STRUCTURAL OR CONJUNCTURAL CHANGES TO REDUCE POVERTY IN ECUADOR?

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Abstract. This article examines the different determinants of poverty and extreme poverty, emphasizing long- and short-term changes in policies to address social disparities. We identify several conjunctural factors important for socioeconomic divergences, which are a focus of policymakers in the region. These factors are employed as a strategy for gaining people's support because of their easy implementation and short-run effectiveness. However, in many cases, the factors have shown no effect in the long term. In contrast, we suggest other determinants that have shown success when used, termed structural changes. In most cases, these determinants are costly and hard to implement. However, they often have concrete and lasting repercussions. We use a fixed-effect model of various structural and conjunctural factors that may determine the levels of poverty in a country and compare the model results to identify the effectiveness of short-term policies and long-term structural changes. Our results suggest that in Ecuador, conjunctural changes such as an increased minimum wage have had an impact on reducing poverty. In addition, we find that structural factors, such as human capital and labor market structure, have a larger impact when defining poverty and extreme poverty, implying the importance of structural reforms for larger and lasting reductions in poverty levels.

Keywords: Structural change, conjunctural policy, poverty, extreme poverty, effective minimum wage.
JEL Codes: I3, I32, O54

(Title in Spanish) **¿Cambios estructurales o coyunturales para reducir la pobreza?**

Resumen Este artículo examina los diferentes determinantes de la pobreza y la pobreza extrema, haciendo hincapié en los cambios a largo y corto plazo en las políticas para abordar las disparidades sociales. Identificamos varios factores coyunturales importantes para las divergencias socioeconómicas, que son un foco de atención de los formuladores de políticas en la región. Estos factores se emplean como una estrategia para obtener el apoyo de la gente debido a su fácil implementación y eficacia a corto plazo. Sin embargo, en muchos casos, los factores no han mostrado ningún efecto a largo plazo. En contraste, sugerimos otros determinantes que han demostrado éxito cuando se utilizan, llamados cambios estructurales. En la mayoría de los casos, estos determinantes son costosos y difíciles de implementar. Sin embargo, a menudo tienen repercusiones concretas y duraderas. Utilizamos un modelo de efecto fijo de diversos factores estructurales y coyunturales que pueden determinar los niveles de pobreza en un país y comparamos los resultados del modelo para identificar la eficacia de las políticas a corto plazo y los cambios estructurales a largo plazo. Nuestros resultados sugieren que en el Ecuador, cambios coyunturales tales como un aumento del salario mínimo han tenido un impacto en la reducción de la pobreza. Además, encontramos que los factores estructurales, como el capital humano y la estructura del mercado laboral, tienen un mayor impacto a la hora de definir la pobreza y la pobreza extrema, lo que implica la importancia de las reformas estructurales para reducir de manera más amplia y duradera los niveles de pobreza.

Palabras clave: Cambio estructural, política coyuntural, pobreza, pobreza extrema, salario mínimo efectivo.

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1. Introduction

Alleviating poverty has been one of the main difficulties in developing countries, with no long-term decisive solutions. As a result of the many studies that have tried to determine why certain nations are poor, a conjunctural strategy has become popular among politicians. Such politicians seek to address poverty and other social disparities with short-term reforms that are popular among socially marginalized individuals. This approach is a clear example of what "populist" governments undertake to gain the votes and approval of their citizenries, mainly in developing countries, such as those in Latin America.

Since the 1930s, a populist policy approach has emerged in Latin America, with governments seeking to achieve economic growth and poverty reduction by expanding government expenditure and adopting policies to improve the distribution of income (Dornbusch and Edwards, 2007). Policymakers have primarily focused on gaining support from the lower-middle income classes and domestic and small businesses while targeting foreign enterprises and other elites.

As a way of achieving these goals, several policies have received high praise, such as increasing government expenditure as a way to stimulate domestic demand and economic growth, wage increases for income redistribution, and exchange rate manipulations for increasing profits in non-trade sectors. Policies of this type started attracting large numbers of marginalized agents in the search for better living standards and opportunities. By such simple, easy-to-apply solutions for socioeconomic problems, populist governments have been able to quickly gain the support and votes of millions.

These remedies may succeed in the short term. However, without structural change and development, their effects can be reversed and worsen over time. Additionally, it is well known in Latin America, widely noted for its political immaturity, that long-term promises are not very popular among citizens. This response may itself be an effect of political immaturity, prolonged by different political pacts dedicated to winning elections with short-term promises of prosperity and equality and leaving long-run structural changes behind. Since short-run conjunctural changes have become the focus of populist proposals, real impacts and changes have not emerged in the region.

Against this background, our study focuses on analyzing whether conjunctural factors are more important than changes in structural characteristics when determining poverty levels in developing countries. We apply our analysis to Ecuador, a nation that has been led by a populist government for more than 10 years whose focus is economic growth accompanied by a strong reduction in inequality. This period provides a clear example of the populist approach, with high levels of public expenditure and wage increases lacking an economic basis. Our results suggest that cyclical changes have had no significant impact on poverty, while changes in wages did have such an impact. More importantly, we find that structural factors, such as labor market characteristics and education, have a significant impact on poverty. These findings suggest that for the case of Ecuador structural determinants should be considered when applying policies to reduce poverty and that such determinants are perhaps more important than conjunctural changes.

The remainder of this study is arranged as follows. In section 2, we review the literature on poverty and various determinants of poverty, mainly in developing countries. In section 3, we present the econometric model used in our research and describe several robustness checks with respect to model specification. In section 4, we present our results and compare them with those of other studies. Finally, we offer concluding remarks and a brief policy discussion.

2. Literature Review

There is a vast literature addressing the determinants of poverty and how policies can limit or in certain cases accentuate its scope. However, there has been little research on the type of factors that determine a country's poverty levels.

Guisan and Exposito(2020) present a general view of poverty in the World for 2000-2017, and analyze some of the main factors that contribute to economic development and poverty diminution. These authors highlight the great interest of international comparisons in order to know the impact of the main factors contributing to improve economic development. Education is one of the main factors because it usually increases production at a higher rate than population, allowing the country to reach higher levels of real production per capita with its positive effects on investment per capita, health care expenditure, education expenditure and poverty diminution.

The measures to improve economic development are important but sometimes evolve slowly, and in the meanwhile it is important to develop policies for poverty alleviation.

To alleviate poverty, there is a need for institutional change, which must be analyzed in terms of social-structural and/or conjunctural conditions (Badat, 2009). Both sets of conditions should be considered. However, one must understand how to distinguish between them. The first refers to the elements that follow a permanent logic of a given social structure, whereas the latter refers to the elements that emerge in a sort of temporary variation of its functioning (Melucci, 1989). Thus, to find possible determinants and solutions for poverty, conjunctural and structural conditions must be considered in one's analysis (Wolpe and Unterhalter, 1991).

Court (2019) suggests that to explain divergent paths between economies it is important to examine the reactions of contingent pressures, globally and locally. In particular, he identifies the "contingency-conjuncture" classification as one of three major determinants of economic development. This classification includes various conjunctural factors that occur in certain economies and the different policies and management adopted by politicians to stabilize an economy (Carmichael, et al., 2016; Findlay and O'Rourke, 2009; Wrigley, 2016). In addition, as Kuhlmann-Wilsford (1995) explains, conjunctural factors occur with changes in policy paths in the search for an opportunity to introduce significant changes in societies.

Therefore, conjunctural changes seek to complement institutionalized policies and achieve radical adjustments when conjuncture occurrences enable policymakers to introduce change (Greener, 2002). The same researcher also distinguishes between two types of factor required for change. First, factors that are permanent (at least relatively so) features of the political and economic environment but contain a potential to induce

change, which he terms structural factors. Second, factors that are transitory and more easily changeable but may disappear and thus eliminate the opportunity for change, which he terms conjunctural factors. That is, conjunctural determinants or policies are easy to implement. However, their change and impact may not have long-term effects.

These may be the reasons why many policymakers primarily focus on conjunctural strategies to implement policies. In addition, conjunctural circumstances create an opportunity for change, in the form of reforms and policies, for policymakers who want to address these short-term problems. In Latin America and other regions, these conjunctural pressures have an impact on so-called "populist" solutions by authorities, who intend to attack these conjunctures by short-term policies (Gourevitch, 1993). In fact, due to the conjuncture of high levels of poverty and inequality in Latin America, many policies have been deployed to combat this problem, focusing primarily on short-term solutions rather than structural reforms (Nissanke and Thorbecke, 2010).

For example, regarding Brazil, Kakwani et al. (2010) state that when negative macroeconomic shocks occur governments should adopt a pro-active and pro-poor stance in the form of policies and reforms that aid the poor through this conjuncture. Therefore, the appearance of transfers and safety nets shelters the poor during such periods of economic and financial crises. This phenomenon is also suggested by Skoufias et al. (2010), who indicate that public transfers in periods of crisis can act as effective means to redistribute income to the poor in Latin America and the Caribbean. They also find that such social assistance programs have stronger impacts on reducing poverty and inequality than social insurance schemes, which tend to be difficult to implement and change the structure of social assistance. These findings are supported by Gasparini and Lustig (2011), who explain that the reduction of poverty and inequality primarily occurs because of the decrease in the earnings gap between skilled and low-skilled workers and the increase in cash transfers by the government.

Finally, Alaniz et al. (2011) find that in Nicaragua increases in the (legal) minimum wage increase the probability of moving out of poverty for a worker's family. These increases are more likely to improve the transition of poor individuals to non-poor status and to reduce the incidence of poverty if they primarily affect the head of household. This view is also held by Gindling and Terrell (2005), who found evidence that the use of the minimum wage as an instrument to reduce poverty in economic crises succeeded in Honduras and Costa Rica. In addition, Guzmán (2017) showed that an increase in the minimum wage reduced the probability that a worker's family would be poor in Ecuador, a country in which the minimum wage tends to change quickly.

In contrast, structural theory has been widely supported by sociologists, primarily to confront poverty, but its empirical application has not yet been developed (O'Connor, 2001). One reason for this failing could be that structural forms are inflexible and endure over very long periods (Decoteau, 2018). Therefore, such structural conditions are not easy to change and require time to be implemented and accepted. However, these factors remain very important (some would say crucial) for understanding divergence between societies and economies. In fact, Escobar-Mayorga and Arana-Morales (2017) explain that structural variables are the basic, stable

characteristics of societies, including social groups, culture, and economic, political, and cultural institutions.

As previously stated, societal and other types of structural factor within societies may be intractable and require time to change. This recalcitrance could help explain the low focus on structural reforms by many policymakers, who emphasize policies to cope with short-term factors that affect the economy and other socioeconomic factors (Nissanke and Thorbecke, 2010; Badat, 2009). For example, Popli (2010) found that a policy change on trade liberalization could not reduce poverty levels in Mexico in the short term. In fact, both inequality and poverty increased during the first 10 years following such a policy change. Thus, a costly (both monetarily and politically) change in the economic structure of a country produced negative results for a decade, after which the growth in inequality decelerated but poverty continued to increase.

In addition, a change in export trade to a nontraditional structure was applied to address rural and agricultural poverty in Guatemala. The results of Carletto et al. (2010) showed over a span of two decades that while government intervention may help the transition to a nontraditional sector, poor farmers might lack the capacity to diversify and compete in a globalized market. Thus, as previously mentioned, structural reforms require high investment and many years to show results, and these results are not always positive. This is the case for other structural analyses, not derived by reforms but by structure itself. For example, De la Fuente et al. (2015) showed that the migration and transfer structure in Mexico did not support and aid the poor in the 1990s and had an impact on the increase in inequality.

There seems to be substantial evidence for the misuse and negative effects of policies that aim to change economic and social structures, specifically with respect to poverty. However, several studies suggest that structural factors are important, perhaps even more so than conjunctural variables. In fact, the structural composition of a country or a society appears in various ways. One is culture, as stated by Court (2019). Culture is defined as a set of beliefs, preferences and values that affect behavior and are socially transmitted from generation to generation and from individual to individual (Guiso, et al., 2006; Mokyr, 2017). These beliefs provided by each culture have a socioeconomic impact through the assessment of certain individuals on the actions that other agents will perform; i.e., the characteristics of different agents and groups determine the way they perform and act within a society (Gambetta, 1988).

In fact, these characteristics are managed (but not limited) by culture. However, there are other characteristics that denote the structure of a society. Effectively, these different characteristics among societies can help explain certain economic divergences (Knack and Keefer, 1997; Easterly and Levine, 1997; Alesina, et al., 2003, Alesina and Ferrara, 2005). These studies suggest that ethnic, linguistic, religious, and different types of regime fractionalization in the structure of economies affect economic growth, inequality, and productivity. Thus, not only changes but also the fundamental structure of a country are responsible for the levels of socioeconomic factors present in societies.

Moreover, Brady (2006) establishes a link between structural explanations, such as the labor market and demographic conditions, and poverty. He states that these structural factors account for a large part of the variation in poverty levels. Therefore,

countries with more individuals in vulnerable labor markets or demographic conditions (e.g., relating to race, gender, age) will have more individuals living under poverty. This idea is also supported by Wilson (2011, 2012), who explained using a structural model that labor market and demographic conditions affect and disadvantage the poor more than other groups in a society.

Controversy remains regarding the effect of structural models on poverty (Rainwater, 1969; Ornati, 1966), with certain authors implying that the poor cannot benefit from economic growth because they are marginalized in the labor market structure and therefore immune to economic progress (Galbraith, 1998; Harrington, 1985) and others arguing that structural factors shape and determine income inequality (Nielsen and Anderson, 2002). In addition, labor market segmentation also affects the poor through the transition in sectorial structure (from agriculture to manufacturing and services) and urbanization (from rural to urban), with one disadvantage stemming from the poor being trapped in secondary labor markets (informal sector) (Gordon, et al., 1982).

Therefore, it is of substantial importance to study the effects of structural factors and changes to understand poverty, particularly in regions such as Latin America, where demographic and labor market characteristics are more heterogeneous and fractured and poverty remains high. For example, de Janvry and Sadoulet (2005) show that growth and cyclical economic changes do not reduce inequality in 12 Latin American countries. However, their findings suggest that structural adjustments, such as changes in education and urbanization, are effective in reducing poverty. In addition, de Janvry and Sadoulet (1989) suggest changes in structural conditions to cope with poverty in Latin America. These changes include long-term projects and investment in farm-oriented rural development for upper subfamily and family farms, household-oriented rural development for lower subfamily farms, access to assets for individuals with no land ownership, employment creation and labor market rationalization and demand linkages in rural areas. They also find that to offset poverty in Latin America, the paths should be channeled by regional development, decentralization, and increased participation (de Janvry and Sadoulet, 2000).

Regarding the focus of our analysis—Ecuador—several studies also note the importance of structural factors for poverty. For example, Canelas (2019) found that poverty and the informal sector are highly correlated in the country. She suggests that if authorities aim to reduce poverty or informality, they cannot eliminate one without eliminating the other. That is, poverty can be reduced only if increasingly better employment structures are created. Additionally, Ponce and Vos (2012) found that due to the lack of structural changes in Ecuador reductions in inequality and poverty cannot be sustained.

Despite reforms and changes in policies in Ecuador that aim to reduce poverty and inequality, structural factors have not been properly investigated. The conjunctural approach adopted by several governments may have succeeded (at least temporarily) in reducing poverty through reforms and a continuous increase in the minimum wage. However, the demographic and labor structure of the country must be considered. As

previous studies have shown, structural changes may be costly and hard to apply, but they may be the only way out of poverty.

Guisan and Aguayo(2007) analyze everal indicators of poverty in Latin America for the period 2000-2005: Health and Education Expenditure per head, Hospital beds per one thousand people, Undernourishment and Poverty. Ecuador presents low levels of Health and Education Expenditure per capita in comparison with other American Countries and with Latin American average. The Econometric models of that study show the great positive effect of Education Expenditure to increase real Production per head as well as the great positive impact of Production on Health Expenditure. The authors conclude recommending higher expenditure in Education for its positive effects on economic development, health care and poverty diminution.

Herrero-Olarte and Villareal-Sosa(2020), analyze the effects of minimum wages of income of poorest population in South America.

3. Methodology

To identify the determinants of poverty and distinguish between the effects of conjunctural and structural variables, we use a basic ordinary least squares model (OLS) regression with the percentage of individuals who earn less than the 40th and 20th income percentiles (for poverty and extreme poverty, respectively) as the dependent variables. For poverty and extreme poverty, these variables were measured according to the World Bank's Development Indicators (Adedokun and Round, 2001). For poverty, we use the percentage of individuals with an income below the 40th income percentile, and for extreme poverty, we use the percentage of individuals with an income below the 20th income percentile. Previous studies have applied OLS to cross-sectional data (Malik, 1996; Mukherjee and Benson, 2003; Edoumiekumo, et al., 2013), but we consider the need to capture unobserved characteristics between provinces, which is why we also apply a fixed-effect model.

This approach involves regressing the percentage of individuals living in poverty and extreme poverty against a set of independent variables, distinguished as conjunctural and structural variables. The regression equations are specified as follows:

$$Poverty_{p,t} = X^{c}_{p,t}\beta + X^{s}_{p,t}\gamma + \varepsilon_{p,t} \qquad (1)$$

$$EPoverty_{p,t} = X^{c}_{p,t}\beta + X^{s}_{p,t}\gamma + \varepsilon_{p,t} \qquad (2)$$

where $Poverty_{p,t}$ and $EPoverty_{p,t}$ denote the percentage of individuals living in poverty and extreme poverty, respectively, in province p at year t; $X^{c}_{p,t}$ and $X^{s}_{p,t}$ are the set of conjunctural and structural explanatory variables; and $\varepsilon_{p,t}$ is the error term. β and γ are the parameters to be estimated.

For our independent variables, we distinguished between conjunctural variables (i.e., short-term, fast-changing) and structural variables (i.e., long-term, stable).

For our conjunctural determinants, we chose the logarithm of the GDP of each province, which captures cyclical factors in each economy and constantly changes for

each period (Giannone, et al., 2010; Martin-Mayoral and Fernández, 2017) and the bite of the minimum wage.

The bite of the minimum wage, as discussed by Lee (1999), is defined for each state s and year t by the maximum between the logarithm of state and national minimum wages (in case the minimum wage differs between states) and the logarithm of the average wage: $\max[\log(MW_{s,t}), \log(NMW_t)] - \log(w_{s,t}^{50})$.

As the minimum wage is the same for every province in Ecuador, we decided that the application of this effective minimum wage (using both conjunctural factors, i.e., the minimum wage and the average wage) could represent the intensity with which these levels change in each province. That is, provinces with a higher bite of the minimum wage would have a greater contraction in wages when the minimum wage changes.

In the case of structural determinants, we centered our analysis on the characteristics of each province. First, we captured the percentage of individuals who work in the informal sector to capture the labor market structure (Sikora and Saha, 2007). We also introduced the percentage of individuals who identify themselves as "mestizo" ("half-blood" in English) in each province because this is the predominant race in the country (more than 70 percent of Ecuadorians identify as "mestizos"), which could reflect the racial segregation remaining in each state (Biyase and Zwane, 2018; Martin-Mayoral and Fernández, 2017; Sikora and Saha, 2007). Finally, we included the percentage of individuals with middle-level education (high school) in each province because there are many findings regarding the benefits of education on reducing poverty (Edoumiekumo, et al., 2013; Akerele and Adewuyi, 2011; Biyase and Zwane, 2018; Tilak, 2007).

As previously discussed, we have collapsed our individual data into state (or in this case, provincial) data. Therefore, our data contain information for the different provinces for different periods, i.e., panel data. This strategy can help us control missing variable bias. Additionally, we believe that there is unobserved heterogeneity in each province. Therefore, the use of fixed effects can account for time-invariant characteristics that may be correlated with our independent variables. This approach involves regressing the percentage of individuals living in poverty and extreme poverty against the previously explained independent variables. The regression equations in this case are specified as follows:

$$Poverty_{p,t} = X_{p,t}^{c}\beta + X_{p,t}^{s}\gamma + \delta_t + \lambda_p + \lambda_p * T + \varepsilon_{p,t} \qquad (3)$$

$$EPoverty_{p,t} = X_{p,t}^{c}\beta + X_{p,t}^{s}\gamma + \delta_t + \lambda_p + \lambda_p * T + \varepsilon_{p,t} \qquad (4)$$

where we introduce year fixed effects, denoted by δ_t; province fixed effects, denoted by λ_p; and, finally, provincial trends, represented by $\lambda_p * T$. The error term $\varepsilon_{p,t}$ is assumed to be uncorrelated with province and year fixed effects, provincial individual trends, and the set of independent variables.

4. Results

We begin by estimating the impact of conjunctural and structural variables on poverty and extreme poverty. Table 1 presents the OLS and FE estimates of poverty, denoted by equations 1 and 3. Each column reflects a different model specification, i.e., regression. In column 1, we present the OLS estimation. Columns 2 through 5 are FE regressions with different specifications. Column 2 is the FE regression, column 3 includes year fixed effects, column 4 includes both year and province fixed effects, and column 5 includes provincial trends. The effects for the marginal effects of structural and conjunctural variables are statistically significantly different from zero in the OLS regression except for the logarithm of the GDP.

Table 1. OLS and FE regression of the percentage of individuals living in poverty on the logarithm of GDP, bite of the minimum wage, underemployment, race, and middle-level education for 20 provinces between 2007 and 2018.

	Poverty					
	OLS		FE			
	(1)		(2)	(3)	(4)	(5)
Log of Gross Domestic Product	0		0.02	0.01	0.01	0.01
	(0)		(0.01)	(0.02)	(0.02)	(0.03)
Bite of the Minimum Wage	0.17***		0.17***	0.15***	0.15***	0.13***
	(0.03)		(0.03)	(0.03)	(0.03)	(0.03)
Underemployment	0.44***		0.23***	0.21***	0.21***	0.19**
	(0.07)		(0.06)	(0.06)	(0.06)	(0.08)
Mestizo	-0.05**		-0.1	-0.09	-0.09	-0.08
	(0.02)		(0.06)	(0.06)	(0.06)	(0.07)
Middle-level Education	-0.29***		-0.45***	-0.61***	-0.61***	-0.56**
	(0.09)		(0.07)	(0.13)	(0.13)	(0.2)
Year FE				Yes	Yes	Yes
Province FE					Yes	Yes
Provincial trends						Yes
N	240		240	240	240	240
R-squared	0.779		0.428	0.435	0.435	0.5

Source: Author's elaboration from ENEMDU and Banco Central del Ecuador (2007-2018).Notes: Standard errors are clustered at the provincial level and denoted in parentheses. *10%, **5%, and ***1% significance levels.

The coefficients for race (mestizo) and middle-level education are negative, whereas the coefficients for the bite of the minimum wage and underemployment are positive. These estimates agree with the relevant theory and related literature. As the race "mestizo" is predominant in the country, its negative value could reflect our theory of racial segregation, implying that if the percentage of individuals who identify as "mestizos" increases, poverty will decline (Biyase and Zwane, 2018; Florida and Mellander, 2018; Coulombe and Mckay, 1996). The same phenomenon occurs with

middle-level education, suggesting that if the percentage of individuals with such education increases, poverty declines (Bogale, et al., 2005; Peng, et al., 2018; Chen, et al., 2019; Islam, et al., 2016; Biyase and Zwane, 2018; Florida and Mellander, 2014; Mukherjee and Benson, 2003).

Regarding the determinants with positive coefficients, we find that if the percentage of individuals in the informal sector increases, poverty does so as well, reflecting the bad conditions and incomes in connection with this type of employment (Sackey and Osei, 2006; Haynie and Gorman, 1999). Finally, when analyzing the bite of the minimum wage, the results suggest that if average incomes move away from the minimum wage, poverty increases (Peng, et al., 2018; Chen, et al., 2019; Odedokun and Round, 2001; Kawaguchi and Mori, 2009; Burkhauser and Sabia, 2007). This finding could reflect that poorer provinces could become even poorer with increases in the minimum wage if average wages do not increase accordingly.

When we analyze the estimates for the FE regressions, the results are highly similar. One difference is the significance of our race variable, implying that race and racial segregation are not truly factors that determine poverty in the various provinces we have analyzed. However, one conjunctural variable (i.e., the bite of the minimum wage) and two structural variables (i.e., underemployment and middle-level education) exhibit constancy in their results, significance and magnitudes, even when year and province fixed effects and provincial trends are added.

Because of possible endogeneity between unobserved individual characteristics and the independent variables, we focus on the fixed-effects regressions. Therefore, we obtain several results. As previously mentioned, as a robustness check, we introduced year and province fixed effects and provincial trends and found that the coefficients and their significance do not vary significantly across specifications. For the bite of the minimum wage, the results suggest that an increase of ten log points in the gap between the provinces' average income and the national minimum wage increases the percentage of individuals living in poverty by 1.3 to 1.7 percentage points.

Regarding our structural determinants, we found that if the percentage of individuals who work in the informal sector increases by ten percentage points, the percentage of individuals living in poverty increases from 1.9 to 2.3 percentage points. Finally, if the percentage of individuals who have middle-level education (i.e., high school) increases by 10 percentage points, the percentage of individuals living in poverty decreases from 4.5 to 6.1 percentage points. As previously stated, these effects are significantly different from zero at the 0.5% level and robust to the different model specifications when fixed-effects regressions are applied.

When applying our analysis to extreme poverty, i.e., individuals below the 20th income percentile, we find similar results to those found in our regressions for poverty. The major difference is in the significance for the OLS model of the logarithm of the GDP. The results suggest that when GDP increases by 1 percent extreme poverty declines by approximately one percentage point. This finding is not robust to fixed-effects specifications. Therefore, GDP may have little or no importance when determining extreme poverty in this study.

When analyzing our conjunctural variable of the bite of the minimum wage, we observe that, as for the poverty specification, a 10 log point increase causes an increase from 1.1 to 1.7 percentage points in the percentage of individuals living in extreme poverty. We also find that the effect of structural variables is greater in determining extreme poverty than poverty. A 10 percentage point increase in the percentage of individuals who work in the informal sector increases the percentage of individuals living in extreme poverty from 2.6 to 3 percentage points. Finally, we found that an increase of 10 percentage points in the percentage of individuals with middle-level education reduces the percentage of individuals living in extreme poverty from 4.8 to 5.6 percentage points. These findings are also significantly different from zero at a 5% level and robust to the different fixed-effect specifications.

Table 2. OLS and FE regression of the percentage of individuals living in extreme poverty on the logarithm of GDP, bite of the minimum wage, underemployment, race, and middle-level education for 20 provinces between 2007 and 2018.

	Extreme Poverty					
	OLS		FE (Fixed Effects)			
	(1)		(2)	(3)	(4)	(5)
Log of Gross Domestic Product	-0.01***		0	-0.01	-0.01	0.01
	(0)		(0.01)	(0.01)	(0.01)	(0.02)
Bite of the Minimum Wage	0.09***		0.17***	0.16***	0.16***	0.11**
	(0.03)		(0.04)	(0.03)	(0.03)	(0.04)
Underemployment	0.35***		0.27***	0.26***	0.26***	0.30***
	(0.07)		(0.06)	(0.06)	(0.06)	(0.09)
Mestizo	-0.10***		-0.12*	-0.11	-0.11	-0.09
	(0.02)		(0.07)	(0.07)	(0.07)	(0.08)
Middle-level Education	-0.25***		-0.48***	-0.56***	-0.56***	-0.50**
	(0.09)		(0.09)	(0.14)	(0.14)	(0.18)
Year FE				Yes	Yes	Yes
Province FE					Yes	Yes
Provincial trends						Yes
N	240		240	240	240	240
R-squared	0.711		0.471	0.472	0.472	0.548

Source: Author's elaboration from ENEMDU and Banco Central del Ecuador (2007-2018).
Notes: Standard errors are clustered at the provincial level and denoted in parentheses.
*10%, **5%, and ***1% significance levels.

The results of this study suggest that both conjunctural and structural variables are determinants and both affect the levels of poverty and extreme poverty. If we focus on our regression coefficients, structural characteristics may have a larger impact on determining poverty in the studied provinces.

Many studies have found strong impacts of structural variables on poverty and inequality (Islam, et al., 2016; Miyase and Zwane, 2018; Florida and Mellander, 2014; Bogale, et al., 2005; Peng, et al., 2018; Chen, et al., 2019; Sikora and Saha, 2007). This may imply that the structure of the analyzed region and individual characteristics that do not change in the short term or are difficult to change could help reduce poverty. Other studies primarily focus on the importance of conjunctural determinants of poverty because of the dynamism of individuals and economies and how these determinants and related policies could help address poverty issues (Roine, et al., 2009; Odedokun and Round, 2001; Martin-Mayoral and Fernandez, 2017).

Finally, we have shown the importance of both structural and conjunctural factors and how these factors can help determine poverty and suggest structural changes and policies to cope with this problem. It may be important to treat conjunctural variables as if their effects could have an impact in the long term and introduce them into well-based and largely studied structural models (Giannone, et al., 2010).

5. Concluding remarks and discussion

This paper has examined various determinants of poverty and extreme poverty in a developing country using Ecuador as an example. For our determinants, we distinguished between conjunctural factors and structural characteristics within a country and among its inhabitants. The former factors are defined as short-term changes that are easy to apply and may not have long-term effects, while the latter characteristics are linked to culture, behavior, and social structure. We applied a fixed-effect model and analyzed various provinces of Ecuador individually to determine the impact of both structural and conjunctural changes on poverty levels.

Our findings suggest that conjunctural variables, such as the bite of the minimum wage, and structural factors, such as education and informality, have an impact on poverty and extreme poverty in our case study. We observe that the multiple changes applied by the government to the minimum wage have helped reduce poverty across provinces. We also reveal that our structural factors have a larger impact on determining poverty than conjunctural variables. For example, we note that informality and middle-level education strongly influence poverty and extreme poverty, which may imply that policymakers should propose long-term policies on the creation of formal employment and educational opportunities to obtain substantial and permanent reductions in poverty.

This paper contributes to the extensive discussion regarding the importance of structural changes in addressing socioeconomic disparities and divergences. As we have witnessed in the last couple of decades, populist governments have governed and gained support with promises and short-term solutions to alleviate persistent challenges, such as poverty and inequality. In fact, these solutions have had significant impacts. However, their effects have not been lasting and have often been reversed. Our analysis represents an alternative to this approach by suggesting a longer-term method that considers reforms to structural characteristics of labor markets and socioeconomic behavior to achieve lasting results. These reforms may imply high monetary and political costs. However, they are necessary for the development of society and the reduction of disparities.

The effort that has been made to encourage development in Latin America has centered on conjunctural decisions and policies. Therefore, structural analysis has received little attention, resulting in small changes in development and other social disparities. This statement represents a crucial insight for individuals realizing that so-called "populist" solutions should be abandoned in thinking on economic and social thriving.

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Annex: Highest and lowest percentages of poverty in Ecuadorian Provinces

Highest and lowest percentages of poverty in provinces of Ecuador

Provincias con mayor pobreza (Highest)	Provincias con menor pobreza (Lowest)
1.- Morona Santiago 53 % 2.- Napo 51,6 % 3.- Chimborazo 48,9 % 4.- Sucumbíos 41,9% 5.- Esmeraldas 41,6 % 5.- Orellana 41,6 % 6.- Pastaza 37,6 % 7.- Zamora Chinchipe 34,3 % 8.- Bolívar 32,9 % 9.- Cotopaxi 31,2 % 10.- Carchi 29,1 % 10.- Loja 29,1 %	1.- Pichincha 12,7 % 2.- Azuay 15,8 % 3.- Guayas 16,7 % 4.- El Oro 16,8 % 5.- Santo Domingo de los Tsáchilas 18,8 % 6.- Tungurahua 22,3 % 7.- Cañar 24,1 % 8.- Santa Elena 26,2 % 9.- Los Ríos 27,2 % 9.- Manabí 27,2 % 10.- Imbabura 28,5 %

Fuente: Instituto Nacional de Estadística y Censo.

More information at la información desagregada completa. **(I)**

https://www.ecuadorencifras.gob.ec/documentos/web-inec/Sitios/ENEMDU_ACUMULADA/index.html

This website includes information for each province. For example Sucumbios.

Sucumbíos	Total	Hombres	Mujeres
Subempleo (% de la PEA)	12,7%	13,6%	11,0%
Empleo adecuado (% de la PEA)	33,9%	38,2%	26,0%
Pobreza por ingresos (% de la población total)	41,9%	40,9	43,0%
Extrema pobreza por ingresos (% % de la población total)	18,4%	17,7%	19,2%
Pobreza por NBI (% de la población total)	51,7%	52,8%	50,5%
Tasa de pobreza multidimensional (% % de la población total)	52,2%	52,8%	51,4%
Hogares con acceso a servicios básicos (% del total de hogares)	53,6%	50,7%	63,8%
Hogares con acceso a red pública de agua (% del total de hogares)	59,8%	56,5%	71,2%
Hogares con recolección adecuada de desechos sólidos (% del total de hogares)	76,2%	74,1%	83,7%
Años de escolaridad	9,1	9,3	8,9