Do Entrepreneurship and Economic Growth Affect Poverty, Income Inequality and Economic Development?

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ABSTRACT

The Philippines encountered problems concerning reduction of poverty, filling gaps between income inequalities and achieving economic development. From these ideas, the big question to ask was: "What can be the solution?" Furthermore, entrepreneurship and economic growth had an increasing pattern. Hence, the researchers examined the impact of entrepreneurship and economic growth on poverty, income inequality and economic development. This study used regional data to obtain sufficient number of observations, obtained from official government documents. The regression models followed that of Yanya et al. (2013) which incorporated the theoretical model of Beck et al. (2005) by running regression on cross sectional data and applied a standard Hausman test to choose between Fixed Effects and Random Effects which examined the magnitude and the effects of each explanatory variable to the dependent variables. The results suggested that economic growth plays a vital role on poverty, income inequality and economic development; entrepreneurship has impact on economic development but little or no impact on poverty and income inequality in the Philippines.

Keywords: entrepreneurship, poverty, income inequality, economic development

1.1 BACKGROUND/ OBJECTIVES AND GOALS

The events that occurred in poverty, income inequality and economic development in the Philippines led to a question of "Do entrepreneurship and economic growth affect poverty, income inequality and economic development?" which generated the main objective of the researchers – to examine the impact of entrepreneurship, measured by the number of Micro, Small and Medium Enterprises, and economic growth, measured by regional gross domestic product, on poverty, income inequality and economic development in the Philippines.

1.2 METHOD

To evaluate the relationship of entrepreneurship and economic growth with poverty, income inequality and economic development, the researchers followed the method used by Yanya et al. (2013) which incorporated the theoretical model of Beck et al. (2005) replacing the income quintile of the poor to human development index and instead of using gross provincial product (GPP), the regional gross domestic product (RGDP) was employed.

To measure the dependent variables, the researchers used the headcount ratio, gini coefficient and human development index; the independent variables were represented by the number of establishments comprising of Micro, Small and Medium Enterprises (MSMEs) and regional gross domestic product (RGDP). Due to every three-year release of data for poverty, income inequality and economic development, the researchers used regional data to obtain sufficient number of observations to avoid bias and non-normality distribution of data. Furthermore, the researchers acknowledge that the number of MSMEs does not fully represent the definition of entrepreneurship. However, it could be the nearest approximation for entrepreneurship.

In addition, this paper used regional panel data during the specific points of time from 1997 to 2012 (96 observations) to run a multiple regression. The researchers applied a standard Hausman test to choose between Fixed Effects and Random Effects that would examine the magnitude and the effects of each explanatory variable to the dependent variables.

1.3 ECONOMETRIC MODELS

where

1.3.1 To evaluate the relationship of entrepreneurship and economic growth on poverty, the researchers regressed the following equation:

$HCR_{i,t} = \beta_0 + \beta_1 \log(\text{RGDP}_{i,t}) + \beta_2 \log(\text{MSMEs}_{i,t}) + c_i + u_{it}$

where:	
HCR _{i,t}	= Headcount Ratio
RGDP _{i,t}	= Regional Gross Domestic Product
MSMES _{i,t}	= Micro, Small and Medium Enterprises
u _{it}	= the idiosyncratic error with mean 0
Ci	= the unobserved time constant characteristics of an individual
	which is the effect the researchers specifically want to control in the
	panel data model

1.3.2 To evaluate the relationship of entrepreneurship and economic growth on income inequality, the researchers regressed the following equation:

$GC_{i,t} = \beta_0 + \beta_1 \log(RGDP_{i,t}) + \beta_2 \log(MSMES_{i,t}) + c_i + u_{it}$

where.		
$GC_{i,t}$	=	Gini Coefficient Ratio
RGDP _{i,t}	=	Regional Gross Domestic Product
MSMES _{i,t}	=	Micro, Small and Medium Enterprises
u _{it}	=	the idiosyncratic error with mean 0

 c_i = the unobserved time constant characteristics of an individual which is the effect the researchers specifically want to control in the panel data model

1.3.3 To evaluate the relationship of entrepreneurship and economic growth on economic development, the researchers regressed the following equation:

	HDI	i,t =	$\beta_0 + \beta_1 \log(\text{RGDP}_{i,t}) + \beta_2 \log(\text{MSMES}_{i,t}) + c_i + u_{it}$
where:			
HDI _{i,t}		=	Human Development Index
$RGDP_{i,t}$		=	Regional Gross Domestic Product
MSMES _i ,	t	=	Micro, Small and Medium Enterprises
u _{it}		=	the idiosyncratic error with mean 0
Ci		=	the unobserved time constant characteristics of an individual
		whic	h is the effect the researchers specifically want to control in the
		pane	l data model

1.4 RESULT

1.4.1 Poverty Results

The regression results showed that the regional gross domestic product (LOG(RGDP)) (0.0000) was a significant determinant of the poverty at 10% level of significance. While the Micro, Small and Medium Enterprises (LOG(MSMES)) was an insignificant determinant of poverty at 10% level of significance. A zero (0) F-statistic proved that the model is significant at 10% level of significance. The value for R-squared was 0.907378, which meant that 90.74% of the changes in the headcount ratio could be explained by the changes in the regional gross domestic product. This was a clear indication that the RGDP was a significant determinant of poverty. It also showed that the said variable was negatively related to poverty.

1.4.2 Income Inequality Results

The regression results showed that one of the independent variables, the regional gross domestic product (LOG(RGDP)) (0.1000) was a significant determinant of the income inequality at 10% level of significance. However, the Micro, Small and Medium Enterprises (LOG(MSMES)) was an insignificant determinant of income inequality at 10% level of significance. A zero (0) F-statistic proved that the model was significant at 10% level of significance. The value for R-squared was 0.931336, which meant that 93.13% of the changes in the gini coefficient could be explained by the changes in the regional gross domestic product. This was a clear indication that the RGDP was a significant determinant of income inequality.

1.4.3 Economic Development Results

The regression results showed that two of the independent variables, the regional gross domestic product (LOG(RGDP) (0.0005)) and the Micro, Small and Medium Enterprises (LOG(MSMES) (0.0458)) were significant determinants of the economic development at 10% level of significance. A zero (0) F-statistic proved that the model was significant at 10% level of significance. The value for R-squared was 0.702508, which meant that 70.25% of the changes in the human development index could be explained by the changes in the regional gross domestic product and the changes in the Micro, Small and Medium Enterprises. This was a clear indication that the regional gross domestic product and the Micro, Small and Medium Enterprises were significant determinants of the human development index. It also showed that both variables were positively related to each other.

The results from the regression analysis showed that there was a negative relationships between economic growth, and poverty and income inequality. It entailed that a percent (1%) increase of RGDP accounted to poverty could lead to a decrease of 3.3646 and a decrease of 0.0071 to income inequality. Whereas, the analysis revealed that there was a positive relationship between the economic growth and the economic development. It meant that a percent (1%) increase of RGDP accounted to economic development could lead to an increase of 0.0258. Moreover, there was a positive relationship between the entrepreneurship and economic development. Hence, a percent (1%) increase of MSMEs accounted to the human development index could lead to an increase of 0.0906.

The researchers take these results as evidence that economic growth plays a vital role on poverty, income inequality and economic development; entrepreneurship has impact on economic development but little or no impact on poverty and income inequality in the Philippines.

Table 1: Hausman Test for Poverty						
	Correlated Random Effects - Hausman Test					
	Equation: Untitled					
	Test cross-section random effects					
	Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.		
	Cross-section random	5.65314	2	0.0592		

APPENDIX

Table 2: Hausman Test for Income Inequality

Correlated Random Effects - Hausman Test					
Equation: Untitled					
Test cross-section random effects					
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.		
Cross-section random	18.009626	6	0.0062		

Table 3: Hausman Test for Economic Development

Correlated Random Effects - Hausman Test					
Equation: Untitled					
Test cross-section random effects					
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.		
Cross-section random	18.009626	б	0.0062		

Table 4: Regression Result for Poverty

Dependent Variable	•							
Dependent Variable: HCR								
	Method: Panel Least Squares							
Date: 09/27/15 Tim								
Sample (adjusted): 19	997 2012							
Periods included: 6								
Cross-sections includ	led: 18							
Total panel (unbaland	ced) observation	ns: 96						
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
С	80.88851	47.32678	1.709149	0.0915				
LOG(RGDP)	-3.364639	0.725987	-4.634574	0.0000				
LOG(MSMES)	-0.892350	4.63857	-0.192376	0.8480				
Effects Specification								
Cross-section fixed (dummy variables)								
R-squared	0.907378	Mean dependent var 38.95521						
Adjusted R-squared	0.884223	S.D. depend	S.D. dependent var					
S.E. of regression	4.600164	Akaike info	Akaike info criterion					
Sum squared resid	1608.275	Schwarz cri	Schwarz criterion					
Log likelihood	-271.5094	Hannan-Quinn criter. 6.28906						
F-statistic	39.18644	Durbin-Watson stat 1.762473						
Prob(F-statistic) 0.000000								

Dependent Variable:	GC			Dependent Variable: GC						
Method: Panel Least	Method: Panel Least Squares									
Date: 11/11/15 Time	e: 22:45									
Sample (adjusted): 20	003 2012									
Periods included: 4										
Cross-sections includ	led: 16									
Total panel (unbalance	ced) observatior	ns: 60								
Variable	Coefficient	Std. Error	t-Statistic	Prob.						
С	1.370907	0.722709	1.896901	0.0655						
LOG(RGDP)	-0.007112	0.004219	-1.68573	0.1000						
LOG(MSMES)	-0.033467	0.034835	-0.960737	0.3428						
Effects Specification										
Cross-section fixed (dummy variables)										
R-squared	0.931336	Mean dependent var 0.431629								
Adjusted R-squared	0.893391	S.D. depend	S.D. dependent var							
S.E. of regression	0.014032	Akaike info	Akaike info criterion							
Sum squared resid	0.007482	Schwarz cri	Schwarz criterion							
Log likelihood	184.5519	Hannan-Qu	Hannan-Quinn criter.							
F-statistic	24.54390			2.443298						
Prob(F-statistic) 0.000000										

Table 5: Regression Result for Income Inequality

0. Regression Resul							
Dependent Variable: HDI							
Method: Panel EGLS (Cross-section random effects)							
Date: 11/11/15 Time: 22:55							
Sample (adjusted): 2006 2012							
Periods included: 3							
Cross-sections included: 16							
Total panel (unbalanc	ed) observation	s: 44					
Swamy and Arora es	timator of comp	onent variance	es				
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
С	-1.459571	0.391664	-3.726588	0.0007			
LOG(RGDP)	0.025778	0.006676	3.861062	0.0005			
LOG(MSMES)	0.090646	0.043765	2.071221	0.0458			
	Effects Spe	cification					
			S.D.	Rho			
Cross-section random	1		0.088851	0.9617			
Idiosyncratic random			0.017743	0.0383			
	Weighted S	Statistics					
R-squared	0.702508	Mean dependent var 0.0665					
Adjusted R-squared	0.634510	S.D. dependent var		0.030397			
S.E. of regression	0.017378	Sum squared resid		0.010570			
F-statistic	10.33128	Durbin-Watson stat		1.579044			
Prob(F-statistic)	0.000000						
	Unweighted	l Statistics					
R-squared	0.766968	Mean dependent var 0.56268					
Sum squared resid	0.254809	Durbin-Wat	son stat	0.06550			
Sam Square a resta							

Table 6: Regression Result for Economic Development

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