



CONSORTIUM POUR LA RECHERCHE  
ÉCONOMIQUE ET SOCIALE

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## LES NOTES DE POLITIQUE DU CRES

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**Which factors lead to entry and exit of poverty  
in the developing countries : a meta-analysis**

par  
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*(Version provisoire)*

## INTRODUCTION

The literature on the dynamics of poverty identifies numerous factors which impact the probability of an individual or household entering into or exiting from a state of major deprivation. Education, demographics (household size, dependency ratio, etc.), agricultural and non-agricultural assets, the community they live in, etc., are the most cited. But are they the most powerful levers for an individual or household to get out of poverty or avoid falling into it? Can we then conclude that anti-poverty programs are in fact based on rigorous knowledge of factors which have a proven antipoverty capacity? Knowing the factors which promote an exit from poverty and those which prevent an entry into poverty can make it possible to design programs which are based on the most effective levers against this phenomenon. The goal of this paper was to respond to this question applying the meta-analysis approach to results from recent quantitative empirical works on poverty dynamics.

Starting with a sample of 117 studies, we finally selected 36 studies that meet clearly defined criteria. One of these criteria is that the study should focus on the developing countries of Africa, Asia and Latin America and should deal with the dynamics of poverty. Four questions are therefore asked: what is the mean effect of each of the main determinants on the entry into and exit from poverty? Are studies on the dynamics of poverty characterized by a selection bias (publication bias)? After having controlled for publication bias, is there a real impact on poverty dynamics of the most commonly cited poverty determinants in the literature? What is the source of heterogeneity of the effect size of the determinants reported by the studies?

## EVIDENCE AND ANALYSIS

**Mean effects.** The estimates of the mean effects of the determinants show that education and age decrease the probability of the household or individual to entry into poverty. In contrast, the numbers of the dependent, the household size and the unemployment have the inverse effect. They significantly increase the probability to move in poverty. In other side, education and income significantly increase the probability to move out from poverty while the number of dependent and the household size decrease this probability.

Table 1: Mean effect of factors explaining poverty dynamics in developing countries, using a random-effects model

Factor explaining poverty dynamics	Entry into poverty				Exit from poverty			
	Number of studies	Number of observations	Summary effect	Z value	Number of studies	Number of observations	Summary effect	Z value
Employment	9	49	-0,014	-0,23	8	49	-0,016	-0,16
Education	14	94	-0,12	-2,06**	11	72	0,18	2,84***
Primary education	10	31	0,00	-0,02	7	22	0,03	0,96
Secondary education	10	32	-0,07	-1,94*	8	24	0,12	2,32**
Age	14	31	-0,01	-2,39**	11	26	-0,001	-0,03
Dependant within household	11	67	0,10	3,10***	9	49	-0,10	-1,51
Labor force within household	10	23	0,002	0,06	9	15	0,07	0,94
Physical assets	10	41	-0,010	-0,809	9	43	0,01	0,41
Household size	8	25	0,02	2,44**	8	26	-0,11	-2,08**
Shocks	6	40	0,010	0,30	5	23	-0,03	-0,71
Unemployment	4	21	0,19	3,25**	4	21	-0,14	-1,43
Income	6	11	-0,11	-1,46	7	20	0,29	1,70*

Significant at 10% (\*), 5% (\*\*) and 1%(\*\*\*) levels, ce of selection bias

**Existence of selection bias.** Another question this work deals with is the existence of publication bias. A publication bias may appear when the publication of a study depends on the significance (Publication bias of type II) and/or direction (Publication bias of type I) of the results obtained. The findings show that, overall, published works on the determinants of the dynamics of poverty are primarily those which report statistical significance and an effect which has the expected sign.

**Existence of real impacts.** Even in the presence of selection bias, we have to verify whether, among the determinants of poverty dynamics, there exists a real effect which is not due to either bias induced by a preference for statistically significant results, nor to the process of obtaining these results. We find authentic effect of most of factors (education, age, household size, number of dependent, unemployment, physical asset) on the dynamics of poverty.

**Sources of heterogeneity of the size effect reported by the studies.** Finally, this work investigated, for each determinant of poverty dynamics, the sources of heterogeneity of the effect size reported in the various studies. The results showed that the model used in the study, the number of observations, the survey coverage, and the type of document explain the difference of effect size of the determinants on the entry into poverty. Furthermore, the results highlight that the effects of most of poverty dynamics determinants are not statistically different between Africa and the other developing continents, except that of household size, employment and shocks. The effect of household size in the entry into poverty is significantly higher in Africa than in the other continents. In contrast, the effects of both employment and shocks in the entry into poverty are higher in the other continents than in Africa.

The heterogeneity of the effect size of the factors on exit rate are mainly explained by the survey coverage followed by the type of the document, the publication year, the welfare indicator, the continent. The results show also that the effect size of education (all levels and secondary education), household size and physical assets is significantly lower in Africa in comparison to the other continents.

Starting with a sample of 36 studies, and having performed a series of robustness tests, we have found that publication bias is relevant for a number of estimators of poverty, but most of them have a real effect on poverty dynamics. Physical assets and income prevent from falling in poverty and these factors are effective to exit from poverty. Three divers in poverty emerge from the literature: a high number of the dependants and the household size, the labor force in the household and the unemployment. They prevent also exit from deprivation. The two first factors are demographic in nature, showing the importance to allow to long population policies in a poverty reduction strategy. One interesting result is related to primary education. It has long been considered as an important factor in poverty reduction. However, the relationship has changed. Even globally, education remains a powerful driver out of poverty, primary education no longer has that ability, nor prevent from falling into poverty. While putting emphasis on quality in primary education remains a priority for educative policies.

## RESEARCH PARAMETERS

The first step of the methodology is to define the criteria to be verified by studies to include in the sample of works. Once the sampling has been defined, the second step consists of taking stock of and classifying all factors used to explain the movements of entering into and exiting from poverty. These factors are grouped into 21 categories such as demographic characteristics (age, gender, etc.), household size, housing conditions, migration, education, assets (physical assets, financial assets and social capital), basic services, infrastructural services, shocks, employment, etc. To estimate the mean (summary) of the individual effect sizes provided by different studies, we use a random-effects model. To detect the potential existence of publication bias (type I and type II), we apply the funnel asymmetry test, which is based on a regression model accounting for both the effect size and the standard deviation of each poverty dynamics determinant. Finally, to study the impact of the heterogeneity sources on the effect size of the reported works, we use an estimation model consists of relating the observed effect and these sources. The model is estimated by using the ordinary least squares with cluster option in order to obtain robust standard-errors.

## PROJECT IDENTITY

<b>PROJECT NAME</b>	Enhancing Knowledge for Renewed Policies against Poverty (NOPOOR)
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