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Subgroups Evidence on Banks, Stock Markets and Poverty Alleviation

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ABSTRACT

The aim of this paper is to test the impact of banking and stock market development on different poverty indicators, between 1981 and 2013. To this end, we used the Generalized Moment Method (GMM) system. Our sample consists of 75 countries, which we divided into four subgroups according to their Gross Domestic Product (GDP). Our results show that, overall, the impact of financial development (FD) on poverty is sensitive to the country group and the structure of the adopted financial system. Unlike the middle-income group, the financial system of low-income countries does not improve the poor living conditions. For the upper middle-income group and the high-income group, the banking system is pro-poor, but the stock exchange system seems to play against the poor.

Keywords: *Financial Development, Banks, Stock Markets, Poverty, GMM system.*

JEL Classification: *O11, O16, I32*

INTRODUCTION

One of the most difficult problems to be examined by economists is improving the world of the poor (Levine J, 2009). Nevertheless, after the millennium summit in 2000, organized by the United Nations (UN), the effort to reduce poverty has been stepped up. In fact, countries, which agreed to commit to the Millennium Development Goals (MDGs), have pledged to increase their efforts to fight against poverty. In the MDG's, extreme poverty was supposed to be eliminated by 2015. Since that summit, UN has been working with governments, civil society and several partners to take advantage of the momentum generated by the MDGs and the 2030 agenda for sustainable development[1], which stressed the importance of reducing poverty. The new agenda, admitted by political leaders from around the world, is composed of 17 Sustainable Development Goals (SDGs) to be targeted until 2030. Among these objectives, we find, as a first priority, the fight against extreme poverty (less than 1.25 $ a day) everywhere.

Poverty has been a hot topic for developing countries. It is a serious challenge for all the nations across the world. Economists and politicians have been always interested in the poor, and have been trying to create activities that generate incomes in order to meet their needs and rise their incomes. However, one of the main problems they face is access to financing opportunities. Access to stock markets has been limited to companies' shareholders and access to credit is possible for a particular category of the population. Accordingly, the poor with no means to provide collateral are unable to invest.

Due to those challenges, Policy makers took several measures to render access to finance more available and fight against poverty, by encouraging the creation of microfinance institutions, for example. Moreover, many studies have studied the relationship between FD and poverty. Indeed, some researchers have attempted to study the relationship between FD and poverty reduction(e.g., Perez-Moreno S., 2011, Ho S-Y. & Odhiambo N. M., 2011, Noreen S. & al., 2012, Ho S. Y. & Njindan Iyke B., 2017, CepparuloA. et al., 2017…).In contrast, some others have attempted to study the relationship between FD and the triangle of economic growth-income inequality and poverty (e.g., Jalilian H. & Kirkpatrick C., 2002, Beck T. & al., 2007, Odhiambo N. M., 2009, Jeanneney S. G. & Kpodar K. R., 2008, Akther

[1] Readers interested for more details regarding goals Sustainable development 2030 may consult this website: https://sustainabledevelopment.un.org/post2015/transformingourworld

S. & Daly K. J., 2009, Abdin J., 2016, Rashid A. & Intartaglia M., 2017…). Infact, FD can contribute to poverty reduction, on the one hand, through a well-developed financial system, and by improving the access of the poor to financial services. As for, Kpodar K. R. (2004), he distinguished two direct effects of FD on poverty, which are the capital-driven and the threshold effect. *(i)* The capital-driven effect has been proposed by Keynes (1937) and developed by McKinnon R. I. (1973). It assumes that money and capital are complementary. McKinnon R. I. (1973) argued that even if financial instruments do not provide loans to the poor, they do provide profitable financial opportunities. *(ii)* The threshold effect, assumes that, when the financial system is developed, it is possible that financial services spread to the poor. It is necessary that the financial system reaches a certain threshold of development allowing it to be more efficient and competitive in offering its services to the poor.

Financial system can also decrease poverty by improving economic growth and reducing income inequality. This relation is well known in the literature by the *Trickle Down*[2] theory. This economic theory of liberal inspiration has been widely supported (e.g., Mellor J. W., 1999, Fan S. & al., 2000, World Bank, 2001, Ravallion M. & Datt G., 2002, Dollar D. & Kraay A., 2002, Besley T. & Burgess R., 2003, Pradhan R. P., 2010, Sowell T., 2013…). However, Fishlow A. (1995), Basu S. & Mallick S. (2007) ... could not prove support for Trickle Down's theory.

In addition, the empirical evidence of many concerned studies seems to neglect to test the relationship between FD and poverty reduction in the subgroups[3] countries. Indeed, those studies didn't highlight the impact of the banks and stock markets on poverty reduction. To fulfill this research gap, we used banking and stock markets development dimensions to analyze this relationship by using several indicators of poverty. This article is among others few studies that focuses on the banking and stock market indicators to better understand the relationship between FD and poverty. We examine the impact of FD on poverty indicators from countries classified into four groups of countries. These are low-income, middle-income, upper-middle-income and high-income countries.

The rest of the paper is organized as follows: Section 2 reviews the earlier studies that empirically examined the relationship between FD and poverty. The third section presents the data and methodology. The fourth section discusses our econometric framework and the main results. Section five concludes the article.

BRIEF LITERATURE REVUE

Financial Development and Poverty Reduction

The empirical papers that tested the link between FD and poverty reduction are numerous in the literature. We present the main recent studies that investigated this relationship. Perez-Moreno S. (2011) proved that the impact of FD on poverty depends on the nature of the FD indicator used in a sample of 35 developing countries. Indeed, when relying on the ratio of bank credits to the private sector, as a percentage of GDP, empirical results show no causal link between FD and poverty; However, when using liquid debts (M3), as a percentage of GDP, or M2, as a percentage of GDP, the results become significant. In the case of China, Ho S-Y. & Odhiambo N. M. (2011) analyzed the causal link between FD and poverty. Their empirical results indicate that the causal link is sensitive to the FD variable used. In a panel of 67 low- and middle-income countries for the period from 1986 to 2012, Boukhatem J. (2016) demonstrated that, irrespective of the econometric method applied, FD contributes to the reduction of poverty, by improving the access of poor and vulnerable groups to different sources of finance. Recently, Ho SY & Njindan Iyke B. (2017) studied the causality of this relationship in the case of China for the period between 1985 and 2014. The empirical results revealed a two-way causal link between FD and poverty reduction.

Financial Development And The Triangle "Growth-Inequality-Poverty."

This field of research is still a hot topic. In fact, empirical studies of several researchers with the aim of better understanding the channels of transmission between these different poles, namely FD and poverty, still in progress. In the case of Pakistan, Shahbaz M. (2009) studied this relationship for the period between 1971 and

[2] The Trickle Down's theory of development is widely used in the 70th with the liberal politics of Ronal Reagan. This approach is recommended by The Chicago School guaranteeing that the wealth of the upper social classes would eventually benefit society as a whole. The main idea was to demonstrate that tax policies favoring the rich always end up favoring the poorest.

[3] We followed the Atlas Method of the WB to classify countries in subgroups. Some variables definitions and further explanation will be provided in the next section.

2005, using the Autoregressive Distributed Lag Model (ARDL) method. He concluded that FD improves the income level of the poor population, by investing in physical and human capital, increasing thereby the economic growth. As for Chemli L. (2014), she pointed out that FD is favorable to the poor in the Middle East and North Africa (MENA) region, by *(i)* offering credit and facilitating access to financial services; and *(ii)* improving economic growth and reducing income inequality. Those results are shared by Abosedra S. et al. (2016), Abdin J. (2016), Rashid A. & Intartaglia M. (2017) ... In the case of Egypt, Abosedra S. & al. (2016) confirmed that FD reduces poverty by improving the poor access to financial services, such as credit and risk insurance services and indirectly through the channel of economic growth. Noting that these results are only confirmed when they use the money supply M2 as a percentage of GDP as an indicator of FD and the infant mortality rate as an indicator of poverty. In Bangladesh, Abdin J. (2016) reported that FD reduces poverty by facilitating the poor access to credit and providing better savings opportunities, and indirectly by improving economic growth. Rashid A. & Intartaglia M. (2017) studied this relationship with a sample of developing countries. Their empirical results have shown that the development of the financial sector has a greater impact on poverty reduction when economic growth is relatively high.

OVERVIEW OF SUBGROUPS COUNTRIES

For a long time, the World Bank (WB) has used as a criterion to rank countries a specific economic development indicator; the GDP per capita expressed in US dollars. Indeed, since 1966, it has applied the Atlas Method to subdivide all countries according to their GDP. The first set of these statistics was published in 1964. At that time, Kuwait ranked first, with a GDP of US $ 3,290, before the United States and Sweden, which had GDPs of $ 3,020 and $ 2,040 respectively.

Ranking countries into subgroups appeared in 1978, with the WB's first World Development Report. This report introduced two groups of countries, low-income and middle-income countries, to denote all non-industrialized, surplus oil-producing or centrally planned producers with a per capita income of less or more than $ 250[4], respectively. The 1983 report, which focuses on the role of management in development, subdivided the middle-income countries group into two groups. These are the lower- and upper-income groups, setting the dividing line at $ 1,670. Finally, in 1989, the cutting line of $ 6,000 emerged to distinguish high-income countries.

Indeed, GDP per capita remains a suitable criterion to rank countries because it usefully correlates with several other indicators commonly used to assess the progress of each country. Moreover, it has the advantage of using generally abundant data, GDP figures and population data that are available in a timely manner to update the ranking on an annual basis. In addition, every July 1st, the WB revises its ranking of world economies. Still, this ranking uses GDP figures of the previous year. For example, as of July 1st, 2016, the criteria are set as follows: GDP per capita of $ 1,025 or less defines low-income countries, GDP per capita between $ 1,026 and $ 4,035 defines lower middle-income countries, while a GDP per capita between $ 4,036 and $ 12,475 defines the upper middle-income countries. Moreover, a GDP per capita higher or equal to $ 12,476 defines the high-income countries. These updated figures are taken into account in the WB's operational guidelines to determine eligibility of some countries for funding.

In Figure 1, which represents the low-income countries group, we notice that FD indicators are underdeveloped. For example, the evolution of loans to the private sector has only changed from 0.02% of GDP between 1981 and 2013 (from 2.56 to 2.58% of GDP). In 2010, the International Monetary Fund (IMF) created a Poverty Reduction and Growth Trust Fund to ease and adapt its financial support to low-income countries. This commitment is channeled by three concessional loan windows, namely *(i)* The Extended Credit Facility[5]

(ii) The Confirmation Credit Facility[6], and

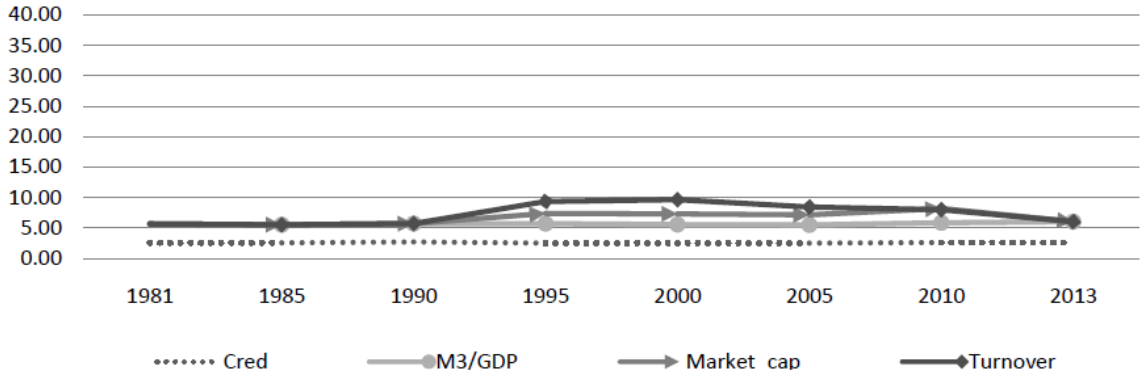
(iii) The Quick Credit Facility[7].

[4] 1970 data

[5] Offers a short or a long term support in case of persistent payment balance problems

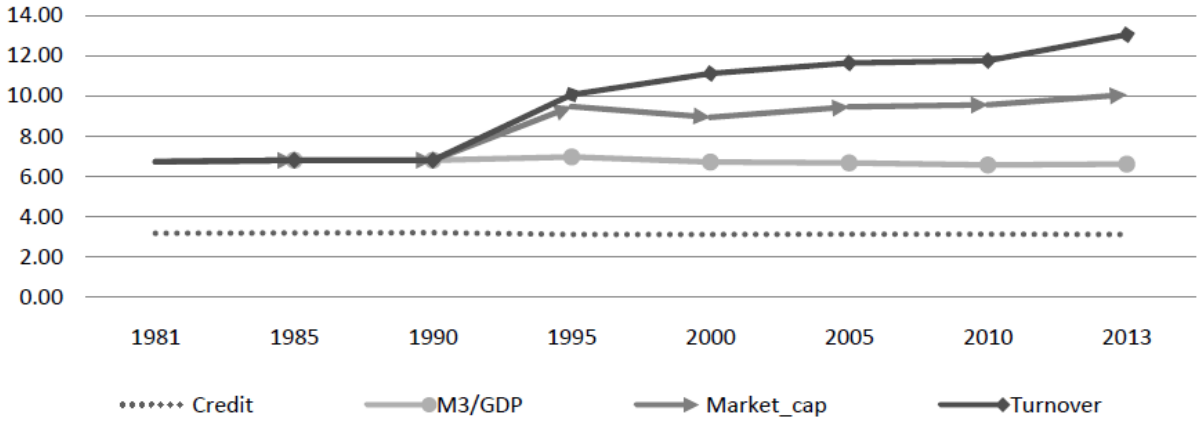
[6] Offers funding to lower income countries with short term payment balance or adjustment needs in case of internal or external chocks or a derailing economic policy.

[7] Offers a quick unconditional financial support in the form of a single and immediate funding to lower income countries with urgent financial needs to cover their payment balance and over a limited period, successive financing for countries with with recurrent or continuous financing of their payment balances



Source: *Authors' estimation based on WDI database (2015)*

Figure1. The evolution of the low-income countries financial development variables



Source: *Authors' estimation based on WDI database (2015)*

Figure2. *The évolution of the middle-income countries financial development variables*

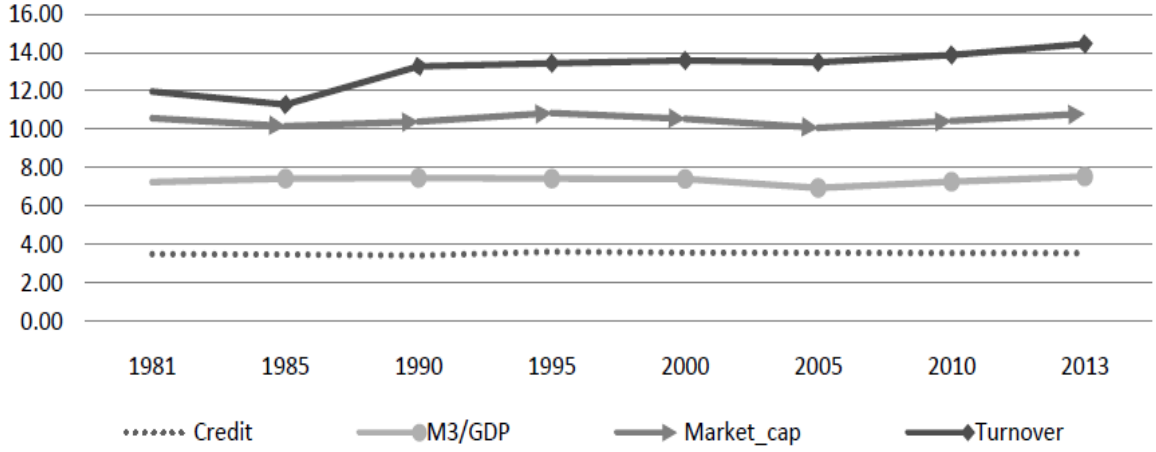
For the middle-income countries, stock market variables have evolved more or less over time in tandem with banking variables. For example, market capitalization of listed companies as a percentage of GDP increased by 1.08% of GDP (from 2.30 to 3.45% of GDP), while bank loans to the private sector as a percentage of GDP increased by 0.01% of GDP (3.12% to 3.13% of GDP) between 2000 and 2013. According to these statistics, this evolution of stock market indicators will have a positive impact on economic growth and particularly on poverty reduction. Generally, economic growth in this group of countries depends more on international trade and investment flows.

The main options open to them relate to how they should change their industrial and trade policies in the face of changing international environments (WB, 1978). One of the attempts to strengthen the role of the banking system for middle-income countries came from the African Development Bank (ADB) in November 2011. The ADB has put in place new guidelines for the administration and use of the Technical Assistance Fund (TAF) for Middle Income Countries. Among the objectives set by the ADB are: *(i)* to identify and disseminate best practices in credit design, granting and implementation, *(ii)* facilitate accelerated internal processing of bank approvals and assess the problems that hinder credit payment[8]…

For the last two groups of countries, i.e. the upper-middle-income group and the high-income-group, we notice significant growth in stock market indicators compared to the banking indicators for the 1981-2013 period. For example, for upper-middle-income countries, turnover ratio as a percentage of GDP increased from 1.39% to 3.64% of GDP, while bank loans granted to the private sector as a percentage of GDP increased from 3.49 to 3.54 as a percentage of GDP. Similarly, for the high-income group, the variables "*(Market_cap)*" and "Turnover" increased by

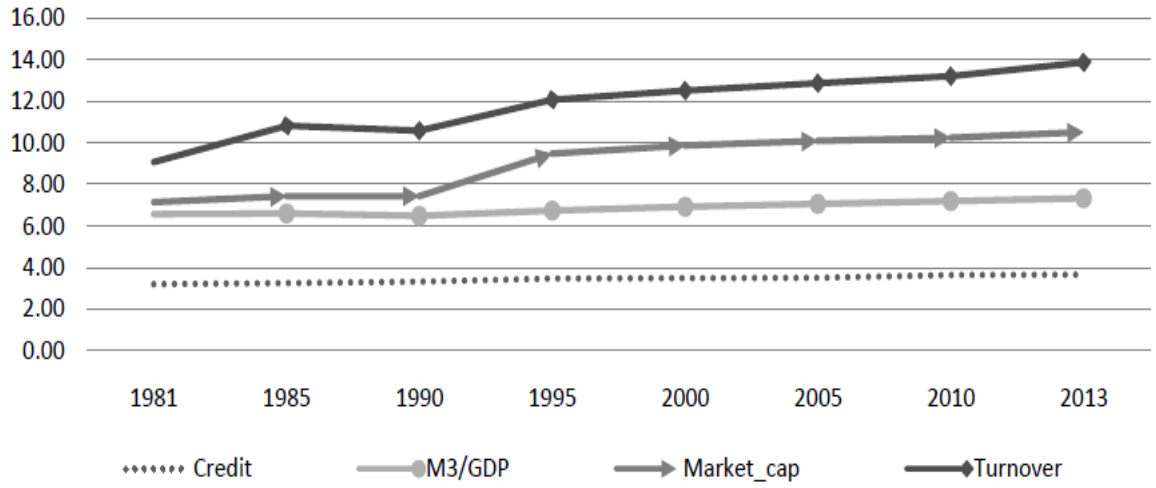
[8]Consult the rest of the objectives in the ADB's report. https://www.afdb.org/fr/topics-and-sectors/initiatives-partnerships/middle-income-countries/

2.60 and 1.44% of GDP, respectively, against an increase of 0.46 and 0.29 as% of GDP for the variables Credit and "M3 / GDP".



Source: *Autours' estimation based on WDI database(2015)*

Figure3. *The evolution of the upper-middle-income countries financial development variables*



Source: *Autours' estimation based on WDI database (2015)*

Figure4. *The evolution of the high-income countries financial development variables*

DATA AND METHODOLOGY

Data

Our sample includes 75 heterogeneous countries in terms of the Gross National Product (GNP), over the 1981 to 2013 period. For that reason, we divided them into four groups of countries according to their income levels using the Atlas method of the WB (low income below $ 975; middle income between $ 976 and $ 3855; upper middle income between 3856 and11905 $ and higher income greater than $ 11,906). Appendix 1 contains the classification of the sample.

The Econometric Model

In this section, we present our model to test the relationship between FD and poverty.

$$Pov_{it} = \alpha_0 + \alpha_1 Pov_{it-1} + \alpha_2 FD_{it} + \alpha_3 GDP_{it} + \alpha_4 School\_enr_{it} + \alpha_5 Openness_{it} + \alpha_6 INF_{it} + \alpha_7 POP_{it} + \alpha_8 Gov\_exp_{it} + \beta_i + \varepsilon_{it}$$

Note that all variables are expressed in logarithms, with *Pov* denoting poverty indicators, *FD* is the Financial Development indicator (banking and stock markets, % of GDP), *GDP* is Gross Domestic Product per capita, *School_enr* is education level, *Openness* represents trade openness (% of GDP), *INF* is inflation rate, *POP* is total population, *Gov_exp* represents expenditure on government's final consumption (% of GDP), β represents specific effect of country *i* and ε is error term. Appendix 2 presents the definition of the variables and their sources.

As for FD, it is measured by a number of variables; either by banking indicators such as

bank credits to the private sector as a percent of GDP *(Cred)*, and *(M3)* as a percent of GDP, or by stock markets indicators namely the market capitalization of listed companies as a percent of GDP *(Market_cap)* and the Turnover ratio as a percent of GDP. Our purpose, is to test the impact of banking and stock market development on four different poverty indicators i.e. the poverty headcount ratio at $1.90 a day PPP (%), the poverty headcount ratio at $3.10 a day PPP (%), the poverty gap at $ 1.90 a day (2011 PPP) and the poverty gap at $ 3.10 a day (2011 PPP).These poverty variables have been used by several authors (e.g., Beck T. et al. 2007,Perez-Moreno S, 2011, Singh R. J. & Huang Y, 2015, Cepparulo A. et al., 2017…). They are available on the World Development Indicators (WDI) database of the WB, for all countries in our sample.

In addition, we use the GMM system initially proposed by Arellano M. & Bond S. (1991) to control the endogeneity in our regression. However, the system GMM is based on the idea that additional moment conditions can be introduced by adding the level equations to the first-differenced equations and using lagged differences of the explanatory variables as instruments for the level equations (Bond S. R. & al., 2001). In other words, the system GMM estimator combines the previous set of equations in first differences with suitable lagged levels as instruments with an additional set of equations in levels. Blundell R. & Bond S. (1998) have established from Monte Carlo simulations that this difference estimator may not perform well when there is persistence in the lagged dependent variable. The system GMM, initially proposed by Arellano M. & Bover O. (1995) may be better suited and performs better than the first-differenced GMM, which is biased in small samples when the instruments are weak (Blundell R. et al., 2001).

Another advantage of the System GMM method, that it is relevant to explain variation in time series and to account for unobserved specific individual effects, enabling the inclusion of lagged dependent variables as independent variables, and thus allowing for a better control of the endogeneity of all the independent variables (Beck T. et al, 2007). However, the System GMM method has been widely used in recent research, especially by Beck T. et al., 2007, Jeanneney S. J. & Kpodar K., 2008, Singh M. & al.,2010, Johansson A. C. & Wang X., 2012, and Seven U.& Coskun Y., 2016... In addition, we use the GMM specification to solve the problem of endogeneity. To validate our instruments, we use the standard Hansen / Sargan test. The null hypothesis states that the instrumental variables do not correlate with residuals. Moreover, we conduct the serial correlation test (AR2), whose null hypothesis states that there is no second order serial correlation between error terms.

Results And Discussion

Descriptive Statistics

Tables 1 and 2 respectively report the descriptive statistics and correlation coefficients of the variables used in our model. For each variable, the Mean, Standard deviation (Std. Dev), Min and Max are calculated. The correlation matrix shows relatively low correlation between the variables.

Table1. *Descriptives Statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
Poverty gap at $ 1.90	800	0.48	2.08	-4.61	3.97
Poverty gap at $ 3.10	810	1.47	1.90	-4.61	4.23
Poverty headcount ratio at $1.90	821	1.52	2.04	-4.61	4.48
Poverty headcount ratio at $3.10	814	2.55	1.68	-4.61	4.60
Cred	2 233	3.21	0.80	-0.22	5.11
M3/GDP	840	3.49	0.46	1.88	4.92
Market_cap	919	2.83	1.71	-5.29	11.53
Turnover	655	2.59	1.80	-9.49	9.78
GDP	2 437	25.92	4.64	1.43	36.92
POP	2 625	16.43	1.55	11.88	21.03
Openness	2 363	4.12	0.56	1.84	5.40
INF	2 252	2.27	1.51	-13.50	9.65
School_enr	1 866	3.92	0.73	0.91	4.71
Gov_exp	2 346	2.60	0.39	0.32	3.81

Table2. *Correlation coefficients Matrix*

	Pov gap at $1.90	Pov gap at $ 3.10	Pov head at $1.90	Pov head at $ 3.10	Cred	M3/ GDP	Marke_ cap	Turnover	GDP	POP	Openness	INF	School_ enr	Gov_exp
Pov gap at $1.90	1.0000													
Pov gap at $ 3.10	0.9402	1.0000												
Pov head at $1.90	0.9689	0.9886	1.0000											
Pov head at $ 3.10	0.8630	0.9797	0.9474	1.0000										
Cred	-0.3621	-0.3068	-0.3396	-0.2498	1.0000									
M3/GDP	-0.4566	-0.3513	-0.4021	-0.2748	0.6527	1.0000								
Market_ cap	-0.0752	-0.0548	-0.0468	-0.0281	0.6480	0.3267	1.0000							
Turnover	-0.4197	-0.3431	-0.3597	-0.2896	0.1206	0.0831	0.3747	1.0000						
GDP	-0.1418	-0.1616	-0.1578	-0.1479	0.2326	-0.2106	0.4009	0.3893	1.0000					
POP	-0.2874	-0.2077	-0.2211	-0.1521	-0.1059	-0.0606	0.2369	0.7528	0.5353	1.000				
Openness	-0.4176	-0.3204	-0.3664	-0.2260	0.6544	0.8065	0.3284	-0.1010	-0.0365	-0.0929	1.0000			
INF	-0.0236	-0.0689	-0.0479	-0.1066	-0.3387	-0.2956	-0.2454	0.0646	0.0733	0.2387	-0.2406	1.0000		
School_ enr	-0.1674	-0.2040	-0.1844	-0.2301	0.0459	-0.1870	0.3309	0.2749	0.4980	0.4121	-0.2020	0.0626	1.0000	
Gov_exp	-0.0997	-0.0521	-0.0664	-0.0472	0.4048	0.1238	0.2538	0.1084	0.3749	0.1917	0.1058	-0.1445	0.4481	1.0000

Empirical Results

We test, in the tables below, the impact of FD, represented by banking and stock market dimensions, on the four poverty indicators, for each of the four subgroups countries. We opte for the GMM in System and we prove the validity of the instruments. Hansen/ Sargan Standard test and the serial correlation test (AR2) are verified in all the regressions of our model.

By analyzing our regressions outputs in the group of low-income countries (cf., table 3), we concluded that FD does not favor the poor. Its impact on poverty is positive in all the regressions. This finding implies that our results are not sensitive to poverty indicators for this group of countries. Conversely, this shows some robustness of our outputs. Besides, this result can be linked to our interpretation of graphic presentation of FD in figure 1. This explains why the financial system does not improve the situation of the poor. In fact, this result is consistent with the studies of Abidoye B. & Fowowe B. (2012) in the context of African countries. Indeed, the dysfunction and the under development of the financial system have made it less effective in the fight against poverty. Usually these countries need assistance from major international institutions to improve their economies and to reduce poverty. The international financial institutions support the low-income countries in providing jobs for the unemployed, in order to accelerate economic growth and reduce poverty rate (IMF, 2016).

Table3. *Estimation Results from the Low-Income Countries_GMM in System*

	Poverty headcount ratio at $1.90 a day PPP (%)		*Poverty headcount ratio at $3.10 a day PPP (%)*		*Poverty gap at $ 1.90 a day (2011 PPP)*		*Poverty gap at $ 3.10 a day (2011 PPP)*	
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
LagPov	-0.33 (-1.09)	-0.50** (-2.28)	-0.76 (-1.57)	-0.45** (-2.06)	-0.04 (-0.13)	-0.16 (-0.55)	-0.84 (-1.27)	-0.42* (-1.69)
Cred	0.12 (0.35)	-	0.26 (0.76)	-	0.53 (1.04)	-	0.47 (1.04)	-
Market_cap	-	0.34** (1.98)	-	0.26** (1.96)	-	0.31 (1.05)	-	0.28 (1.52)
GDP	-4.45*** (-3.89)	-5.20*** (-4.02)	-4.40*** (-3.63)	-4.09*** (-4.22)	-3.49** (-2.52)	-3.51* (-1.69)	-5.51*** (-2.67)	-4.49*** (-3.25)
INF	0.26* (1.88)	0.41** (2.51)	0.15 (1.39)	0.28** (2.27)	0.43* (1.94)	0.70** (2.42)	0.34* (1.95)	0.48*** (2.62)
Openness	-0.80 (-0.82)	-1.29 (-0.86)	-1.47* (-1.66)	-1.93* (-1.69)	-0.13 (-0.10)	-0.06 (-0.03)	-1.12 (-0.96)	-1.19 (-0.73)
School_enr	0.20 (0.21)	1.18 (1.33)	0.11 (0.15)	0.85 (1.29)	-0.78 (-0.60)	1.28 (0.87)	-0.23 (-0.22)	1.20 (1.26)
Gov_exp	-2.33* (-1.74)	-0.97 (-0.47)	-3.95*** (-2.67)	-2.35 (-1.44)	-0.98 (-0.61)	0.98 (0.30)	-3.18* (-1.76)	-0.90 (-0.40)
POP	33.86*** (3.82)	37.11*** (3.44)	33.02*** (3.62)	30.35*** (3.72)	26.34** (2.42)	22.17 (1.27)	41.25*** (2.67)	31.53*** (2.72)
Cons_	-373.53*** (-3.79)	-406.85*** (-3.38)	-353.08*** (-3.61)	-327.48*** (-3.61)	-293.03** (-2.39)	-242.72 (-1.24)	-449.88*** (-2.68)	-344.10*** (-2.65)
Nbr of Obs	23	14	23	14	23	14	23	14
Nbr of countries	1	1	1	1	1	1	1	1
Sargan/ Hansen test	0.59	0.17	0.72	0.13	0.67	0.22	0.72	0.23
AR2	0.10	0.20	0.12	0.08	0.27	0.23	0.24	0.16

Note: *GMM is Generalized Moments Method. T-statistics values are presented in parentheses. Sargan/Hansen test for over-identifying restrictions provides the probability value for H0: joint validity of the instruments and AR(2): Arellano and Bond test of second order autocorrelation. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.*

The results of the middle-income group are totally different from those of the low-income group. Overall, the impact of FD on poverty is negative except for one regression (regression 14). This result confirms the evolution of the curves of financial indicators in figure 2. This can be explained by the rise of the financial markets, in recent years, of the majority of countries belonging to this group of countries, like Nigeria, Ghana, Kenya,India…This rise was favored by the improved macroeconomic situation in these countries, and by the remarkable performance of the African stock markets during this period(Nkontchou C., 2010).It should be noted that market capitalization of listed companies as a percentage of GDP increased by 1.08% of GDP for the 2000 to 2013period. It also had a negative and a significant impact on poverty in all regressions, at the 1%, 5% and 10%significance levels. These findings are in line with the studies of Dabwor T. D. & Abimiku A. C. (2016) who concluded that the market capitalization ratio reduced poverty rate in Nigeria. As a result, the evolution of the stock exchange system has benefited the poor. According to these results, it seems that one of the most important mechanisms for decision-makers in these countries is to invest in financial markets to improve infrastructure, refine social services and adopt a pro-poor fiscal policy. The main objective is to protect social cohesion and reduce poverty rate.

Table4. *Estimation Results from the Middle- Income Countries_GMM in System*

	Poverty headcount ratio at $1.90 a day PPP (%)				*Poverty headcount ratio at $3.10 a day PPP (%)*				*Poverty gap at $ 1.90 a day (2011 PPP)*				*Poverty gap at $ 3.10 a day (2011 PPP)*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*
LagPov	0.85*** (10.57)	1.80*** (3.89)	0.66*** (5.04)	0.80*** (9.52)	0.86*** (9.33)	0.74*** (4.49)	0.80*** (7.19)	0.83*** (7.75)	0.86*** (6.45)	1.81*** (4.36)	0.59*** (2.96)	0.87*** (10.30)	0.66*** (5.38)	-0.24 (-0.45)	0.63*** (4.94)	0.62*** (4.83)
Cred	-0.05 (-0.46)	-	-	-	-0.07 (-0.88)	-	-	-	0.07 (0.69)	-	-	-	-0.20* (-1.67)	-	-	-
M3/GDP	-	-4.30* (-1.73)	-	-	-	0.29 (0.57)	-	-	-	0.57 (0.37)	-	-	-	4.03* (1.90)	-	-
Market_cap	-	-	-0.24** (-2.83)	-	-	-	-0.13** (-2.23)	-	-	-	-0.27* (-1.95)	-	-	-	-0.23*** (-2.60)	-
Turnover	-	-	-	0.03 (0.59)	-	-	-	0.0002 (0.01)	-	-	-	-0.02 (-0.39)	-	-	-	0.01 (0.29)
GDP	-0.06* (-1.76)	-0.64* (-1.76)	-0.15** (-2.36)	-0.09 (-1 .51)	-0.02 (-1.47)	0.12 (1.38)	-0.07** (-2.19)	-0.06* (-1.86)	-0.07* (-1.83)	0.14 (0.66)	-0.23** (-2.27)	-0.08 (-1.57)	-0.05* (-1.90)	0.64** (2.08)	-0.15*** (-2.68)	-0.15** (-2.50)
INF	-0.05 (-0.59)	-0.17 (-0.79)	-0.03 (-0.24)	-0.09 (-0.60)	-0.02 (-0.57)	0.05 (0.73)	-0.006 (-0.08)	-0.03 (-0.43)	0.05 (0.60)	0.08 (0.43)	0.11 (1.04)	0.09 (0.71)	-0.03 (-0.40)	0.26 (1.58)	0.01 (0.11)	-0.01 (-0.11)
Openness	-0.19 (-0.75)	-0.74 (-0.69)	-0.89 (-1.62)	-0.46 (-0.83)	-0.12 (-0.82)	-0.43 (-1.11)	-0.60* (-1.83)	-0.39 (-1.16)	-0.25 (-1.02)	-3.70* (-1.74)	-1.38** (-2.10)	-0.62 (-1.18)	-0.29 (-1.25)	-1.27 (-1.65)	-1.29** (-2.39)	-1.17** (-1.99)
School_enr	-0.34 (-0.89)	1.73 (1.14)	-1.49** (-2.26)	-0.11 (-0.13)	-0.34 (-1.24)	-1.38** (-2.13)	-0.65* (-1.72)	0.30 (0.67)	-0.03 (-0.09)	-2.83 (-1.48)	-1.53* (-1.84)	-0.24 (-0.32)	-0.97** (-2.21)	-5.14** (-2.59)	-1.14* (-1.95)	0.35 (0.48)
Gov_exp	-0.21 (-0.64)	4.01* (1.82)	0.94** (2.22)	0.70 (1.44)	-0.16 (-0.86)	-0.04 (-0.10)	0.39* (1.66)	0.19 (0.78)	-0.69** (-2.17)	4.21 (1.56)	0.77 (1.61)	0.25 (0.59)	-0.08 (-0.27)	-1.58 (-1.22)	0.79** (2.02)	0.48 (1.17)
POP	-0.09 (-0.88)	1.91* (1.85)	-0.21 (-1.38)	-0.31** (-1.96)	-0.15* (-1.86)	-0.55* (-1.89)	-0.13 (-1.33)	-0.25** (-2.07)	-0.12 (-1.09)	-1.92* (-1.65)	-0.20 (-1.57)	-0.24* (-1.83)	-0.33** (-2.58)	-2.63** (-2.34)	-0.22 (-1.53)	-0.47*** (-2.71)
Cons_	6.27** (1.99)	-13.65 (-1.17)	16.27*** (2.63)	8.41 (1.64)	6.12** (2.26)	13.02** (2.39)	9.14** (2.21)	6.05* (1.67)	6.38 (1.50)	41.20* (1.74)	19.39** (2.42)	-0.62 (-1.88)	13.61*** (3.14)	43.23*** (2.71)	17.03*** (2.85)	14.10** (2.40)
Nbr ofObs	74	33	45	41	78	37	48	44	72	31	43	39	78	37	48	44
Nbr of countries	11	8	8	7	11	8	8	7	11	7	8	7	11	8	8	7
Sargan/ Hansen test	0.78	0.29	0.67	0.06	0.86	0.92	0.79	0.75	0.27	0.82	0.99	0.47	0.41	0.50	0.99	0.41
AR2	0.06	0.93	0.38	0.54	0.23	0.41	0.63	0.71	0.41	0.76	0.54	0.86	0.35	1.00	0.74	0.78

Note: *GMM is Generalized MomentsMethod. T-statistics values are presented in parentheses. Sargan/Hansen test for over-identifying restrictions provides the probability value for H0: joint validity of the instruments and AR(2): Arellano and Bond test of second order autocorrelation. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.*

For the last two groups of countries, the upper middle-income group and the high-income group(cf., table 5 and 6), the impact on poverty differs from one financial system to another. Generally, the banking system negatively impacts poverty for these two groups of countries. The latter has a negative and a significant effect in all regressions in the high-income group, at the 1%, 5% and 10%significance levels. Moreover, the impact of the stock exchange system is generally positive on the poor.

The latter has a positive and a significant effect on all regressions in the upper middle income group at the 1%and 10%significance levels, with the exception of two regressions (regressions 7 and 15). Therefore, we can conclude that the impact of the banking and stock market systems are controversial. The banking system plays in favor of the poor, but the stock exchange system plays against the most disadvantaged classes of the population. Nonetheless, the majority of previous studies focused on the impact of the banking system on poverty (eg., Beck T.et al, 2007, Jeanneney S. G. & Kpodar K., 2008, Uddin G. S.et al., 2014, Abosedra S. et al, 2016, Zahonogo P., 2017…).

In case of emerging countries, the attention of some latest studies, like Seven U. & Coskun Y. (2016), focuses on the impact of the stock exchange system on poverty. Indeed, these authors proved a positive and statistically significant effect of stock market development on growth of the average income of the poorest quintile.

In our simples, the introduction of the two stock market indicators, namely the market capitalization of listed companies as a percent of

GDP and the Turnover ratio as a percent of GDP, gives us another position in the relationship to the existing literature. In fact, for these two groups of countries, in general terms banks have succeeded in reaching the poorest segments of society in terms of granting loans, setting up institutions specialized in financing micro-projects and boosting microfinance. Indeed, the latter can play a crucial role and help improve the welfare of the poor (Zeller M. & Sharma M., 2000).

The stock market plays a de-motivating role for the poor due to the fact that in these groups of countries, although economic financing is oriented towards the financial market, the main economic actors on the financial scene are the shareholders and private capital holders. The poor are naturally excluded and benefit little or nothing from the stock market (Kaidi N. & Mensi S., 2017). Moreover, faced with the failure of the financial system to maintain the welfare of the poor, it is the Government that intervenes through social policies to respond to the needs of the poor through providing health care services, education … etc. The best example is the Nordic countries.

Table5. *Estimation Results from the Upper Middle-Income Countries_GMM in System*

	Poverty headcount ratio at $1.90 a day PPP (%)				*Poverty headcount ratio at $3.10 a day PPP (%)*				*Poverty gap at $ 1.90 a day (2011 PPP)*				*Poverty gap at $ 3.10 a day (2011 PPP)*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*
LagPov	0.02 (0.10)	-0.61** (-1.84)	0.33** (2.31)	0.64*** (2.75)	0.44*** (2.68)	-0.02 (-0.20)	0.39 (3.82)	0.47*** (4.66)	0.54*** (4.12)	0.28 (1.43)	0.06 (0.18)	0.64*** (4.40)	0.53*** (5.07)	1.57*** (4.78)	0.45*** (4.18)	0.60*** (4.36)
Cred	-0.15 (-0.93)	-	-	-	-0.03 (-0.26)	-	-	-	0.28** (1.99)	-	-	-	0.05 (0.56)	-	-	-
M3/GDP	-	-0.86* (-1.70)	-	-	-	-1.47*** (-4.56)	-	-	-	-1.22*** (-2.63)	-	-	-	0.77 (1.51)	-	-
Market_cap	-	-	0.20* (1.86)	-	-	-	0.04 (0.74)	-	-	-	0.45* (1.70)	-	-	-	0.11 (1.50)	-
Turnover	-	-	-	0.49*** (2.87)	-	-	-	0.38*** (4.66)	-	-	-	0.54*** (2.95)	-	-	-	0.42*** (3.76)
GDP	-0.05** (-2.47)	0.13 (1.03)	-0.01 (-0.38)	0.09 (1.11)	-0.05 (-1.50)	-0.29*** (-4.99)	-0.03 (-1.06)	-0.001 (-0.05)	-0.01 (-0.55)	-0.05 (-0.59)	-0.07 (-0.71)	0.09 (1.25)	-0.01** (-2.48)	0.18** (2.28)	-0.02 (-0.61)	0.02 (0.48)
INF	0.09 (1.13)	0.35* (1.77)	0.01 (0.17)	-0.17 (-1.20)	-0.10 (-1.08)	-0.26*** (-3.11)	0.03 (0.80)	0.00001 (0.00)	-0.04 (-0.62)	-0.11 (-1.02)	0.06 (0.45)	-0.20 (-1.31)	-0.04 (-0.75)	-0.21 (-0.95)	0.03 (0.64)	-0.03 (-0.42)
Openness	-1.99*** (-4.77)	-4.33*** (-4.29)	-2.31*** (-5.23)	-2.02*** (-3.09)	-1.14*** (-3.93)	-1.31*** (-4.89)	-1.24*** (-7.08)	-1.61*** (-9.32)	-1.85*** (-4.84)	-1.56*** (-3.14)	-3.62*** (-2.66)	-2.17*** (-3.71)	-1.23*** (-5.43)	0.77 (0.99)	-1.53*** (-5.92)	-1.76*** (-5.73)
School_enr	-3.93*** (-3.48)	-1.58 (-1.38)	-5.81*** (-4.37)	-2.23 (-1.07)	-2.95** (-2.05)	-1.58*** (-2.94)	-3.95*** (-6.39)	-2.89*** (-2.80)	-2.12** (-2.18)	0.14 (0.20)	-8.96** (-2.42)	-0.42 (-0.18)	-2.66*** (-3.85)	0.59 (0.63)	-4.53*** (-5.17)	-2.57* (-1.80)
Gov_exp	0.13 (0.30)	-6.04** (-2.41)	-1.35** (-2.49)	-2.50*** (-2.69)	-0.68*** (-3.27)	0.65* (1.74)	-0.67** (-2.14)	-0.94** (-2.54)	-1.45*** (-3.40)	-0.51 (-0.39)	-0.85 (-0.90)	-2.55*** (-2.87)	-0.71** (-2.98)	-1.02** (-2.58)	-0.85** (-2.31)	-1.24** (-2.42)
POP	-0.37*** (-3.92)	-0.71* (-1.79)	-0.43*** (-4.74)	-0.49** (-2.17)	-0.03 (-0.40)	1.51*** (5.73)	-0.08 (-1.49)	-0.19** (-2.05)	-0.39*** (-4.77)	-0.40 (-1.22)	-0.66*** (-3.73)	-0.58*** (-2.74)	-0.13*** (-2.60)	-0.84** (-2.23)	-0.20*** (-3.09)	-0.27** (-2.01)
Cons_	30.09*** (4.69)	53.18*** (3.37)	46.78*** (5.57)	29.56*** (3 .01)	23.08*** (2.85)	0.97 (0.23)	27.89*** (7.52)	25.36*** (5.14)	26.77*** (4.23)	20.06*** (2.33)	68.77*** (2.84)	22.86*** (1.97)	22.36*** (5.45)	2.63 (0.54)	32.93*** (6.16)	25.04*** (3.69)
Nbr of Obs	89	44	61	45	90	47	62	46	84	39	61	45	88	45	62	46
Nbr of countries	12	6	8	7	12	7	8	7	11	5	8	7	12	7	8	7
Sargan/ Hansen test	0.80	0.96	0 .39	0.62	0.67	0.98	0.97	0.24	0.11	0.96	0.56	0.09	0.96	0.73	0.85	0.79
AR2	0.57	0.14	0.22	0.19	0.27	0.18	0.34	0.28	0.07	0.69	0.10	0.23	0.48	0.27	0.44	0.41

Note: GMM is Generalized Moments Method. T-statistics values are presented in parentheses. Sargan/Hansen test for over-identifying restrictions provides the probability value for H0: joint validity of the instruments and AR(2): Arellano and Bond test of second order autocorrelation. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

According to Sanandaji N. (2015): "Nordic countries, especially Sweden, which is most often used as an international model, combine large welfare states with economic success. This combination is often seen as evidence that a policy combining socialism and capitalism works well and that other countries could achieve the same positive social outcomes by simply extending the State size".

Table6. *Estimation Results fro*

	Poverty headcount ratio at $1.90 a day PPP (%)				*Poverty headcount ratio at $3.10 a day PPP (%)*				*Poverty gap at $ 1.90 a day (2011 PPP)*				*Poverty gap at $ 3.10 a day (2011 PPP)*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*
LagPov	0.11 (-0.42)	0.56*** (3.04)	0.009 (0.04)	0.78*** (5.04)	0.47*** (2.84)	0.53*** (2.47)	0.42** (2.27)	0.21 (1.04)	-2.02 (-1.31)	0.78*** (9.00)	-0.76** (-2.10)	-0.58 (-1.50)	-0.26 (-0.47)	0.13 (0.46)	0.26 (0.92)	0.11 (0.47)
Cred	-1.51*** (-4.10)	-	-	-	-0.27* (-1.86)	-	-	-	-3.62** (-2.12)	-	-	-	-0.96** (-2.02)	-	-	-
M3/GDP	-	-1.52** (-2.19)	-	-	-	-0.55* (-1.95)	-	-	-	-0.96*** (-6.13)	-	-	-	-1.57*** (-2.96)	-	-
Market_cap	-	-	0.06 (0.82)	-	-	-	0.06 (1.11)	-	-	-	-0.01 (-0.11)	-	-	-	0.12** (2.13)	-
Turnover	-	-	-	0.15 (1.46)	-	-	-	0.34*** (3.88)	-	-	-	-0.11 (-1.01)	-	-	-	0.29*** (4.79)
GDP	-0.15*** (-2.91)	-0.28*** (-3.21)	0.12** (2.06)	0.08 (1.03)	-0.16*** (-3.42)	-0.42*** (-5.47)	-0.22** (-2.57)	-0.16** (-2.15)	-1.11* (-1.91)	-0.32*** (-3.73)	0.15* (1.72)	0.22** (2.42)	-0.48* (-1.84)	-0.65*** (-4.44)	-0.32*** (-2.62)	-0.26*** (-3.32)
INF	0.08 (0.77)	-0.06 (-0.69)	-0.19 (-1.39)	0.001 (0.01)	0.16** (2.03)	0.47* (1.69)	0.23* (1.70)	0.21* (1.78)	0.48 (1.23)	0.01 (0.29)	-0.30* (-1.70)	-0.71*** (-3.19)	0.32* (1.65)	0.05 (0.92)	0.31*** (2.60)	0.26** (2.52)
Openness	0.07 (0.36)	0.40 (0.92)	-0.82*** (-2.79)	-0.92** (-2.34)	-0.47*** (-2.87)	0.31 (0.93)	-0.84*** (-3.43)	-1.57*** (-4.97)	1.44 (1.36)	-0.48 (-0.70)	-1.44*** (-3.88)	-2.23*** (-4.60)	-0.95* (-1.73)	0.59* (1.91)	-1.43*** (-4.55)	-2.03*** (-5.76)
School_enr	-1.36* (-1.72)	0.85 (0.99)	-0.44 (-0.37)	-0.07 (-0.04)	0.49 (1.03)	1.40*** (3.38)	0.32 (0.40)	3.39*** (2.91)	-3.73 (-1.49)	0.16 (0.10)	1.59 (1.04)	7.78** (-2.34)	-1.57 (-0.91)	1.63*** (3 .41)	-0.38 (-0.42)	2.81** (2.50)
Gov_exp	-1.89*** (-2.99)	2.08*** (3.02)	-4.91*** (-3.58)	-0.22 (-0.15)	-1.32** (-2.58)	0.47*** (3.10)	-1.07* (-1.73)	-2.61*** (-2.97)	-4.93 (-1.47)	1.69** (2.36)	-8.89*** (-4.12)	-11.47*** (-3.27)	-3.40*** (-3.07)	-0.15 (-0.24)	-1.54 (-1.30)	-3.33** (-2.42)
POP	-0.17** (-2.25)	0.03 (0.38)	-0.62*** (-3.78)	-0.44** (-2.14)	0.17*** (2.62)	0.22** (2.04)	0.17* (1.70)	-0.35*** (-3.78)	0.11 (0.49)	-0.06 (-0.42)	-1.06*** (-4.69)	-1.65*** (-4 .69)	0.37 (1.48)	0.40*** (3.05)	0.07 (0.79)	-0.41*** (-3.56)
Cons_	22.53*** (3.71)	2.38 (0.62)	25.58*** (3.37)	9.25 (1.13)	5.94* (1.75)	1.71 (0.96)	7.67 (1.59)	7.78* (1.74)	59.94* (1.95)	9.86 (0.90)	43.15*** (4.42)	26.48*** (2.93)	28.86* (1.95)	0.40*** (3.05)	18.00*** (1.98)	16.77*** (2.30)
Nbr ofObs	101	41	76	67	84	40	57	48	88	40	64	58	81	40	54	46
Nbr of countries	12	5	12	10	11	5	11	9	12	5	12	10	10	5	10	8
Sargan/ Hansen test	0.87	0.20	0.38	0.91	0.78	1.00	0.68	0.14	0.39	0.84	0.18	0.07	0.90	0.17	0.62	0.14
AR2	0.61	0.47	0.69	0.46	0.17	0.25	0.75	0.99	0.46	0.28	0.47	0.50	0.28	0.82	0.30	0.90

m the Higher Income Countries_GMM in System

Note: *GMM is Generalized Moments Method. T-statistics values are presented in parentheses. Sargan/Hansen test for over-identifying restrictions provides the probability value for H0: joint validity of the instruments and AR(2): Arellano and Bond test of second order autocorrelation. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.*

The results of our control variables are statistically significant and consistent with the theory in almost all regressions. Generally, the signs of these variables do not reflect sensitivity

to poverty indicators, but rather sensitivity to country groups. Overall, the signs differ from one variable and one financial system to another for the low- and middle-income countries. However, they become mixed for the high-income group. GDP impact is negative and significant in almost all the regressions of the first three groups of countries, namely the low-, middle- and upper-middle-income countries at the 1%, 5% and 10% significance levels. This impact indicates that economic growth is pro-poor. According to the WB report (2001b): *"Financial development has an indirect impact on the living standards of the poor as it supports economic growth"*. Moreover, the variable "Openness" has a negative effect in all the regressions for the low- and middle-income countries. This result is in line with that of Ravallion M. (2004), who found a negative correlation between trade openness rate and the absolute poverty rate at the $ 1 per day (1993 PPP) in 75 countries.

For example, in Vietnam, which belongs to the middle-income countries group, exports of rice produced by most poor farmers and other labor-intensive products came along a sharp decrease in the proportion of the population living below the poverty line, which fell from 75% to 37% between 1988 and 1998 (Dollar D., & Kraay A., 2002). In line with theory, a higher education level should correlate with lower poverty rates (Julius M. K. & Bawane J., 2011). The "School_enr" variable has a negative and a significant impact on almost all the poverty indicators for the middle- and upper-middle-income group. Indeed, Appleton S. (1997) states that each primary education year reduces by 2.5% poverty risk, and that this effect is almost twice as high for secondary education. This impact is generally positive and insignificant for the low-income countries group, which may be caused by a lack of the necessary infrastructure and positive learning conditions for learners and educators. Moreover, the government's final consumption expenditure (% of GDP) has a negative and a significant impact on poverty in almost all regressions. Wealth redistribution policies through the tax system and social transfers and Government interventions are generally pro-poor in our sample. This is consistent with the results of Fan S. et al. (2004), who revealed that government investment in agricultural research has a significant impact on poverty reduction.

CONCLUDING REMARKS

The aim of this paper is to test the impact of FD, estimated by the banking system and stock market, on poverty during the 1981 to 2013period. Our sample consists of 75 countries, divided into four sub-groups of countries according to their GDP, i.e. low-income, middle-income, upper middle-income and high-income countries. We chose GMM to test our relationship with four different poverty indicators: a poverty rate at $ 1.90 per day (2011 PPP), a poverty rate at 3, $ 90 per day (2011 PPP),a poverty rate of less than $ 1.90 per day and a poverty rate of less than $ 3.10 per day.

Our results indicate that the impact of FD on poverty is generally not sensitive to the choice of the poverty indicator, but it is rather sensitive to the country group and the structure of the adopted financial system. For low-income countries, the financial system does not improve the poor living conditions. This finding is consistent with the conclusions of Charlton A. (2008), Noreen S. et al. (2012); Seven U. & Coskun Y. (2016).However, for the middle-income group, the financial system is pro-poor, consistent with the results of Jeanneney SG & Kpodar K. (2008), Shahbaz M. & Ur Rehman I. (2013), Boukhatem J. (2016),Rashid A.& Intartaglia M. (2017)... For the upper middle-income group and the high-income group, the impact of banking systems and the stock market on poverty is mixed. The banking system plays in favor of the poor, but the stock exchange system plays against the most disadvantaged portion of the population.

Holding all other parameters constant, and given the important role of the financial sector in the economy, our economic policy recommendations are also important to reducing poverty. Economic thinking suggests that it is necessary to promote the poor access to investment instruments in order to increase their productive assets, raise their incomes and build a safe future. However, the poor are still unable to provide guarantees, on the one hand, and face a high investment interest rate, on the other hand. It is therefore necessary that public institutions and multilateral donors seek to provide guarantees under the supervision of the monetary authorities and to reduce the credit's interest rate, especially for low-income countries. It is also important to implement policies that promote education and skills

development, particularly for the low-skilled people. In this regard, it is necessary to promote education in disadvantaged areas, by offering a sustained educational infrastructure and conditions. Besides, it is essential to promote the inclusion of all citizens, without discrimination, in the stock market. It is the role of the financial institutions to ensure economic development with the aim of fighting against poverty. In the majority of rich countries (upper middle-income countries and high-income countries) access to the stock market is limited to some social classes. This contributes very much to exacerbating the poor class of society, because business opportunities are reserved for the rich class of the population. Therefore, it is meaningful for upper-middle-income and high-income countries to follow the model that invest in the eradication of poverty.

REFERENCES

[1] Abosedra S., Shahbaz M. & Nawaz K. (2016). Modeling Causality between Financial Deepening and Poverty Reduction in Egypt. Social Indicators Research, Vol. 126, No. 3, pp. 955-969.

[2] Abidoye B. & Fowowe B. (2012). The Effect of Financial Development on Poverty and Inequality in African Countries. The Manchester School. Vol. 81, No. 4, pp. 562–585.

[3] African Development Bank (2011). New Guidelines on the Middle Income Countries Technical Assistance Fund.

[4] Abdin J. (2016). Financial Development and Poverty Reduction: Exploring the Links between the Issues Using Evidence from Bangladesh. International Journal of Financial Research. Vol. 7, No. 4.pp. 44-65.

[5] Akther S. & Daly K. J. (2009). Finance and Poverty: Evidence from Fixed Effect Vector Decomposition. Emerging Markets Review. Vol. 10, No. 3, pp. 191–206.

[6] Appleton S. (1997). Leaping into the Ark: Some Reflections on Free Primary Education in Uganda. Centre for the Study of African Economies. University of Oxford.

[7] Arellano M. & Bond S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. Review of Economic Studies. Vol. 58,No. 2, pp. 277-297.

[8] Arellano M. & Bover O. (1995). Another Look at the Instrumental Variable Estimation of Error-Components Models. Journal of Econometrics, Vol. 68, No. 1, pp. 29-51.

[9] Armendariz de Aghion B. & Morduch J. (2005). The Economics of Microfinance. The MIT Press Cambridge, Massachusetts London, England.

[10] Bakhtiari S. (2011). Microfinance and Poverty Reduction: Some International Evidence. International Business & Economics Research Journal. Vol. 5, No. 12, pp. 65-71.

[11] Basu, S. & Mallick, S. (2007). When does Growth Trickle Down to the Poor? The Indian Case. Cambridge. Journal of Economics. Vol. 32, No. 3, pp. 461-77.

[12] Beck T.,Demirgüç-Kunt A.& Levine R. (2007). Finance, Inequality and the Poor. Journal of Economic Growth. Vol. 12, No. 1, pp. 27-49.

[13] Besley T. & Burgess R. (2003). Halving Global Poverty. The Journal of Economic Perspectives, Vol. 17, No. 3, pp. 3-22.

[14] Blundell R. & Bond S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. Journal of Econometrics, Vol. 87, No. 1, pp. 115-143.

[15] Blundell R., Bond S. & Windmeijer F. (2001). Estimation in Dynamic Panel Data Models: Improving on the Performance of the Standard GMM Estimator. In Nonstationary Panels, Panel Cointegration, and Dynamic Panels, pp. 53-91, Emerald Group Publishing Limited.

[16] Bond S. R., Hoeffler A. & Temple J. R. (2001). GMM Estimation of Empirical Growth Models. CEPR Discussion Paper, No. 3048.

[17] Boukhatem J. (2016). Assessing the Direct Effect of Financial Development on Poverty Reduction in a Panel of Low and Middle Income Countries. Research in International Business and Finance. Vol. 37,Issue. C, pp. 214–230.

[18] Cepparulo A., Cuestas J. C. & Intartaglia M. (2017). Financial Development, Institutions and Poverty Alleviation: An Empirical Analysis. Applied Economics. Vol. 49, No. 36, pp. 3611-3622.

[19] Charlton A. (2008). Capital Market Liberalization and Poverty. In: Ocampo J. A. & Stiglitz J. (Eds.), Oxford Press, The Initiative for Policy Dialogue Series,New York, pp. 121–138.

[20] Chemli L. (2014). The Nexus among Financial Development and Poverty Reduction: An Application of ARDL Approach from the MENA Region. Journal of Economics and Development Studies. Vol. 2, No. 4, pp. 125-134.

[21] Dabwor T. D. & Abimiku A. C. (2016). Poverty Incidence in Nigeria: Does Financial Deepening Matter? Journal of Economics and International Finance, Vol. 8, No. 6, pp. 56.

[22] Dollar D. & Kraay A. (2002). Growth is Good for the Poor. Journal of Economic Growth. Vol. 7, No. 3, pp. 195-225.

[23] Fan S., Huong, P. L., & Long, T. Q. (2004). Government Spending and Poverty Reduction in Vietnam. Project Report Prepared for the World Bank Funded Project Pro-Poor Spending in Vietnam.Washington, DC: International Food Policy Research Institute and Central Institute for Economic Management

[24] Fan, S., Nyanga, D. & N. Rao. (2005). Public Investment and Poverty Reduction in Tanzania. Development Strategy and Governance Discussion Paper No.18. Washington, DC: International Food Policy Research Institute.

[25] Fishlow A. (1995). Inequality, Poverty and Growth: Where do We Stand? Annual World Bank Conference on Development Economics, World Bank, Washington DC.

[26] Hausman J. A. (1978). Specification Tests in Econometrics. Econometrica. Vol. 46, Issue 6, pp. 1251–1271.

[27] Ho S. Y. & Njindan Iyke B. (2017). Does Financial Development Lead to Poverty Reduction in China? Time Series Evidence. Journal of Economics and Behavioral Studies, Vol. 9, No. 1, pp. 99-112.

[28] Ho S-Y & Odhiambo N. M. (2011). Finance and Poverty Reduction in China: An Empirical Investigation. International Business & Economics Research Journal. Vol. 10, No. 8, pp. 103-113.

[29] IMF (2016). IMF Support for Low-Income Countries. Factsheet/October 2016.

[30] Jalilian H. & Kirkpatrick C. (2002). Financial Development and Poverty Reduction in Developing Countries. International Journal of Finance and Economics. Vol. 7, No. 2, pp. 97-108.

[31] Jeanneney S. G. & Kpodar K. (2008). Financial Development and Poverty Reduction: Can There Be a Benefit Without a Cost?The Journal of Development Studies. Vol. 47, No. 1, pp. 143-163.

[32] Johansson A. C. & Wang X. (2012). Financial Sector Policies, Poverty and Inequality. Working Paper CERC-CCER Conference No. 24 / September (2012).

[33] Julius M. K. & Bawane J. (2011). Education and Poverty, Relationship and Concerns. A Case for Kenya. Problems of Education in the 21st Century, Vol. 32, pp. 72-85.

[34] Kaidi N. & Mensi S. (2017). Re-examining the Financial Development and Poverty Nexus: Some International Evidence. International Journal of Social Economics. Vol. 44, No. 12, pp. 2049-2427.

[35] Keynes J. M. (1937). The General Theory of Employment. The Quarterly Journal of Economics. Vol. 51, No. 2, pp. 209-223.

[36] Kpodar K. R. (2004). Le Développement Financier et la Problématique de la Réduction de la Pauvreté. CERDI, Études et Documents, E 2004.8.

[37] Levine J. (2009). Financial Sector Development, Institutional Development and Benefits for the Poor. The American Economist. Vol. 54, No. 2, pp. 119-134.

[38] McKinnon R.I. (1973). Money and Capital in Economic Development. Washington: Brookings Institution.

[39] Mellor J. W. (1999).Faster, More Equitable Growth: The Relation between Growth in Agriculture and Poverty Reduction. Cambridge, MA: Harvard University Press.

[40] Nkontchou C. (2010). La Récente Montée en Puissance des Marchés Financiers Africains. Secteur Privé et Développement No. 5/ March 2010.

[41] Noreen S., Gill A. R. & Ali Khan R. E. (2012).Financial Development and Poverty in Pakistan: Causality Analysis. Archives Des Sciences. Vol. 65, No. 11, pp. 223-233.

[42] Odhiambo N. M. (2009). Finance-Growth-Poverty nexus in South Africa: A Dynamic Causality Linkage. The Journal of Socio-Economics. Vol. 38, No. 2, pp. 320–325.

[43] Perez-Moren S. (2011). Financial Development and Poverty in Developing Countries: A Causal Analysis. Empirical Economics. Vol. 41, No. 1, pp. 57-80.

[44] Pradhan R. P. (2010). The Nexus between Finance, Growth and Poverty in India: The Cointegration and Causality Approach. Asian Social Science. Vol. 6, No. 9, pp. 114-122.

[45] Rashid A. & Intartaglia M. (2017). Financial Development- Does it Lessen Poverty? Journal of Economic Studies, Vol. 44, No. 1, pp. 69-86.

[46] Ravallion M. (2004). Pro-Poor Growth: A Primer. . Policy Research Working Paper Series No. 3408 from the World Bank.

[47] Sanandaji N. (2015). The Culture, Economy and Lessons of the Nordic Model. Institut Libéral, Report December 2015

[48] Sehrawat M. & Giri A. K. (2015). Financial Development, Poverty and Rural-Urban Income Inequality: Evidence from South Asian Countries. Quality & Quantity. Vol. 50, No. 2, pp. 577-590.

[49] Seven U. & Coskun Y. (2016). Does Financial Development Reduce Income Inequality and Poverty? Evidence from Emerging Countries. Emerging Markets Review. Vol. 26, Issue C, pp. 34-63.

[50] Shahbaz M. (2009).Financial Performance and Earnings of Poor People: A Case Study of Pakistan. Journal of Yasar University. Vol. 4, No. 16, pp. 2557-2572.

[51] Shahbaz M. & Ur Rehman I. (2013). Multivariate-Based Granger Causality between Financial Deepening and Poverty: The Case of Pakistan. Quality & Quantity. Vol. 48, No. 6, pp. 3221-3241.

[52] Singh M., De S., Sarkar S. & Vij, S.(2010).Finance, Growth, and Inequality: Channels and Outcomes. Working Paper Indian

School of Business No. 15902/ November (2010).
[53] Singh R. J. & Huang Y. (2015). Financial Deepening, Property Rights, and Poverty: Evidence from Sub-Saharan Africa. Journal of Banking and Financial Economics. Vol. 1, No. 3, pp.130-151.
[54] Sowell T. (2013). Trickle Down Theory and Tax Cuts for the Rich. Vol. 635. Hoover Press.
[55] Uddin G. S., Arouri M., Teulon F. & Shahbaz M. (2014). Financial Development and Poverty Reduction Nexus: A Cointegration and Causality Analysis in Bangladesh. Economic Modelling. Vol. 36, Issue. C,pp. 405-412.
[56] World Bank (1978). World Development Report, August/1978.
[57] World Bank (2001a). Finance for Growth: Policy Choices in a Volatile World, New York, Oxford University Press.
[58] World Bank (2001b). World Development Report 2000/2001: Attacking Poverty, New York, Oxford University Press.
[59] Younes B. & Triki M. W. (2012). Les Facteurs Déterminants de la Performance Sociale des Institutions de Microfinance : Cas de la BTS et Enda-Interarabe en Tunisie. Business and Entrepreneurship in Africa, Université Laval, p 126.
[60] Zahonogo P. (2017). Financial Development and Poverty in Developing Countries: Evidence from Sub- Saharan Africa. International Journal of Economics and Finance, Vol. 9, No. 1, pp. 211.
[61] Zeller M. & Sharma M., 2000). Many Borrow, More Save, and all Insure: Implications for Food and Micro-Finance Policy. Food policy, Vol. 25, No. 2, pp. 143-167.

Appendix1. *Samples Classification by GNP*

Sample	*Countries*
Low-income countries	Burkina Faso, Costa Rica, Madagascar, Guinea-Bissau, Mali, Nepal, Niger, Rwanda, Tanzania, Uganda.
Middle-income countries	Armenia, Bangladesh, El Salvador, Georgia, Ghana, Honduras, Ivory Coast, Kenya, India, Indonesia, Nigeria, Lesotho, Mauritania, Morocco, Moldova, Nicaragua, Senegal, Philippines, Guatemela, Tajikistan, Sri Lanka, Ukraine, Uzbekistan, Vietnam, Zambia.
Upper-middle income countries	South Africa, Albania, Belarus, Belize, Botswana, Brazil, China, Colombia, Kazakhstan, Ecuador, Iran, Islamic Republic of, Mongolia, Jamaica, Jordon, Panama, Macedonia, the former Yugoslav Republic, Malaysia, Tunisia, Mexico, Paraguay, Romania, Peru, Thailand.
Higher-income countries	Argentina, Chile, Croatia, Estonia,Ethiopia, Russia, Hungary, Lithuania, Poland, Slovenia, Slovakia, Turkey, Uruguay, Venezuela.

Source: *World Bank 2015*

Appendix2. *Variables Definitions*

Variable		*Definition*
Poverty Variables	Pov head at $1.90	Poverty headcount ratio at $1.90 a day PPP (%)
	Pov head at $ 3.10	Poverty headcount ratio at $3.10 a day PPP (%)
	Pov gap at $1.90	Poverty gap at $ 1.90 a day (2011 PPP)
	Pov gap at $ 3.10	Poverty gap at $ 3.10 a day (2011 PPP)
Financial Development Variables	Cred	Private credits (% of GDP)
	M3/GDP	Liquid liabilities (M3) (% of GDP)
	Market_cap	Market capitalization of listed companies (% of GDP)
	Turnover	Turnover ratio (% of GDP)
Control Variables	GDP	GDP per capita
	POP	Total Population
	School_enr	High School enrollment (% gross)
	INF	Inflation, GDP deflator (% annual)
	Openness	Total exports and imports by GDP
	Gov_exp	Government's final consumption expenditure (% of GDP)

Source: *World Development Indicators, World Bank (2015).*

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