POVERTY AND FISCAL DECENTRALIZATION: AN EMPIRICAL ANALYSIS BY SOCIAL POLICIES

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ABSTRACT

Eradicate the extreme poverty is the first of the Millennium Development Goals. Moreover, the analysis of the effects of the fiscal decentralization is a research area of extraordinary academic interest. Therefore, this paper aims to analyze the effects of the fiscal decentralization of the expense in education, health, housing and social protection on poverty. Using a panel data covering twenty countries of low and lower-middle income for the period 1980-2007, it is concluded that decentralization of the social expense has a differentiated effect on poverty: the decentralization of health and housing policies contributes to reduce the poverty, while the decentralization of the social protection expense stimulates the increase in poverty.

Keywords: Poverty, fiscal decentralization, education, health, housing, social protection expenditure and Feasible Generalized Least Square.

JEL Classification:

I38, H75, H77,

1.- INTRODUCTION

Economic literature has pointed out diverse reasons which prevent an economy from getting out of poverty: the handicaps imposed by the geographical configuration; the fiscal trap; cultural barriers; the demographic trap; or the so called poverty trap. In these contexts, government's faults resulting in a non-adequate framework for economic activity and pro-poor policies could be a heavy burden on the progress of a society.

The classical theory predicts that decentralization contributes to improve welfare since the decisions adopted by the subnational governments better adapt to the needs and preferences of the citizens and, hence, they are more efficient (Oates, 1972, Mas-Colell, 1980). Therefore, the positive focus of the fiscal decentralization (FD) theory admits the active participation of subnational governments in the implementation of the redistributive policies, facilitating, promoting and coordinating the measures applied by the central governments. In this line, Bahl et al. (2002) showed that one of the fundamental objectives of the subnational governments is the reduction of the poverty and social inequalities.

On the contrary, the normative theory of the public economics advices against the involvement of subnational governments in the redistribution challenges (Brown and Oates, 1987; Musgrave, 1959; Oates, 1968; 1972; Stigler, 1957). In fact, the analysis of the effects of the fiscal decentralization (FD) continues being a research area of great interest due both to the practical implications of the administrative reforms applied by many governments of the world and to the contradictory results of the studies carried out up to now (Letelier Saavedra and Sáez Lozano, 2013b). Two questions still focus the attention of researchers: The decentralization of social policies contributes to enlarge or reduce poverty? Is the effect of decentralization of such policies homogeneous, or would decentralization of the different social areas have a differentiated impact on poverty?

In this line, a wide set of empirical literature had focused on the first question, that is on the impact of fiscal decentralization on poverty; but under narrow or fragmented perspectives according to geographic areas and social policies considered. Our research provides an answer to both questions. For this, we assess the effect of the FD of the expense in education, health, housing and social protection on poverty, using an unbalanced data panel of 20 countries of low and lower-middle income for the period 1980-2007. As far as we are aware, this is the first study that analyses the impact of the decentralization of so much comprehensive branches of social policy in a so wide geographical area.

Our methodological proposal is supported on the hypothesis that the FD of the expense in the social areas will contribute to reduce the poverty, whenever it implies an efficient allocation of the public goods. The subnational governments have better information about the preferences of the citizens and adopt decisions better suited to those. Oppositely, if such governments do not have a direct responsibility in policies of income redistribution applied by the central government, the decentralization of the social policies will favor the poverty increase or will not affect it, in the best of the possible settings.

Data come from the International Monetary Fund (Government Financial Statistics Database) and the World Bank (Inequality and Poverty Database and World Development Indicators Database). Other sources, as Gakidou (2010), have been necessary to complete country-level characteristics affecting poverty. The proposed model is estimated by Feasible Generalized Least Square allowing heteroskedasticity across countries.

The remainder of the paper is organised as follows. Section 2 briefly reviews the literature on this field of research. Section 3 explains the intuition behind the methodology, and presents the data. Section 4 discusses the results, while a final section summarises and concludes.

2. LITERATURE OVERVIEW

The research on economic growth and poverty has focused on three main poles of attention: geography, integration and institutions (Rodrik, 2004 and Sach, 2005). In this last line, the government role in the provision of public goods and services and in the establishment of an adequate framework for the economic activity is considered a key stone in building prosperity (North, 1990; Stiglitz, 1997; Hall and Jones, 1999; Acemoglu et al., 2001; and Kaufman et al., 2002). Therefore, pro-poor initiatives could fail because of a non-adequate institutional implementation (Van de Walle and Nead, 1996; Fan, 2008; Domfeh and Bawole, 2009; Amakom, 2012). Hence, a wave of decentralization reforms has propagated between developing countries following the advantages of decentralized services delivery pointed out by the theoretical literature (Bird and Rodríguez, 1999, Kauneckis and Andersson, 2009, Awortwi, 2011).

As it is well known, decentralization could follow several ways: administrative, political and fiscal. The latter involves four policies to increase the fiscal autonomy of local governments. Expenditure assignment is one of them (Awortwi, 2011).

The specialized literature on the FD of the public expense has placed special emphasis in studying its impact on prices stability (Treisman 2000; Rodden and Wibbels, 2002; Shab, 2006 and Martínez-Vazquez and McNab, 2006), macroeconomic stability (Gramlich, 1993; Shah, 1999; Rodden, 2002; Rodden and Wibbels, 2002 and Rodden et al., 2003), fiscal equilibrium (Fornasari et al., 1999; De Mello, 2000 and 2005; Neyapti, 2004 and 2010; Thornton, 2009; Letelier Saavedra, 2012; Letelier Saavedra and Sáez Lozano, 2013a; and Voigt and Blume, 2012), and economic growth (Davoodi and Zou, 1998; Martínez-Vázquez and McNab, 2003; Thiein, 2003; Iimi, 2005; Thornton, 2006; Feld et al., 2006; Enikolopov and Zhuravskaya, 2008; Buser, 2001; Letelier Saavedra, 2012; and Voigt and Blume, 2012). No consensus has been achieved on these issues since the conclusions of the different works are often contradictory: negative impact of fiscal decentralization has been found by some of them. Decentralization can have negative outcomes for poverty alleviation, as well (Robinson and Stield, 2001; Sumarto, 2004; Faguet and Sánchez, 2008 and Xu, 2011), though Guess (1992) argued that over centralization diminishes the effectiveness of public expenditures.

The economic literature on the link between fiscal decentralization and poverty get into clear groups by main poles of attention: the problems of local elites capture, governance and corruption (Gurgur and Shah, 2000; Fisman and Gatti, 2002; Bardhan and Mookherjee, 2004; Ahmad and Akif, 2007; Hankla, 2009; and Dincer et al., 2009); the redistributive capacity of public budget and territorial gaps (Shan and Younger, 2000; Ellis and Kutengule, 2003; Ellis and Mdoe, 2003; Ellis and Bahiigwa, 2003; Bonet, 2006; Zhang, 2006; Yep, 2008; Fane, 2010; Rodriguez-Sitd and Ezcurra, 2010; Resnick, 2011; and Allers and Ishemoi, 2011); and the effectiveness of social policies owing to the debate on its potential to foster growth and to reduce inequality and poverty (Herce et at., 2001).

In this last line, Plotnick et al. (1998) assessed how the fiscal decentralization had affected the levels and trends of inequality and poverty in USA. Shan and Younger (2000) suggested using decentralization as a way of improving the disappointing effectiveness of social fiscal policy on poverty alleviation in Sub-Saharan Africa. Hall (2006) emphasized the benefits of the decentralization of the *Bolsa Familia* program in Brazil; while Mazzaferro and Zanardi (2007) tested Oate's decentralization theorem and Tiebout's model for a set of European Union countries. For Romania and Bulgaria, Guess (2007) concluded that fiscal decentralization required the proper assignment of authority to match expenditure responsibilities and the policy and administrative capacity to carry them out. Finally, Ahmad and Akif (2007) focused on the reform agenda articulated for social services programs in Pakistan.

At this point, it should be highlighted that there is a wide consensus that not all the social policies have the same impact on inequality and poverty (Heady et al., 2001 and Engineer et al, 2008). Hence, a wide set of literature on this ground had paid attention to specific social policies. For example, Pugh (1997) reviewed the role played by housing and urban policies in economic development and poverty reduction; while Lloyd-Sherlock (2000) and Amakom (2012) focused on the decentralization of education and healthcare systems in the Latin American region and Nigeria, respectively. Holahan et al. (2003) analysed the balance of responsibility between states and the federal government of USA for low-income people's health coverage, Costa-Font and

Moscone (2008) studied the decentralized health expenditure in Spain and Jin and Sun (2011) assessed if fiscal decentralization had improved healthcare outcomes in China. Moreover, Zhu (2005) evaluated of the efforts made by the local government for the alleviation of poverty in rural Tibet taking into account food security, compulsory education, subsidized cooperative medical system, subsistence guarantee measures, energy and drinking water, telecommunication and satellite TV services. Finally, Hall (2006) stressed the importance of focusing social assistance on health, education and nutrition as these policies foster the synergies amongst diverse components of human capital considered essential for breaking the vicious circle of intergenerational poverty in Brazil.

It is clear that the economic literature has studied the impact of fiscal decentralization on poverty through specific countries, geographical areas and social policies of application. Sepulveda and Martínez-Vázquez (2011) dealt with the impact of fiscal decentralization on poverty and inequality from a wider perspective. Their theoretical review differentiates between the direct and indirect effects of fiscal decentralization. That is, those due to the changes imposed by the processes of decentralization on the public policies and the behavior of the economic agents and those transmitted for an aggregate of socioeconomic factors that are prone to be affected by the FD of the expense. At an empirical level, they used panel data for thirty-four developing countries and found that fiscal decentralization (share of subnational expenditures over total of government expenditures) may have significant effects on poverty and inequality. In particular, fiscal decentralization appeared to lead to increases in the poverty measures, but also to reduce income inequality when the general government represented a significant share of the economy. Nevertheless, their work did not disintegrate the fiscal decentralization impact on poverty according to different social policies as our research does. So, our work goes beyond the existing literature to deal with a topic not yet studied, as previously mentioned.

3. MODEL, DATA AND METHOD

This section reviews the empirical model, data and method used for testing the impact of the fiscal decentralization of the expense in different selected social policies on poverty. The model specification and the method applied for estimation are limited by the availability of data. IMF database on Government Finance Statistics (GFS) only selects 44 countries for the 1972-2009 period; but without an homogeneous time coverage. Lacks of information recur for the other sources of data. So, we work with a non-balanced panel of data covering 20 low and lower-middle income countries for the period 1980-2007. These countries are located in Latin America, Asia, Africa and Europe[1].

3.1.- Model

Our empirical model is based on the assumption that fiscal decentralization of the main social policies education (*FDED*), health (*FDHE*), housing (*FDHO*) and other social protection actions (*FDSP*) affects to poverty (*HR*). To control efficiently the effect of the decentralization of the public expense in these social areas, we include in our model a vector of control variables ($CONTROL_{it}$) that economic literature widely highlights as factors explaining the level of poverty of a country:

$$HR_{it} = f(FDED_{it}\, FDHE_{it}\, FDHO_{it}\, FDSP_{it}\, CONTROL_{it}) \qquad (1)$$

where $i = 1, \ldots, n$ is the number of countries and $t = 1...,T$ is the time periods number (years). The $CONTROL_{it}$ vector includes country level characteristics: income ($GDPpc_{it}$), education level of population ($AYE25_{it}$), political system ($REGIMEN_{it}$), population growth ($POPGROWTH_{it}$), population territorial structure ($URBAN_{it}$), and insertion in world economy (*GLOBECONit*).

The literature about poverty (see for instance Sepulveda and Martinez-Vazquez, 2011 and Vijayakumar, 2013) shows that the variables included in the *CONTROL* vector behave as follow. The impact of per capita product on poverty depends on the share of its gains received by poor. The level of education is related to better-paid jobs and, therefore, to less poverty if policy efforts

[1] Argentina, Colombia, Thailand, Indonesia, India, China M.L, Kenya, Uganda, Kazakhstan, Hungary, Poland, Latvia, Lithuania, Albania, Slovakia, Czech Republic, Romania, Bulgaria, Croatia, Estonia.

are concentrated in poor. A high share of urban population is linked with less poverty; while a high population growth has the inverse relation since it reduces available income for each individual. The political system characteristics reflect the responsiveness of governments towards pro-poor actions. Moreover, integration in the world economy is considered a key factor in closing disparities.

Assuming that $f(\cdot)$ is a lineal function and using the headcount ratio (*HR*) to measure poverty, equation (1) can be written:

$$HR_{it} = \beta_0 + \beta_1 LFDED_{it} + \beta_2 LFDHE_{it} + \beta_3 LFDHO_{it} + \beta_4 LFDSP_{it} + \lambda_1 LGDP_{pcit} + \lambda_2 AGE25_{it} + \lambda_3 REGIMEN_{it} + \lambda_4 APOPGROWTH_{it} + \lambda_5 URBAN_{it} + \lambda_6 GLOBECON_{it} + \varepsilon_{it} \quad (2)$$

where ε_{it} is the stochastic error term ; β_i $(i = 1, \dots, 4)$ and λ_i $(i = 1, \dots, 6)$ are the parameters of the model.

From equation (2) two hypotheses on the effect of the decentralization of the social policies in the poverty can be formulated:

Hypothesis 1. According to the classical theory of the decentralization, subnational governments possess better information about the preferences of the citizens and adopt decisions better suited to their preferences. Consistently with this fact, *FDED*, *FDHE*, *FDHO* and *FDSP* contribute to reduce the poverty, since the public expense is more efficiently being assigned in education, health, housing or social protection ($\beta_i < 0$).

Hypothesis 2. The normative theory of the public economy predicts, that if the subnational governments do not possess direct responsibilities in the income redistributive policies applied by the central government, *FDED*, *FDHE*, *FDHO* and *FDSP* favor the increase in poverty ($\beta_i > 0$,), or, in the best of the possible scenarios, do not affect ($\beta_i = 0$).

As fiscal decentralization can impact on poverty through many direct and indirect channels, it is no possible to predict the direction of these influences from a theoretical standpoint (Sepulveda and Martinez-Vazquez, 2011).

3.2.- Data and variables

Poverty, our dependent variable, is measured by the poverty headcount ratio at $2 a day (ppp). As it is well known, this poverty headcount ratio expresses the percentage of the population living on less than $2.00 a day at 2005 international prices. Data come from the Inequality and Poverty Database of The World Bank.

The data for *FDED*, *FDHE*, *FDHO* and *FDSP* variables come from the base GFS of the IMF and represent the proportion of the expense accrued by the subnational governments (local and states), in relation to the central government expense, in the areas of education, health, housing and social protection, respectively. This dataset provides information of 44 countries of Europe, Latin America, Asia, Africa and Europe of the East. The time series availability differs among the countries, although the longest period covered is 1972-2009.

Table 1 contains the main descriptive statistics of the sample utilized to estimate equation (2). According to the mean, the housing (*FDHO*) is the main decentralized policy: more than the 60% of the expenditure is accrued by subnational governments. The decentralization of the expense in education (*FDED*), health (*FDHE*) and social protection (*FDSP*) follow it in order of importance. With respect to social protection, we should highlight that the central governments assign important volumes of resources to social protection (medical services, unemployment income and pensions of the social security) through the provision of social security benefits with the objective of protecting the population against social risks. The social risks are events or circumstances that can affect negatively the welfare of the households (International Monetary Fund, 2001). If we make a comparative analysis of the data on table 1, we observe that the subnational governments do not have a great direct responsibility in this area.

In all the variables representing the decentralization of the social public expense, the variation among countries is greater than the temporary variation (table 1).

[TABLE 1]

In which refers to country-level variables, the log of per capita Gross Domestic Income (*LGDPpc*) (expressed in purchase power parity constant prices at international $- base year 2005) has been selected as income variable. Data for this variable come from World Development Indicators (WDI) of World Bank Databank. The political regime (*REGIMEN*) has been taken into account by introducing a dummy variable which takes value 1 when the country has a democratic system and 0 if dictatorial. These data proceed of the Pipa Norris Data of the John F. Kennedy School of Government of Harvard University. The percentage of urban population and the population growth suit demographic characteristics. We have obtained the data for both variables from (WDI) of World Bank Databank. The average years of education of the population over 25 aged measures the human capital of countries. The World Bank offers data of the Barro-Lee's indicator which is presented every five years. In order to complete our data panel, we choose to use Gakidou (2010) data which offers annual data from 1970 to 2009. Finally, we choose the KOF index of economic globalization as a proxy of integration on the world economy. This indicator considers both the actual economic flows and proxies for restrictions to trade and capital and has been widely used by economic literature.

3.3.- Methods

Taking into consideration that we work with a non-balanced data panel, we started our estimation process allowing for unobserved country and time effects using fixed effects models (see, for instance, Wooldridge, 2006). The F test for the fixed effect model and Breusch-Pagan Lagrange Multiplier (LM) (see Table 2) lead us to choose a fixed effect model[2].

[2] Additionally, we estimated a two-way fixed effect model but we accept the null hypothesis of absence of time effects and consequently we have not included time dummy variables in our model.

In many cross-sectional datasets, the variance for each of the panels differs. To test heteroskedasticity across panels we have conducted the Wald test for across groups' heteroskedasticity in fixed effect model. The null hypothesis of homoscedasticity is rejected and hence our model presents heteroskedasticity. We have also test the autocorrelation within panels by using the test of Wooldridge (Wooldridge, 2002). The null hypothesis of no first order autocorrelation is not rejected and hence there is not serial correlation[3].

Summarizing, we have to address the heteoroskedasticity problem and, hence, we reestimate equation (2) by using Feasible Generalized Least Square (FGLS) allowing heteroskedasticity across groups.

Table 2 summarizes the estimation process. Column 1 and 2 present the random and fixed effect models results respectively, and column 3 contains the FGLS estimates. Table 2 also includes the results of statistical tests applied.

4.- RESULTS

We should turn to the two questions posed in the introduction of this paper, that is:

i) The decentralization of social policies contributes to enlarge or reduce poverty?

ii) Is the effect of decentralization of such policies homogeneous, or would decentralization of the different social areas have a differentiated impact on poverty?

The results of Table 2 (GLS model) lead us to state that decentralization of the social expense affects poverty but this impact depends on the social policy considered. In the countries of low and lower-middle income included in the sample, the decentralization of the expense in health and housing has been shown favoring the decrease in poverty during the period 1980-2007; being the impact of decentralization in the area of housing superior than that of health. Therefore, the behavior of FD health (*FDHE*) and FD housing (*FDHO*) variables is consistent with the hypothesis of the classical theory, that is to say, to the extent that the expense in health and housing

[3]Given that the number of panels is higher than the number of observations of each panel (see table 1) we cannot test the existence of cross-sectional correlation.

are decentralized the poverty diminishes: an increase from the 1% of the expense decentralized in these two social areas, on the average, generates a decrease in poverty around the 2.94% and 3.06%, respectively. At this point, it should be reminded the key role played by health policy in breaking the intergenerational poverty circle.

[TABLE 2]

On the contrary, the estimation confirms the hypothesis of the normative theory of the public economy in the case of the FD social protection (*FDSP*): the subnational governments should not participate in the management of the social protection policies The scarce participation of the subnational governments in the policies of *FDSP* gives rise to an inefficient allocation of the public resources and, hence, an increase of 1% of the expense decentralized in social protection (FDSP), on the average, implies an increase in poverty around the 6.8%. An alternative explanation, as Sepulveda and Martinez-Vazquez (2010) pointed out, could be that subnational governments, directly, use the funds received for different purposes to poverty reduction. As opposed to *FDHE*, *FDHO* and *FDSP* and according to our results the *FDED* does not have a significant impact on the poverty.

With respect the control variables, Table 2 shows that the significant variables suit the assumptions made by the literature about poverty. Higher levels of income per capita, longer education periods and democratic systems reduce poverty while a higher population growth implies a higher level of poverty. Therefore, according with our results, the poor are receiving a share of per capita GDP gains, greater schooling years are observed among the poor and the government system is a key factor to the universal satisfaction of basic needs and the poverty reduction.

Summarizing, our results ratify that the decentralization of the expense in the areas of health, housing and social protection affects poverty, although with a differentiated impact owing to the different results of the combination of direct and indirect effects of decentralization in each policy. Therefore, policy implications are clear: policy-makers should pay especial attention in applying fiscal decentralization to social policies. They should carry out a deep analysis on decentralization

policies and on the resources assignment among jurisdictions for avoiding any inefficiency in the implementation of pro-poor policies.

5. CONCLUSIONS

Our results have shown that the decentralization of the social expense affects to poverty in different ways depending on the social policy considered. In the countries of low and lower-middle income included in the sample, the decentralization of the expense in health and housing has been shown favoring the decrease in poverty during the period 1980-2007. Hence, the hypothesis of the classical theory on decentralization is endorsed in these social areas. On the other hand, the results of this study ratify the prediction of the normative theory of the public economy in the case of the policies of social protection: the subnational governments should not participate in their management, since they inefficiently assign the scarce resources they arrange and, hence, they favor the increase in poverty.

These empirical findings cover a prominent gap in the fiscal decentralization research since they prove that the decentralization of the expense in the areas of health, housing and social protection affects to the poverty, although with a differentiated impact. Therefore, this study complements the main findings of Sepulveda and Martinez-Vazquez (2011): the decentralization of the expense in social protection contributes to enlarge poverty. On the contrary, the decentralization in the areas of health and housing favors the reduction of poverty.

Two proposals are extrapolated of our results in relation to the decentralization of the social policies in low and lower-middle income countries. Firstly, the subnational governments are efficient in the management of health and housing areas and, therefore, its participation in the application of these two policies contributes to diminish poverty. Secondly, these governments are not so efficient when they participate in the management of the policies of the social protection programs, since they favor the increase in poverty.

So, the main economic policy implication of these findings is that the governments of the countries of low and lower-middle income should reform the systems of fiscal decentralization to

make them more efficient. For each country, the social policies to decentralize and the resources assignment among jurisdictions should be analyzed with great detail.

Future investigations should examine if the tax structure and the fiscal load determine the effect of the decentralization of the social policies on poverty.

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Table 1: Descriptive statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
HR	overall	18.426	27.258	0.000	91.100	N = 77
	between		31.590	0.105	87.165	n = 20
	within		4.745	4.366	34.106	T-bar = 3.85
LFDED	overall	-0.940	1.102	-5.357	0.000	N = 77
	between		1.459	-5.357	0.000	n = 20
	within		0.117	-1.446	-0.706	T-bar = 3.85
LFDHE	overall	-1.910	1.888	-6.711	0.000	N = 77
	between		2.022	-6.537	0.000	n = 20
	within		0.606	-4.129	-0.084	T-bar = 3.85
LFDHOUS	overall	-0.505	0.664	-3.285	0.000	N = 77
	between		0.674	-2.859	0.000	n = 20
	within		0.162	-0.931	0.273	T-bar = 3.85
LFDSP	overall	-2.409	1.333	-5.681	0.000	N = 77
	between		1.663	-5.296	0.000	n = 20
	within		0.253	-3.225	-1.786	T-bar = 3.85
LGDPpc	overall	1.880	0.697	-0.267	2.789	N = 77
	between		0.880	-0.267	2.728	n = 20

Table 1: Descriptive statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
	within		0.162	1.495	2.474	T-bar = 3.85
AYE25	overall	8.909	2.685	3.380	12.578	N = 77
	between		3.140	3.399	12.451	n = 20
	within		0.372	7.873	10.032	T-bar = 3.85
REGIMEN	overall	0.753	0.434	0.000	1.000	N = 77
	between		0.441	0.000	1.000	n = 20
	within		0.107	-0.122	0.878	T-bar = 3.85
POPGROWTH	overall	0.283	1.238	-2.851	3.256	N = 77
	between		1.334	-1.233	3.145	n = 20
	within		0.499	-1.836	2.186	T-bar = 3.85
URBAN	overall	58.872	20.260	11.998	90.376	N = 77
	between		20.917	11.998	88.908	n = 20
	within		1.034	54.832	63.106	T-bar = 3.85
GLOBECON	overall	55.973	14.410	26.165	87.243	N = 77
	between		15.517	26.165	79.649	n = 20
	within		5.906	42.477	79.986	T-bar = 3.85

Note that the variables related to decentralization and the GDP are in logarithms,

Table 2: GLS

	Poverty Headcount Rate (HR)		
	GLS model	**Random Effect Model**	**Fixed effect Model**
LFDED	2.174 (1.177)	1.109 (2.181)	6.197 (4.977)
LFDHE	-2.943*** (0.471)	-1.521 (0.929)	-1.266 (1.152)
LFDHOUS	-3.060** (1.485)	0.767 (2.988)	1.710 (4.045)
LFDSP	6.799*** (0.814)	3.508 (1.889)	2.356 (2.535)
LGDPpc	-9.098*** (2.265)	-21.225*** (4.606)	-22.260*** (7.111)
AYE25	-2.838*** (0.536)	-3.218 (1.852)	-2.618 (4.979)
REGIMEN	-9.912***	-5.356	-5.204
	(2.905)	(4.592)	(6.841)
POPGROWTH	1.366** (0.567)	0.572 (1.042)	0.561 (1.223)
URBAN	-0.135 (0.078)	-0.0004 (0.250)	0.939 (0.843)
GLOBECON	-0.069 (0.070)	0.363*** (0.138)	0.335 (0.188)
CONSTANT	91.324*** (5.709)	77.964*** (11.928)	23.296 (39.040)
Breush-Pagan LM test		0.94	
F test , F(19,47)			7.02***
Wooldridge test for autocorrelation in panel data, F(1,5)			1.947

	Poverty Headcount Rate (HR)		
	GLS model	**Random Effect Model**	**Fixed effect Model**
Modified Wald test for group wise heteroskedasticity			6.2^{28}***
Wald Test	1372.87***		
Observations	77	77	77
Number of countries	20	20	20