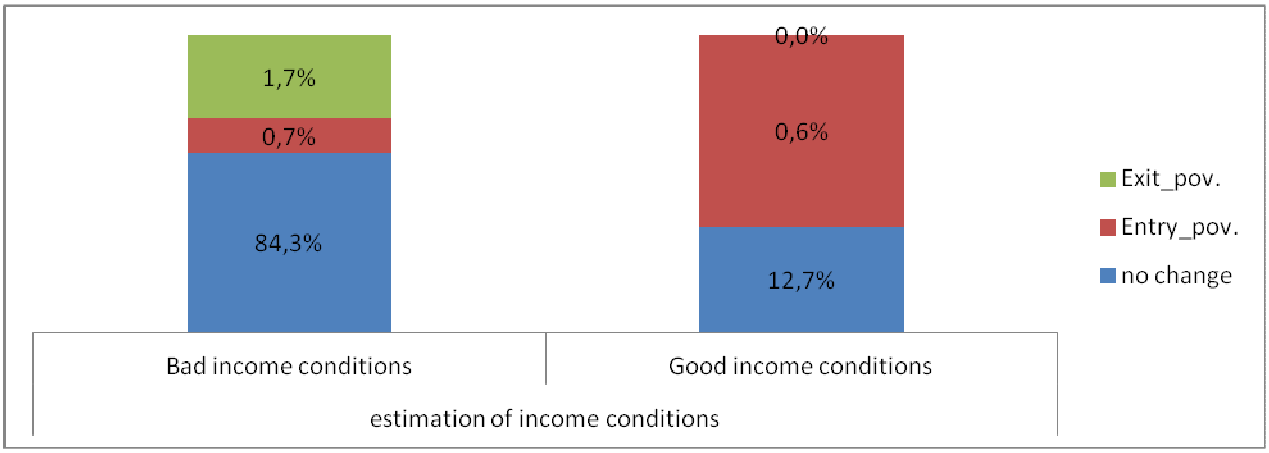


XII.2. The impact of shocks on the status of poverty

This table allows us to analyze the change in poverty status based on the number of shocks and income conditions.

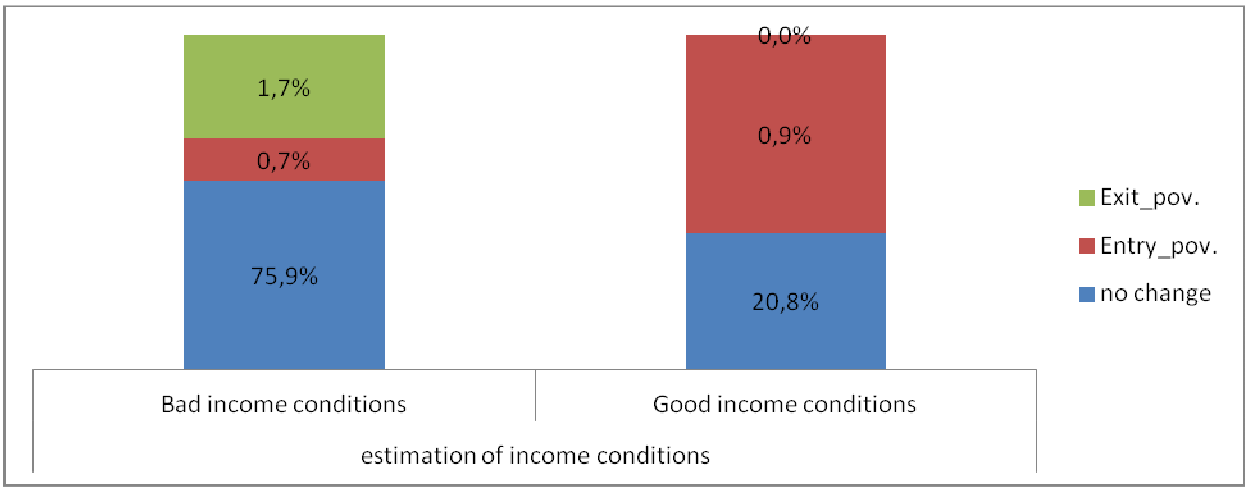
Among heads of households who have not suffered shock, 86.7% have bad income, while only 13.3% had good income conditions. In this same group of heads of households, 97.0% experienced no change in status in poverty; 1.2% became poor and 1.8% moved out of poverty. On those that switched into the poverty status, the majority (0.7%) was of poor income conditions. The proportion of household heads that have come out of poverty status is zero for those with good income conditions.

Graph 38 : frequency of changes in poverty status based on income conditions



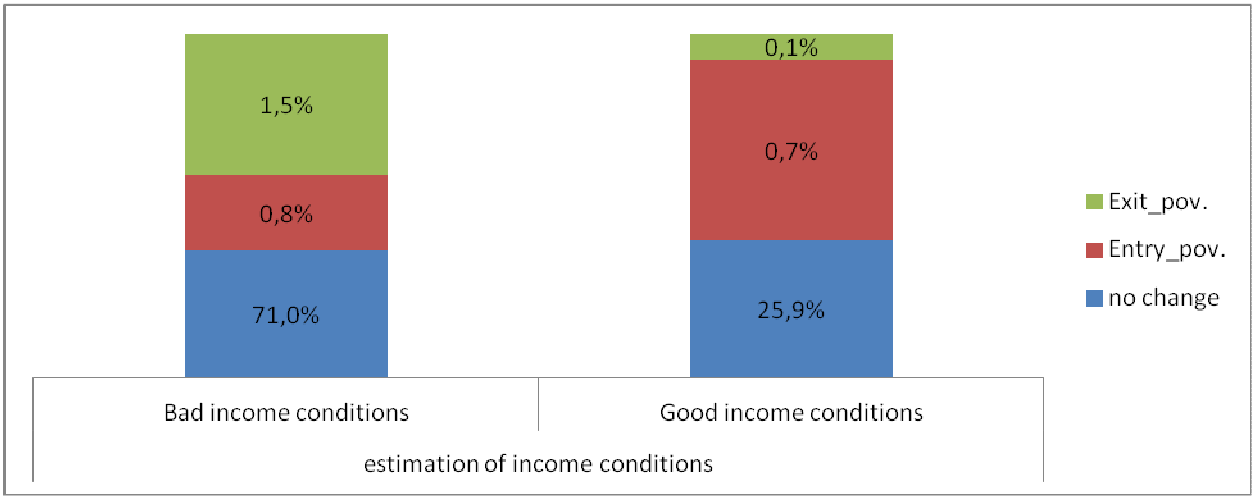
Among household heads who have suffered a shock, 78.3% have bad income conditions, and of these, 1.7% exited from poverty, while 0.7% became poor. The remaining 75.9% experienced no change in status. Among heads of households who have good income conditions, 0.9% became poor. The rest experienced no change in status.

Graph 39 : changes in poverty status following a shock and based on income conditions



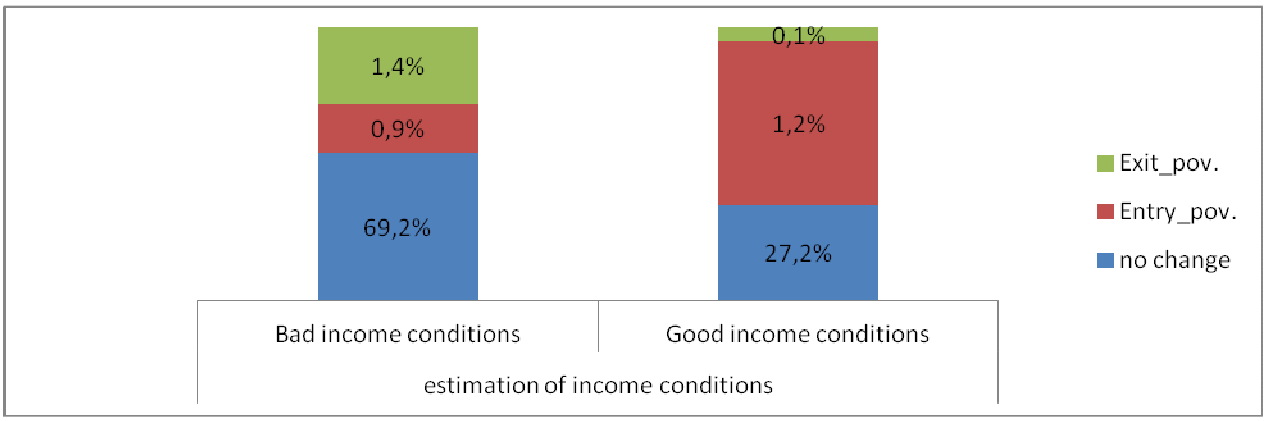
The category of those who have suffered two shocks comprises 26.7% of household heads who have good income conditions. This proportion is higher than that of the preceding categories. The proportion of those who have become poor is greater among household heads who have poor income conditions (0.8%). In reading this table, there are many entries into poverty status than exits (1.5%).

Graph 40 : changes in poverty status based on income conditions in the event of two shocks



In the group of heads of households who have suffered more than two shocks, 71.5% have poor income conditions. Of these, 0.9% became poor while 1.4% exited from poverty. The proportion of household heads who have good income conditions that have become poor is 1.2%.

Graph 41 : changes in poverty status based on income conditions after more than two shocks



The proportion of household heads who have good income conditions is high.

For heads of households who have poor income, the proportions of entries into and exits from poverty in the event of a shock are the same as in the event of no shock. However, for heads of households who have good income conditions, the proportion of entries in poverty increases from 0.6% to 0.9%.

Moving to two shocks, the proportion of entries into poverty increases among heads of households who have poor income conditions and decreases among those with good income conditions. The proportion of exits from poverty of household heads who have poor income conditions also decreases.

In moving to more than two shocks, the proportion of entries into poverty increases for all income conditions, and the proportion of exits from poverty is reduced for those with poor income conditions.

This table allows us to conclude that the heads of households who have poor income conditions are more vulnerable to shocks. The proportion of status change is greater in the latter. The more they suffer shocks, the more likely they are to become poor, and less likely they are to escape poverty. However, the fact that they undergo a single shock has the same impact on their change in status of poverty as if they experience no shock.

For those who have good income conditions, the fact of experiencing a shock increases the entries into poverty. Their proportion of change in status is higher when they suffer more than two shocks.

Conclusion

This study has help to define the intergenerational effects of economic shocks on the time spent in poverty. It was found that when moving from the older generation (1918-1928) to the younger generation (1989-1998), the proportion of those who have suffered no shock decreases. This analysis allows us to conclude that the younger generation is much more vulnerable to poverty and more exposed to shocks. The higher the number of shocks to individuals, the higher the chances of being in a situation of chronic poverty will be. Our analyses also revealed that despite exposure to shocks, youths are the age groups where the possibilities and opportunities of getting out of poverty are highest.

The study also helped to link the nature of the shock and the proportion of average time spent in poverty. The shocks noted are: the occurrence of fire, crop loss, flood, theft or loss of livestock, insecurity or social unrest, loss of money and other disasters. The impacts of these shocks lead to changes in the life trajectory of victims and contribute to their swinging to or retention in poverty. However, the impacts differ depending on the age group involved and time spent in poverty. Thus, the average proportion of time in poverty is higher among disaster victims for all age groups compared to non-victims. For all age groups, disaster victims have spent more time in poverty after a crop failure, loss of livestock or money. The proportion of time spent in poverty has different trajectories depending on the age group as a result of flooding. For example, the proportion of time that victims of the 15 to 34 age group and the 35 to 54 age group spent in poverty is relatively higher than that of non-victims of the same age groups.

The analysis on the trajectory of individuals following different types of shocks according to their levels of education and according to their poverty status showed that whatever the level of education, men spent more of their time in poverty than women. The uneducated spent the majority of their time in poverty. Women are more sensitive to socio-demographic shocks.

It follows from the analysis of the effect of shocks on migrants that the time spent in poverty is relatively high in both rural and urban areas. In short, the analysis shows that non-migrants in rural areas are most affected regardless of the type of shock and that men are those who suffer more the impacts compared to women. Migrants from rural to urban areas are most affected by shocks than those who migrate from the cities to rural areas.

In addition, the study has disclosed that human development declines in proportion as the number of shocks increases. Overall, the proportion of time spent in poverty increases with the number of shocks to individuals and with the number of economic contractions.

The interrelations between monetary and non monetary dimensions of human development during the shock and during the recovery period have shown that regardless of the number of shocks, the heads of households with poor income conditions spend more time in poverty than those with good income conditions. However, those who experienced more shocks spend more time in poverty than those who do not experience any shock or experience less shocks.

Moreover, the results have disclosed that individuals who have poor income conditions are more vulnerable to shocks and yet, the proportion of change in status is greater among those individuals.

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Annexes

Annex 1 : Proportion of time spent in poverty per shock experienced and date of birth

DATE OF BIRTH				shocks				Total
				No shock	One Shock	Two Shocks	More than 2 Shocks	
1918 to 1928	Proportion of time spent in poverty in class	M25% alw_p	Count	3,0	0,0	0,0	0,0	3,0
			Total %	2,1	0,0	0,0	0,0	2,1
		25to49% alw _p	Count	41,0	0,0	0,0	0,0	41,0
			Total %	29,1	0,0	0,0	0,0	29,1
		50to74% alw _p	Count	13,0	5,0	0,0	0,0	18,0
			Total %	9,2	3,5	0,0	0,0	12,8
		75to99% alw _p	Count	3,0	4,0	0,0	0,0	7,0
			Total %	2,1	2,8	0,0	0,0	5,0
		Alw. poor	Count	40,0	6,0	2,0	24,0	72,0
			Total %	28,4	4,3	1,4	17,0	51,1
	Total		Count	100,0	15,0	2,0	24,0	141,0
			Total %	70,9	10,6	1,4	17,0	100,0
1929 to 1938	Proportion of time spent in poverty in class	Never_p	Count	172,0	4,0	0,0	6,0	182,0
			Total %	11,3	0,3	0,0	0,4	11,9
		M25% alw _p	Count	56,0	0,0	0,0	2,0	58,0
			Total %	3,7	0,0	0,0	0,1	3,8
		25to49% alw _p	Count	122,0	14,0	0,0	2,0	138,0
			Total %	8,0	0,9	0,0	0,1	9,0
		50to74% alw _p	Count	70,0	9,0	0,0	68,0	147,0
			Total %	4,6	0,6	0,0	4,5	9,6
		75to99% alw _p	Count	96,0	50,0	2,0	19,0	167,0
			Total %	6,3	3,3	0,1	1,2	10,9
		Alw poor	Count	451,0	118,0	129,0	137,0	835,0
			Total %	29,5	7,7	8,4	9,0	54,7
	Total		Count	967,0	195,0	131,0	234,0	1527,0
			Total %	63,3	12,8	8,6	15,3	100,0
1939 to 1948	Proportion of time spent in poverty in class	Never poor	Count	658,0	163,0	41,0	40,0	902,0
			Total %	12,2	3,0	0,8	0,7	16,8
		M25% alw _p	Count	163,0	43,0	11,0	0,0	217,0
			Total %	3,0	0,8	0,2	0,0	4,0
		25 to49% alw _p	Count	405,0	79,0	62,0	1,0	547,0
			Total %	7,5	1,5	1,2	0,0	10,2
		50 to74% alw _p	Count	471,0	123,0	131,0	55,0	780,0
			Total %	8,8	2,3	2,4	1,0	14,5
		75to99% alw _p	Count	278,0	70,0	147,0	54,0	549,0
			Total %	5,2	1,3	2,7	1,0	10,2
		Alw_p	Count	1547,0	315,0	338,0	184,0	2384,0
			Total %	28,8	5,9	6,3	3,4	44,3

	Total		Count	3522,0	793,0	730,0	334,0	5379,0
			Total %	65,5	14,7	13,6	6,2	100,0
1949 to 1958	Proportion of time spent in poverty in class	never_p	Count	1040,0	152,0	106,0	22,0	1320,0
			Total %	14,0	2,1	1,4	0,3	17,8
		M25% alw _p	Count	192,0	40,0	33,0	16,0	281,0
			Total %	2,6	0,5	0,4	0,2	3,8
		25to49% alw _p	Count	444,0	104,0	56,0	36,0	640,0
			Total %	6,0	1,4	0,8	0,5	8,6
		50to74% alw _p	Count	568,0	148,0	168,0	59,0	943,0
			Total %	7,7	2,0	2,3	0,8	12,7
		75to99% alw _p	Count	509,0	183,0	80,0	44,0	816,0
			Total %	6,9	2,5	1,1	0,6	11,0
		Alw._p	Count	1548,0	682,0	716,0	464,0	3410,0
			Total %	20,9	9,2	9,7	6,3	46,0
	Total		Count	4301,0	1309,0	1159,0	641,0	7410,0
			Total %	58,0	17,7	15,6	8,7	100,0
1959 to 1968	Proportion of time spent in poverty in class	never_p	Count	796,0	218,0	41,0	68,0	1123,0
			Total %	12,8	3,5	0,7	1,1	18,0
		M25% alw _p	Count	232,0	61,0	39,0	41,0	373,0
			Total %	3,7	1,0	0,6	0,7	6,0
		25to49% alw _p	Count	410,0	195,0	68,0	50,0	723,0
			Total %	6,6	3,1	1,1	0,8	11,6
		50to74% alw _p	Count	379,0	255,0	102,0	80,0	816,0
			Total %	6,1	4,1	1,6	1,3	13,1
		75to99% alw _p	Count	315,0	191,0	60,0	86,0	652,0
			Total %	5,1	3,1	1,0	1,4	10,5
		Alw._poor	Count	1450,0	518,0	357,0	210,0	2535,0
			Total %	23,3	8,3	5,7	3,4	40,7
	Total		Count	3582,0	1438,0	667,0	535,0	6222,0
			Total %	57,6	23,1	10,7	8,6	100,0
1969 to 1978	Proportion of time spent in poverty in class	never_p	Count	703,0	171,0	27,0	70,0	971,0
			Total %	21,3	5,2	0,8	2,1	29,4
		M25% alw._p	Count	96,0	38,0	13,0	15,0	162,0
			Total %	2,9	1,2	0,4	0,5	4,9
		25to49% alw._p	Count	119,0	63,0	17,0	25,0	224,0
			Total %	3,6	1,9	0,5	0,8	6,8
		50to74% alw._p	Count	186,0	127,0	53,0	48,0	414,0
			Total %	5,6	3,8	1,6	1,5	12,5
		75to99% alw._p	Count	152,0	72,0	30,0	18,0	272,0
			Total %	4,6	2,2	0,9	0,5	8,2
		Alw._pauv	Count	619,0	247,0	192,0	200,0	1258,0
			Total %	18,8	7,5	5,8	6,1	38,1
	Total		Count	1875,0	718,0	332,0	376,0	3301,0
			Total %	56,8	21,8	10,1	11,4	100,0
1979 to 1988	Proportion of	never_p	Count	237,0	69,0	11,0	5,0	322,0

	time spent in poverty in class		Total %	32,4	9,4	1,5	0,7	44,0
		M25% alw._p	Count	18,0	19,0	3,0	0,0	40,0
			Total %	2,5	2,6	0,4	0,0	5,5
		25to49% alw._p	Count	21,0	29,0	1,0	3,0	54,0
			Total %	2,9	4,0	0,1	0,4	7,4
		50to74% alw._p	Count	25,0	21,0	14,0	4,0	64,0
			Total %	3,4	2,9	1,9	0,5	8,8
		75to99% alw._p	Count	37,0	23,0	10,0	11,0	81,0
			Total %	5,1	3,1	1,4	1,5	11,1
		Alw. _poor	Count	88,0	22,0	33,0	27,0	170,0
			Total %	12,0	3,0	4,5	3,7	23,3
	Total		Count	426,0	183,0	72,0	50,0	731,0
			Total %	58,3	25,0	9,8	6,8	100,0
1989 to 1998	Proportion of time spent in poverty in class	Alw. _poor	Count			4,0	5,0	9,0
			Total %			44,4	55,6	100,0
	Total		Count			4,0	5,0	9,0
			Total %			44,4	55,6	100,0

Source: LARTES

Annex 2 : Distribution of the surveyed population per poverty status and per number of shocks experienced

DATE OF BIRTH				Shocks experienced				Total
				No Shock	One Shock	Two Shocks	Plus de 2 Shocks	
1918 to 1928	Proportion of time spent in poverty in class	transitional	Count	60,0	6,0	0,0	0,0	66,0
			% of Total	42,6	4,3	0,0	0,0	46,8
		chronic poor	Count	40,0	9,0	2,0	24,0	75,0
			% of Total	28,4	6,4	1,4	17,0	53,2
	Total		Count	100,0	15,0	2,0	24,0	141,0
			% of Total	70,9	10,6	1,4	17,0	100,0
1929 to 1938	Proportion of time spent in poverty in class	Never poor	Count	183,0	4,0	0,0	7,0	194,0
			% of Total	12,0	0,3	0,0	0,5	12,7
		transitional	Count	283,0	46,0	0,0	87,0	416,0
			% of Total	18,5	3,0	0,0	5,7	27,2
		chronic poor	Count	501,0	145,0	131,0	140,0	917,0
			% of Total	32,8	9,5	8,6	9,2	60,1
	Total		Count	967,0	195,0	131,0	234,0	1527,0
			% of Total	63,3	12,8	8,6	15,3	100,0
1939 to 1948	Proportion of time spent in poverty in class	Never poor	Count	662,0	166,0	42,0	40,0	910,0
			% of Total	12,3	3,1	0,8	0,7	16,9
		transitional	Count	1224,0	290,0	304,0	110,0	1928,0
			% of Total	22,8	5,4	5,7	2,0	35,8
		chronic poor	Count	1636,0	337,0	384,0	184,0	2541,0
			% of Total	30,4	6,3	7,1	3,4	47,2
	Total		Count	3522,0	793,0	730,0	334,0	5379,0
			% of Total	65,5	14,7	13,6	6,2	100,0
1949 to 1958	Proportion of time spent in poverty in class	Never poor	Count	1108,0	156,0	109,0	23,0	1396,0
			% of Total	15,0	2,1	1,5	0,3	18,8
		transitional	Count	1458,0	401,0	310,0	151,0	2320,0
			% of Total	19,7	5,4	4,2	2,0	31,3
		chronic poor	Count	1735,0	752,0	740,0	467,0	3694,0
			% of Total	23,4	10,1	10,0	6,3	49,9
	Total		Count	4301,0	1309,0	1159,0	641,0	7410,0
			% of Total	58,0	17,7	15,6	8,7	100,0
1959 to 1968	Proportion of time spent in poverty in class	Never poor	Count	902,0	240,0	66,0	73,0	1281,0
			% of Total	14,5	3,9	1,1	1,2	20,6
		transitional	Count	1135,0	650,0	236,0	211,0	2232,0
			% of Total	18,2	10,4	3,8	3,4	35,9
		chronic poor	Count	1545,0	548,0	365,0	251,0	2709,0
			% of Total	24,8	8,8	5,9	4,0	43,5
	Total		Count	3582,0	1438,0	667,0	535,0	6222,0
			% of Total	57,6	23,1	10,7	8,6	100,0
1969 to 1978	Proportion of time spent in	Never poor	Count	730,0	182,0	33,0	76,0	1021,0
			% of Total	22,1	5,5	1,0	2,3	30,9

	poverty in class	transitional	Count	475,0	261,0	98,0	91,0	925,0
			% of Total	14,4	7,9	3,0	2,8	28,0
		chronic poor	Count	670,0	275,0	201,0	209,0	1355,0
			% of Total	20,3	8,3	6,1	6,3	41,0
	Total		Count	1875,0	718,0	332,0	376,0	3301,0
			% of Total	56,8	21,8	10,1	11,4	100,0
1979 to 1988	Proportion of time spent in poverty in class	Never poor	Count	241,0	72,0	11,0	5,0	329,0
			% of Total	33,0	9,8	1,5	0,7	45,0
		transitional	Count	87,0	87,0	24,0	18,0	216,0
			% of Total	11,9	11,9	3,3	2,5	29,5
		chronic poor	Count	98,0	24,0	37,0	27,0	186,0
			% of Total	13,4	3,3	5,1	3,7	25,4
	Total		Count	426,0	183,0	72,0	50,0	731,0
			% of Total	58,3	25,0	9,8	6,8	100,0
1989 to 1998	Proportion of time spent in poverty in class	chronic poor	Count			4,0	5,0	9,0
			% of Total			44,4	55,6	100,0
	Total		Count			4,0	5,0	9,0
			% of Total			44,4	55,6	100,0

Source: LARTES

Annex 3 : Table on the distribution of the path of household heads based on the number of shocks experienced, the level of education and time spent in poverty situation

SHOCK	Maxi level of education achieved	Time spent in non poverty situation	Time spent in months of poverty	Proportion of time spent in poverty
One Shock	Non-educated	6,3	15,2	75%
	Primary edu.	12,3	9,2	44%
	Professional	15,8	4,2	31%
	Y1 secondary	13,8	7,0	44%
	Y2 secondary	16,3	6,3	38%
	Higher edu.	19,7	3,1	29%
	Total	9,3	12,2	62%
Two Shocks	Non-educated	4,8	17,5	80%
	Primary edu.	9,9	11,6	59%
	Professional	11,5	7,4	43%
	Y1 secondary	9,9	13,9	52%
	Y2 secondary	13,1	8,8	39%
	Higher edu.	19,0	5,1	26%
	Total	6,3	16,0	73%
More than two shocks	Non-educated	4,3	19,4	80%
	Primary edu.	10,3	13,1	56%

	Professional	1,0	13,3	99%
	Y1 secondary	12,7	12,4	48%
	Y2 secondary	9,7	12,2	52%
	Higher edu.	10,5	16,5	54%
	Total	6,2	17,5	73%
Total	Non-educated	5,4	16,9	78%
	Primary edu.	11,4	10,4	49%
	Professional	12,8	6,2	42%
	Y1 secondary	12,6	9,8	47%
	Y2 secondary	14,3	8,0	41%
	Higher edu.	18,3	5,3	32%
	Total	7,7	14,5	67%

Source: LARTES

Annex 4 : Table on the distribution of the path of household heads based on the number of shocks experienced, level of instruction, time spent in poverty and per sex

SHOCK	Maxi level of education achieved	Sex	Time spent in non poverty situation (in months)	Time spent in poverty (in months)	Proportion of time spent in poverty
One Shock	Non-educated	Male	4,63	16,41	83%
		Female	7,63	14,14	68%
		Total	6,3	15,15	75%
	primary edu.	Male	10,71	11,25	57%
		Female	13,79	7,25	31%
		Total	12,31	9,18	44%
	professional	Male	15,06	0	68%
		Female	16	5,3	22%
		Total	15,81	4,23	31%
	Y1 secondary	Male	12,17	8,27	57%
		Female	15,47	5,73	29%
		Total	13,77	7,03	44%
	Y2 secondary	Male	16,17	5,51	37%
		Female	16,45	7,88	38%
		Total	16,26	6,25	38%
	higher edu.	Male	19,18	3,34	30%
		Female	25,8	0	21%
		Total	19,71	3,07	29%

	Total	Male	8,38	12,88	69%
		Female	10,1	11,57	55%
		Total	9,27	12,2	62%
Two Shocks	Non-educated	Male	3,7	19,36	86%
		Female	6,01	15,39	73%
		Total	4,77	17,53	80%
	primary edu.	Male	7,82	14,89	68%
		Female	12,02	8,26	50%
		Total	9,91	11,59	59%
	professional	Female	11,45	7,38	43%
		Total	11,45	7,38	43%
	Y1 secondary	Male	7,9	15,52	59%
		Female	15,27	9,63	33%
		Total	9,89	13,93	52%
	Y2 secondary	Male	11,89	11,54	53%
		Female	16,34	1,72	2%
		Total	13,12	8,83	39%
	higher edu.	Male	13,92	10	51%
		Female	24,21	0	0%
		Total	18,97	5,08	26%
	Total	Male	4,93	18,16	80%
		Female	7,83	13,52	65%
		Total	6,26	16,04	73%
More than two shocks	Non-educated	Male	3,86	20,23	83%
		Female	4,99	18,12	76%
		Total	4,33	19,35	80%
	primary edu.	Male	7,32	16,22	70%
		Female	14,32	8,66	36%
		Total	10,25	13,06	56%
	professional	Female	1	13,31	99%
		Total	1	13,31	99%
	Y1 secondary	Male	9,65	14,35	53%
		Female	18,86	8,45	39%
		Total	12,73	12,38	48%
	Y2 secondary	Male	7,39	13,44	58%
		Female	28,21	1,74	1%
		Total	9,66	12,16	52%
	higher edu.	Male	11,59	16,08	55%
		Female	0	20,5	44%
		Total	10,52	16,49	54%
	Total	Male	5,25	18,63	77%
		Female	7,52	15,74	67%
		Total	6,15	17,49	73%
Total	Non-educated	Male	4,1	18,42	84%
		Female	6,64	15,26	71%
		Total	5,35	16,86	78%

primary edu.	Male	9,34	13,13	62%
	Female	13,49	7,7	36%
	Total	11,39	10,44	49%
professional	Male	15,06	0	68%
	Female	12,54	7,02	38%
	Total	12,83	6,21	42%
Y1 secondary	Male	10,28	11,82	57%
	Female	15,92	6,83	31%
	Total	12,55	9,82	47%
Y2 secondary	Male	13,18	8,5	45%
	Female	17,55	6,4	29%
	Total	14,33	7,95	41%
higher edu.	Male	17,29	6,18	37%
	Female	23,02	1,38	9%
	Total	18,33	5,32	32%
Total	Male	6,56	15,89	74%
	Female	8,99	12,85	60%
	Total	7,71	14,45	67%

Source: LARTES

Annex 5 : Proportion of time spent in poverty per period in months/time spent in non poverty per period in months * economic contraction * cohort

Economic Contraction	cohort	Proportion of time spent in poverty	Time spent in poverty per period in months	Time spent in non poverty per period in months
More than 4 periods of economic contraction	Before 1954	,6899	13,49	7,55
	1954-68	,6298	12,96	8,35
	1969-78	,5361	12,59	11,20
	After 1978	,4412	10,48	14,36
	Total	,6148	12,87	9,13
Three periods of economic contraction	after1978	,3460	9,97	16,67
	Total	,3460	9,97	16,67
Total	Before 1954	,6899	13,49	7,55
	1954-68	,6298	12,96	8,35
	1969-78	,5361	12,59	11,20
	After	,4072	10,30	15,18

Economic Contraction	cohort	Proportion of time spent in poverty	Time spent in poverty per period in months	Time spent in non poverty per period in months
More than 4 periods of economic contraction	Before 1954	,6899	13,49	7,55
	1954-68	,6298	12,96	8,35
	1969-78	,5361	12,59	11,20
	After 1978	,4412	10,48	14,36
	Total	,6148	12,87	9,13
Three periods of economic contraction	after1978	,3460	9,97	16,67
	Total	,3460	9,97	16,67
Total	Before 1954	,6899	13,49	7,55
	1954-68	,6298	12,96	8,35
	1969-78	,5361	12,59	11,20
	After	,4072	10,30	15,18
	Total	,6052	12,77	9,40

Annex 6 : Proportion of time spent in poverty Time spent in poverty per period in months Time spent in non poverty per period in months * Economic contraction * shocks experienced

Economic contraction	Shocks experienced	Proportion of time spent in poverty	Time spent in poverty per period in months	Time spent in non poverty per period in months
More than 4 periods of economic contraction	No Shock	,5630	11,61	10,36
	One Shock	,6315	12,42	8,97
	Two Shocks	,7421	16,24	5,99
	More than two shocks	,7367	17,53	5,85
	Total	,6148	12,87	9,13
Three periods of economic contraction	No Shock	,3116	9,21	17,70
	One Shock	,3487	8,55	16,37
	Two Shocks	,4570	12,41	12,35
	More than two shocks	,4405	15,57	16,20
	Total	,3460	9,97	16,67
Total	No Shock	,5533	11,51	10,65

	One Shock	,6235	12,31	9,18
	Two Shocks	,7313	16,10	6,23
	More than two shocks	,7282	17,48	6,15
	Total	,6052	12,77	9,40

Annex 7 : Proportion of time spent in poverty Time spent in poverty per period in months Time spent in non poverty per period in months * Economic contraction * shocks experienced *appraisal of level of income

Economic contraction	Shocks experienced	Appraisal of income conditions	Proportion of time spent in poverty	Time spent in poverty per period in months	Time spent in non poverty per period in months	Annual wage from activity
More than 4 periods of economic contraction	No Shock	Bad income conditions	0,53	10,74	11,88	1971541,25
		Good income conditions	0,78	17,20	0,61	996231,19
		Total	0,56	11,61	10,36	1792265,83
	One Shock	Bad income conditions	0,58	10,95	11,50	1145048,30
		Good income conditions	0,81	17,48	0,23	892040,57
		Total	0,63	12,42	8,97	1078469,95
	Two Shocks	Bad income conditions	0,69	14,91	8,14	1178775,40
		Good income conditions	0,87	19,89	0,10	372985,35
		Total	0,74	16,24	5,99	919287,71
	More than two shocks	Bad income conditions	0,71	16,04	8,05	1369068,48
		Good income conditions	0,81	21,27	0,35	680983,36
		Total	0,74	17,53	5,85	1122551,26
	Total	Bad income conditions	0,57	11,66	11,09	1653485,09
		Good income conditions	0,81	18,32	0,38	807222,37
		Total	0,61	12,87	9,13	1454258,83
Three periods of economic contraction	No Shock	Bad income conditions	0,29	8,35	19,04	695345,72
		Good income conditions	0,58	20,44	0,36	466456,14
		Total	0,31	9,21	17,70	655325,15
	One Shock	Bad income conditions	0,34	7,51	18,33	251880,00
		Good income conditions	0,40	17,25	0,00	540000,00
		Total	0,35	8,55	16,37	311333,33
	Two Shocks	Bad income conditions	0,44	12,47	14,50	546958,90
		Good income conditions	0,55	12,14	0,86	365571,43
		Total	0,46	12,41	12,35	496673,27
	More than two shocks	Bad income conditions	0,49	15,13	17,16	166666,67
		Good income conditions	0,31	16,71	13,68	333000,00
		Total	0,44	15,57	16,20	204685,71
	Total	Bad income conditions	0,33	9,11	18,25	582505,97
		Good income conditions	0,49	17,51	2,85	438754,72
		Total	0,35	9,97	16,67	553481,90
Total	No Shock	Bad income conditions	0,52	10,64	12,18	1939508,35

		Good income conditions	0,78	17,27	0,60	983701,24
		Total	0,55	11,51	10,65	1764030,70
	One Shock	Bad income conditions	0,57	10,84	11,72	1133224,52
		Good income conditions	0,81	17,48	0,22	888635,42
		Total	0,62	12,31	9,18	1069032,42
	Two Shocks	Bad income conditions	0,68	14,80	8,42	1159330,79
		Good income conditions	0,87	19,71	0,12	372800,00
		Total	0,73	16,10	6,23	907064,33
	More than two shocks	Bad income conditions	0,70	16,02	8,31	1342260,18
		Good income conditions	0,79	21,15	0,72	676822,12
		Total	0,73	17,48	6,15	1105463,34
	Total	Bad income conditions	0,56	11,56	11,37	1628661,26
		Good income conditions	0,80	18,31	0,43	800176,08
		Total	0,61	12,77	9,40	1434237,33

Annex 8 : Economic contraction *income conditions *Shocks experienced Cross-tabulation

Shocks experienced			Income conditions		Total
			Bad income conditions	Good income conditions	
No Shock	Economic contraction	More than 4 periods of economic contraction	83,2%	12,9%	96,1%
		More than 4 periods of economic contraction	3,6%	,3%	3,9%
	Total		86,8%	13,2%	100,0%
One Shock	Economic contraction	More than 4 periods of economic contraction	75,4%	21,8%	97,2%
		More than 4 periods of economic contraction	2,5%	,3%	2,8%
	Total		77,9%	22,1%	100,0%
Two Shocks	Economic contraction	More than 4 periods of economic contraction	70,5%	25,7%	96,2%
		Three periods of economic contraction	3,2%	,6%	3,8%
	Total		73,7%	26,3%	100,0%
More than two shocks	Economic contraction	More than 4 periods of economic contraction	69,4%	27,7%	97,1%
		Three periods of economic contraction	2,1%	,8%	2,9%

Shocks experienced			Income conditions		Total
			Bad income conditions	Good income conditions	
No Shock	Economic contraction	More than 4 periods of economic contraction	83,2%	12,9%	96,1%
		More than 4 periods of economic contraction	3,6%	,3%	3,9%
	Total		86,8%	13,2%	100,0%
One Shock	Economic contraction	More than 4 periods of economic contraction	75,4%	21,8%	97,2%
		More than 4 periods of economic contraction	2,5%	,3%	2,8%
	Total		77,9%	22,1%	100,0%
Two Shocks	Economic contraction	More than 4 periods of economic contraction	70,5%	25,7%	96,2%
		Three periods of economic contraction	3,2%	,6%	3,8%
	Total		73,7%	26,3%	100,0%
More than two shocks	Economic contraction	More than 4 periods of economic contraction	69,4%	27,7%	97,1%
		Three periods of economic contraction	2,1%	,8%	2,9%
	Total		71,5%	28,5%	100,0%

Annex 9 : Change in poverty status *income conditions *Shocks experienced Cross-tabulation

Shock experienced				Income conditions		Total
				Bad income conditions	Good income conditions	
No Shock	Evol. pov.	No change	Count	12578,0	1949,0	14527,0
			% of Total	84,0	13,0	97,1
		Entry in pov	Count	95,0	83,0	178,0
			% of Total	0,6	0,6	1,2
		Exit from pov	Count	257,0	6,0	263,0
			% of Total	1,7	0,0	1,8
	Total		Count	12930,0	2038,0	14968,0

			% of Total	86,4	13,6	100,0
One Shock	evol. pov	No change	Count	3675,0	1000,0	4675,0
			% of Total	75,9	20,7	96,6
		Entry in pov	Count	32,0	36,0	68,0
			% of Total	0,7	0,7	1,4
		Exit from pov	Count	96,0	1,0	97,0
			% of Total	2,0	0,0	2,0
	Total		Count	3803,0	1037,0	4840,0
			% of Total	78,6	21,4	100,0
Two Shocks	Evol. pov.	No change	Count	2193,0	835,0	3028,0
			% of Total	70,3	26,8	97,1
		Entry in pov	Count	25,0	20,0	45,0
			% of Total	0,8	0,6	1,4
		Exit from pov	Count	43,0	3,0	46,0
			% of Total	1,4	0,1	1,5
	Total		Count	2261,0	858,0	3119,0
			% of Total	72,5	27,5	100,0
More than two shocks	Evol. pov.	No change	Count	1571,0	555,0	2126,0
			% of Total	71,4	25,2	96,7
		Entry in pov	Count	20,0	21,0	41,0
			% of Total	0,9	1,0	1,9
		Exit from pov	Count	32,0	0,0	32,0
			% of Total	1,5	0,0	1,5
	Total		Count	1623,0	576,0	2199,0
			% of Total	73,8	26,2	100,0

Annex 10 : Path in poverty based on 4 periods of life (3types)* change in status of poverty *Economic contraction Cross-tabulation

Economic contraction			Change in poverty status			Total
			No change	Entry in pov	Exit from pov	
More than 4 periods of economic contraction	Path in poverty based on 4 periods of life (3 types)	11	5,0%			5,0%
		12	1,0%	,0%	,1%	1,1%

	13	,0%			,0%	,0%		
	21		1,7%	,1%	,0%		1,8%	
	22		1,1%	,1%	,1%		1,3%	
	23		2,1%	,0%	,1%		2,3%	
	31	,0%		,0%		,0%		
	32		1,0%	,1%	,0%		1,1%	
	33		3,7%				3,7%	
	111		9,9%				9,9%	
	112		2,5%	,0%	,1%		2,6%	
	113	,3%			,0%	,3%		
	121	,4%		,0%	,0%	,4%		
	122	,9%		,1%	,1%		1,0%	
	123		6,1%	,0%	,3%		6,4%	
	133	,1%			,0%	,1%		
	211	,9%		,0%	,0%	,9%		
	212	,4%		,0%	,0%	,4%		
	221	,7%		,0%	,0%	,7%		
	222	,4%		,0%	,0%	,4%		
	223		1,7%	,1%	,1%		1,9%	
	232	,1%		,0%	,0%	,1%		
	233	,8%		,0%	,0%	,9%		
	311	,0%		,0%		,0%		
	321		2,6%	,1%	,0%		2,8%	
	322		1,3%	,1%	,1%		1,4%	
	323		2,7%	,1%	,1%		2,9%	
	331	,2%		,0%		,2%		
	332		3,4%	,1%	,0%		3,6%	
	333		17,1%				17,1%	
	1111		4,0%				4,0%	
	1112		1,3%		,0%		1,3%	
	1121	,1%		,0%	,0%	,1%		
	1122	,3%		,0%	,0%	,3%		
	1123		4,1%		,1%		4,2%	

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		1133	,1%	1,2%		,0%	,1%	1,2%
		1211	,1%		,0%	,0%	,1%	
		1221	,1%		,0%	,0%	,1%	
		1223	,3%		,0%	,0%	,4%	
		1232	,3%		,0%	,0%	,3%	
		1233						
		1332	,1%		,0%	,0%	,1%	
		1333	,1%			,0%	,1%	
		2112	,2%		,0%	,0%	,2%	
		2123	,2%		,0%	,0%	,2%	
		2211	,1%		,0%	,0%	,1%	
		2221	,1%		,0%	,0%	,1%	
		2222	,1%		,0%	,0%	,1%	
		2223	,2%		,0%	,0%	,2%	
		2233	,3%		,0%	,0%	,3%	
		2322	,1%		,0%	,0%	,1%	
		2333	,1%			,0%	,2%	
		3122	,1%		,0%	,0%	,1%	
		3123	,1%		,0%	,0%	,1%	
		3211	,3%		,0%		,3%	
		3212	,2%		,0%	,0%	,2%	
		3222	,1%		,0%	,0%	,1%	
		3223		1,6%	,1%	,1%		1,7%
		3233	,4%		,0%	,0%	,5%	
		3321	,1%		,0%		,2%	
		3322	,0%		,0%	,0%	,1%	
		3323		1,1%	,0%	,0%		1,2%
		3331	,1%		,0%		,1%	
		3332	,5%		,0%	,0%	,5%	
		3333		10,8%				10,8%
	Total			96,9%	1,4%	1,7%		100,0%
Three periods of economic contraction	Path in poverty based on 4 periods of life (3 types)	11		46,8%				46,8%
		12		4,8%		,5%		5,3%

	21	6,6%	,6%	,2%	7,4%
	22	3,4%	,4%	,4%	4,2%
	23	7,2%	,1%	,8%	8,1%
	31	,3%	,1%	,4%	
	32	10,9%	1,3%	,3%	12,5%
	33	15,2%			15,2%
Total		95,3%	2,5%	2,2%	100,0%

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