

BUEN VIVIR IN ECUADOR: HAS THE CONSTITUTIONAL PRINCIPLE BEEN REFLECTED IN STRUCTURAL CHANGE FOR DEVELOPMENT?

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Abstract

This paper aims to investigate the economic dynamics between 2007 and 2017 in Ecuador considering the adoption — as a constitutional principle — of an ecological ideal, which emerged from the indigenous peoples of Latin America: *Buen Vivir*. The historical process that enshrined this concept made the Ecuadorian experience stand out in the recent history of South America. Economic planning was defined as a fundamental dimension to diversifying the productive structure. However, the dependence on oil extraction represented major obstacles to *Buen Vivir*, since its funding was based on fiscal policies enabled by resources from a non-sustainable activity. We analyze this process based on a theoretical background from Latin-American structuralism to *Buen Vivir*, examining the Ecuadorian economic plans and actual dynamics during Rafael Correa's administration, considering the following relevant macroeconomic variables: industrial composition of value-added, exports profile, public investment, foreign direct investment, energetic matrix, and structure of employment. The conclusion is that the evolution of the Ecuadorian economy has not allowed for development strictly according to the parameters of *Buen Vivir*.

Keywords: Development; Sustainability; *Buen Vivir*; Structural Change; Ecuador.

JEL Code: B50; E65; O14; P16.

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1. Introduction

The history of the progressive wave in South America at the beginning of the 21st century had in Ecuador an attempt to establish authentic milestones in the relationship between the environment and economic development. The rise of *Alianza País*, led by Rafael Correa, occurred in 2006 in a context of deep social and institutional crisis that led to mobilizations driven by widespread discontent. The protagonism of indigenous and ecological organizations made possible an alliance between progressive forces and native peoples expressed in the effort to hold a Constituent Assembly to refound, recover, and transform the institutional capacity of the State based on the *Buen Vivir* (BV). However, the normative assumption of sustainability and ecological knowledges may not convert into *praxis* and prove insufficient to engender the dynamics of structural change for development. Therefore, the purpose of this article is to understand the constitutional principle of BV and to analyze the contradictions between the definition of economic plans based on this principle and the evolution of the productive and commercial matrix from 2007 until 2017 in Ecuador.

The situation of Ecuador's productive structure and the need to overcome a historically exclusionary model of accumulation based on the oil-exporting primary sector motivated the elaboration of development plans (DP). With an alternative proposal of recognizing the need to establish parameters for planning, monitoring, and evaluating BV, the DP were defined based on six basic dimensions: (i) productive diversification and economic security; (ii) universal access to superior goods (health, education, decent work, and housing); (iii) social equality; (iv) social participation; (v) cultural diversity; (vi) sustainability (SENPLADES, 2013). Given this strategy, one wonders how much they contributed to overcoming the structural heterogeneity and reaching the objectives of BV. We hypothesize that the evolution of the Ecuadorian economy has not enabled development as defined in the BV original formulations.

To investigate this hypothesis, we carry out a brief theoretical review of Latin American structuralism and the literature on BV in section 1, seeking to establish relationships between these approaches. In section 2, we present the constitutional frameworks and main proposals of the economic plans for changing the productive matrix. Finally, in section 3, we analyze the Ecuadorian economy's trajectory, critically analyzing the possibilities of incorporating local knowledge into the economic dynamics of contemporary and peripheral capitalism. Our structural analysis contains the complexity of exports (OEC,

2022), industrial composition of value-added and employment (UNIDO, 2020), and relevant macroeconomic variables (Ecuador, 2020, 2018, 2017; B.C.Ecuador, 2020; Electricidad, 2020). The evidence mobilized seeks to demonstrate whether the development strategies for Ecuador and Latin America moved from the plane of ideas, then to that of legal norms, and, finally, to the real economy.

2. From Development to *Buen Vivir*

2.1. Development and Underdevelopment in the Periphery

Approaches to economic development vary from very narrow views related to economic growth to broader views related to human capital, sustainable development, and social capital, among others (García Álvarez, 2016). Historically, the huge discrepancies between countries regarding economic development led to the study of the international division of labor. After World War II, the so-called Development Economics sought to understand the specificities faced by underdeveloped nations and their ‘backwardness’ about industrialized countries, so several schools of thought were generated there.

In Latin America and Caribe, the ECLAC work was characterized by the historical structural method. It examines the productive, social, institutional, and international insertion specificities of peripheral countries from this region — as opposed to the center — and the possibilities for development in the medium and long term (Bielschowsky, 2009). In general, level, growth, and quality of productive investment are at the center of the explanation of development trajectories – retaking Rosenstein-Rodan’s (1943) main idea of promoting industrialization through the ‘big push’ led by the State.

In the dynamics of center-periphery relationships, Prebisch (1949) identified that it fell to Latin America to produce food and raw materials for the large industrial centers. Contrary to the theory of comparative advantages, he verified that relative prices between manufactured and primary goods tend to opposite directions. The outcome was greater gains in income levels from central countries, either in the economic cycle’s ascending phase (when the masses get wage increases) or in the descending phase (when they defend their life standard due to price reductions for food). His thesis says, still, that ‘the income of entrepreneurs and productive factors from the industrial centers grew more than the increase in productivity, while in the periphery, less than its corresponding increase’ (Prebisch, 1949[2000], p.83, our translation). Without increasing productivity in the export sector and the diversification of investments resulting from the accumulation process, Latin American

countries would become more dependent on the primary-export growth model. This would perpetuate and increase the backwardness in contrast to the industrialized nations of the center.

The context that gave rise to this literature had a great influence on Keynes' thought and a reformist character (Cardoso & Reis, 2018). The crucial problem for underdeveloped countries would be to increase investment seeking to expand the productive capacity. So, it would be necessary to plan the investments' volume and structure (Cardoso, 2018).

This kind of qualitative transformation would also be important to overcome the circular causation dynamics of poverty (Myrdal, 1957). This author defines a country as underdeveloped when the stimuli performed by the economic growth main sector result in little substantial and continuous increase in demand, income, investments, and production.

Linking poverty and unequal income distribution to widening disparities in labor productivity and remuneration among people, sectors, and regions, the concept of structural heterogeneity - the persistence of a leading primary export sector with high wages and productivity as opposed to poor subsistence agriculture that feeds a large part of the domestic population (Reis, Barbosa, & Cardoso, 2019). Its persistence was commonly explained by the fact that an abundant supply of labor was accompanied by a slow expansion of its demand because of the slow pace of investment growth and the predominance of high capital intensity (Bielschowsky, 2009). Further, Furtado (1974) affirms that with the pressure for the renewal of consumption patterns from the center, the tendency towards income concentration in underdeveloped countries is maintained, with reflexes on social structures that deepen dependency relationships.

The issue of environmental sustainability appeared with relevance in ECLAC after the reports from the Club of Rome. The orientation turned out to be a development model in which each country in the region assumed strategies to fight poverty and inequality while conserving the environment (Bielschowsky, 2009). After the elaboration of the 2030 Agenda of Sustainable Development Goals, the 'Environmental Big Push' gained space on the ECLAC agenda. Inspired by the Rosenstein-Rodan development theory and the global environmental Keynesianism, the Environmental Big Push represents the coordination of policies to leverage investments for a growth cycle that generates employment and income, reduces structural gaps, and promotes sustainability (Gramkow, 2019).

A 'new' dimension of environmental strategies in this sense is the bioeconomy,

defined as an industrial transition toward the sustainable use of biological resources in intermediate and final products for economic, environmental, social, and national security benefits. It can leverage economic growth in agricultural communities, in line with sustainable objectives (Ortega-Pacheco et al., 2018). Therefore, it is important to know what kind of bioeconomy a country wants to build. Based on a non-Eurocentric perspective and concerning the future of peasant societies, Amin (2017) advocates for an alternative globalization, negotiated and not unilaterally imposed by transnational capital — this form of globalization is one to support communities to have a stronger stake in the international arena, persuading a path towards a new sustainable development paradigm based on the reduction of asymmetries between States, companies and capitals, classes, and intersectional groups.

2.2. The BV and its theoretical perspectives

While many Latin American scholars have focused on the material issues of structural change and economic growth, besides contemporary questions such as sustainable development as we have discussed in the previous section, others have dedicated themselves to broadening the conceptual discussion of epistemological aspects related to the region's socio-cultural institutions (Dussel, 2000; Quijano, 2000). BV in Andean countries has been, then, evocated as a robust decolonial theory that can disrupt from the Eurocentric concept of development (de Souza Santos, 2011).

In Ecuador, BV proceeds from the translation and adaptation of the Kichwa indigenous concept *sumak kawsay*, originally understood as 'limpid and harmonious life' (Hidalgo-Capitán & Cubillo-Guevara, 2018). In Bolivia, it comes from the Aymara term *suma qamaña* and is translated as '*Vivir Bien*' Enshrined in the constitutions of Ecuador and Bolivia in the years 2008 and 2009, respectively, it has caused an important impact in the field of Development Economics. For some authors, this allows conforming a Political Economy of BV as an alternative proposal to development, arising from the ancestral thought of the original peoples (Cubillo-Guevara, Hidalgo-Capitán, & García-Álvarez, 2016).

Systematizing the general commonalities around the various understandings of BV, we have (i) redefinition of well-being and life quality; (ii) redefinition of human relations with nature, through a concept of harmony not limited to sustainability; (iii) criticism of linear development models growth-driven; and (iv) recognition of the value of original cultures and knowledge (Villalba-Eguiluz & Etxano, 2017). Regarding differences, there are three perspectives in the literature on BV: the Indigenous/ culturalist, the Ecologist/Post-

developmentalist, and the Socialist/Ecomarxist.

The indigenist/ culturalist interpretation attributes key relevance to the self-determination of indigenous peoples and the preservation of the identity and spiritual elements of the Andean worldview, such as the frequent notion of *Pachamama* between native Andean peoples. The indigenous peoples' aspirations to have control over their own institutions and ways of life, as well as their own economic development, while maintaining their traditions within the states in which they live, are recognized in conventions of the International Labor Organization (ILO) and the United Nations Declaration on the Rights of Indigenous Peoples (Huanacuni, 2010).

The post-developmental field has strong sustainability at its theoretical core, proposing to move from anthropocentrism to biocentrism via reconfiguration of social organization and modes of production and distribution (Villalba-Eguiluz & Etxano, 2017). Post-developmentalism advocates overcoming modern and Eurocentric ways of thinking, questioning its discourses, institutionality, and practices proper to what would come to be called the *ideology of progress* (ibid.). It proposes the construction of spaces where the category development ceases to be the central principle of organization of economic and social life, questioning the preeminence of economic growth (Escobar, 2010). Thus, they offer a historical anchorage in the indigenous world and in principles defended by other currents of Western thought (Gudynas & Acosta, 2011).

The components for a transition to BV societies from the post-extractivist point of view are: (i) moving from 'predatory' to 'sensible' extractivism, using enforced social and environmental norms, effective and strict controls, internalizing impacts via technological development; (ii) the next stage would be an 'indispensable extractivism', remaining active the essential enterprises for national and regional needs within a sustainable scope (Gudynas, 2011). These transition conditions require a positioned strategy concerning the current productive matrix based on primary exports and the degree of dependency of the economies from the Global South. Opposing the guidelines from the "open regionalism" — an orientation to improve the international insertion of Latin America in world markets with integration agreements and openness to increase the competitiveness of the countries (CEPAL, 1994) — one strategy for a transition is coordination by 'autonomous regionalism', a form of coordinated actions to be assumed by a group of countries to favorably correct prices and to make social and environmental demands facing world markets. That should include, for example, regulations on the agri-food sectors of South American countries to

break the food insecurity of their populations, in addition to the priority of energy sovereignty in regional integration (Gudynas, 2011). This strategy should be important for BV since it enables countries to deescalate extractive activities in the production and trade structures.

The perspective called socialist or ecomarxist adheres to BV by incorporating the communitarian dimension of economic life and by overcoming the domination of nature conceived by modernity. However, its focus is on criticizing the socio-economic structures of capitalism as the political system that rules the world, and not on the paradigms of the Western world. This anti-capitalist assumption would allow them to go beyond the call for post-extractivism, through radical changes in these structures (Quang & Vercoutère, 2013). Ramírez's (2010) work on '*Sumak Kawsay* socialism' or 'republican biosocialism' is a version of the eco-Marxist vision. BV is understood as a process of satisfying needs, achieving quality of life and dignified death, and prolonging cultures and biodiversity, configuring a pact of post-socialist coexistence.

3. BV in Ecuador: from a theoretical concept to a constitutional principle incorporated into development plans

The adjustment reforms of the 1990s intensively applied during the Sixto Durán government (1992-1996) increased the degree of economic openness with little commercial negotiating power. The deregulation of the financial system benefited the private banking sector with the continuation of debt 'sucretization', as a relief to private debtors, and bailout plans for financial institutions (Acosta, 2016). With the deteriorating fiscal position and large devaluation of the sucre, the government of Jamil Mahuad (1998-2000) abruptly enacted the dollarization of the economy, crowning the deterioration of the national financial system during the 1990s. The dollarization of the Ecuadorian economy accentuated trends of balance of payments strangulation, increasing dependence on credit flows from abroad to finance public and private investment, in addition to having liquidity management and the administration of countercyclical policies dependent on the decisions of the Federal Reserve (Meireles, 2014).

The impact of social decline and the state of extreme institutional fragility of the neoliberal period affected traditional channels of democratic representation, such as the organization of labor movement, a reflection of the deterioration of labor relations. Indigenous organizations gained strength through the *Confederación de Nacionalidades Indígenas*

del Ecuador (CONAIE) and their own political party *Movimiento de Unidad Plurinacional Pachakutik* (Meireles, 2014, dos Santos, 2018). They were protagonists in mobilizations against governments in the 1990s, but their expectations were renewed times frustrated with the adherence of neoliberal economic policy to the adjustment agenda of the Washington Consensus and IMF.

Rafael Correa was elected president supported by leftist organizations and the Pachacutik; however, he did not support any parliamentary candidates, seeking dialogue in face of the rejection of traditional parties. Alianza País convenes a Constituent Assembly that was made possible due to the participation of traditional forces after a long process of political struggles and negotiations in which social movements had pushed forward for taking part directly in the conformation of the setting of the Assembly (Muñoz Jaramillo et al., 2014). The ecologist and indigenist currents advocated a more horizontal decision-making process and took a critical stance toward the president (Rodríguez Salazar, 2016, dos Santos, 2018). Despite the differences, the design of a constitutional charter that enshrined the Rights of Nature and the BV was achieved, whose construction would be from a dual vision of a development regime and a BV regime, linked in the same hierarchy and integrated through the planning system (Muñoz Jaramillo et al., 2014).

The BV regime comprises the systems of equality and social inclusion plus the recognition and implementation of the rights of nature. Its chapter in the Constitution is dedicated to dimensions such as education, health, social security, culture, science, biodiversity, natural resources, and natural heritage (Muñoz Jaramillo et al., 2014). Development regime is ‘the organized, sustainable, and dynamic set of economic, political, socio-cultural and environmental systems that guarantee the realization of *buen vivir*, of *sumak kamsay*. The State will plan the development of the country to guarantee the citizens’ rights, the achievement of the development goals and the principles enshrined in the Constitution’ (Ecuador, 2008, p.135)

The *Plan Nacional para el Buen Vivir* 2009-2013 (PNBV I) is in the project of the ‘Citizen Revolution’. It presents a long-term strategy to build an ‘eco-tourist biopolis’, challenged to connect a new mode of wealth generation and post-petroleum (re)distribution for BV, with the main goal to establish a social, solidarity-based, and sustainable economic system as a benchmark to evaluate changes in the productive structure. (SENPLADES, 2009). Such a strategy aimed to achieve an endogenous and sustainable economy in the medium and long

term, planning alignments in a horizon between 16 to 20 years¹. Key indicators here are: oil and non-oil industrial production, export concentration, mining production, imports, and others. In general, the project assumes the current situation of dependence on primary goods to sustain the economy and proposes a new dynamic of accumulation to start the transition with income redistribution. The main mechanism would be the selective import substitution, which should be directed to certain sectors: petrochemicals, bioenergy and biofuels, metal-mechanics, biomedicine, pharmaceuticals, biochemicals, semiconductors, and environmental services. However, it was predicted an increase in oil exports and in the proportion of non-oil industrial growth at the same time. Also, the change in the energy matrix, in turn, would involve the promotion of renewable energies and the improvement of energy efficiency.

In the PNBV II (2013-2017) it is possible to observe an inclination toward the trend of ‘Socialism of the XXI Century’ from the approach of ‘Socialism of BV’ — or a ‘socialist knowledge society’ — as an alternative that respects cultural diversity, ecosystems, and intergenerational rights (SENPLADES, 2013). The document highlights the need to advance productive diversification to enable the construction of a new development benchmark. At the same time, the plan would have to continue to address issues such as unemployment, poverty, and huge inequality. Consequently, the productivity improvement appears as an unavoidable necessity for the transition to a high value-added economy, and diversification would also have to advance in the agricultural sector aiming at a relative level of food self-sufficiency (ibid, p.65 and 77). In this blueprint, one can check more goals and indicators established to evaluate a change in the productive matrix. For example, it proposes: to increase the share of exports of high, medium, low and natural resource-based products with high, medium, and low technological intensity to 50.0%; to increase the share of the manufacturing industry to 14.5%; to reach 20.0% participation of qualified labor force; to reach 60.0% of installed renewable power capacity; and to increase the sharing of non-traditional products in non-oil exports in 7% — although, it is not clear what are these products exactly.

4. Ecuadorian economy path under the BV principle

Once our objective is to analyze the dynamics of Ecuador's productive structure during Correa's government, we add on the empirical strategy of Garcia Alvarez (2016) updating its period, emphasizing the following variables: (i) variation and composition of

¹ For more details concerning the outline for this strategy, such as the phases proposed, see (SENPLADES, 2009)

GDP or Gross Value Added (GVA), taking the supply and aggregate demand sides — especially the share of public investment and the trade balance, to identify trends in the production and trade structures; (ii) emphasis on oil and non-oil sectoral behaviors, as well on the energy matrix, to distinguish structural heterogeneity, as expressions of (post-) extractive trends; and (iii) dynamics of employment generation and its challenges. In all these analyses, we seek to identify the changes towards the strengthening of sustainable economic activities, bioservices, renewable energies, etc., establishing bridges between the macroeconomic regime and the insertion of Ecuador into the international division of labor. Table 1 shows all variables that are analyzed in the section.

Table 1 - Variables included in the empirical analysis

Variable	Source (last update)	Motivation
Gross Domestic Product (GDP), Gross Value Added (GVA)	Banco Central del Ecuador (2017)	To identify trends in production and trade structures
Manufacturing Value Added (MVA)	UNIDO (2020)	To identify trends in the industrial profile
Economic Complexity Index (ECI)	(OEC, 2022)	To observe potential changes in the country's exports profile
Public Investment (PI)	Banco Central del Ecuador (2017, 2018)	To observe public spending role towards BV
Foreign Direct Investment (FDI)	Banco Central del Ecuador (2020a)	To understand external influence in driving economic growth
Energetic Matrix	BCE (2020), IIGE (2021)	To identify trends of an economy less dependent on oil
Employment	INEC (2017, 2022)	To identify the labor situation

Source: authors

With a strong external constraint for the country, any intention of substantial change should pass through reconfiguration of the state's capacity to intervene in the economy (Meireles, 2014). There was a growth in tax revenues through a reduction in tax evasion and an increase in direct taxes, in addition to the revision of oil exploration contracts and the increase in production from Public Companies in 2010 — replacing private companies that decided to leave the country (Ecuador, 2018). The non-financial public sector's share of GDP went from less than 25% in 2006 to almost double in five years, while payroll more than tripled between 2005 and 2015 (dos Santos, 2018). When analyzing the evolution of GDP components from the perspective of demand, it is possible to observe the upward trend of

all of them, especially domestic consumption (Ecuador, 2017), driven by public spending.

Some positive effects of state action were the dynamism of the labor market and the reduction of poverty. However, the capacity of public spending to stimulate the economy was achieved thanks to the increase in government income from greater export revenues, especially from oil. Indeed, a couple of external conditions favored the intensification of extractive activity: (i) the reduced interest rates in central countries and the consequent flow of portfolio investments to Latin American countries; (ii) a tendency to devalue the U.S. dollar that enabled gains from exports; (iii) the increase in oil prices, which became a dynamic component increasing output for enabling investment in conditional cash transfer programs and infrastructure works, i.e. an expanding fiscal policy ; (iv) a new expansion in foreign demand for mining products, expressed in the substantial raise in Foreign Direct Investment (FDI) in mineral exploration in the period 2011-2018 (US\$ 3.41 bi), especially coming from Canada and Spain (Meireles, 2014, dos Santos, 2018, Ecuador, 2020a).

This indicates a change in exports destination: according to the Observatory of Economic Complexity, the USA was the main export destination in 2006 with a share of 51% but 30% in 2017; North and Central America's share decreased from around 55% to 40%, respectively; while Asia's share went from around 4% in 2006 to around 20% in 2017 (with China as the main buyer in the region); and South America remained with a share of 20% (with Peru, Chile, and Colombia as main export destinations in the region). As the transition to a decarbonized economy is linked to mining, industrialized countries — such as China and part of Asia — have been demanding ores from Latin America. These conditions are linked to a process of 'reprimarization' of the peripheral economies with the *boom* in primary goods demand and prices - a process called '*Commodity Consensus*' by Svampa (2013).

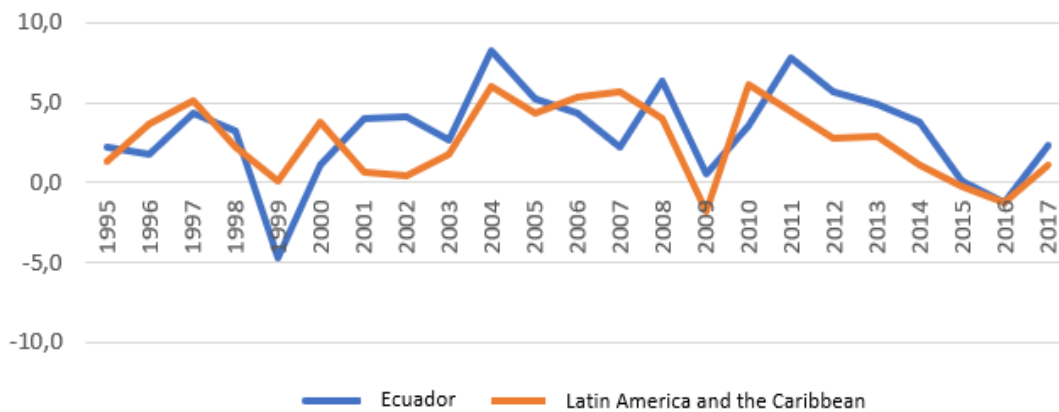
Notwithstanding, the position of Ecuador in the ranking of exports' economic complexity index (ECI, measured by the Observatory of Economic Complexity) worsened from 88th in 2007 (among 120 countries) to 105th in 2017 (among 129 countries)². The export profile remained concentrated in primary products, especially banana (from 13% share in 2007 to 16.5% share in 2017), Crude oil (from 50% to 31%), and frozen shrimps and prawns (from 4% to 15%). There were 8 new products added to the export basket, mostly precious metal ores, then lumber, animal feed, refined crude lead, and agriculture

²Visit the OEC website to find both the intuitive and technical explanations of the index.

products such as seaweed and edible vegetables (OEC, 2022).

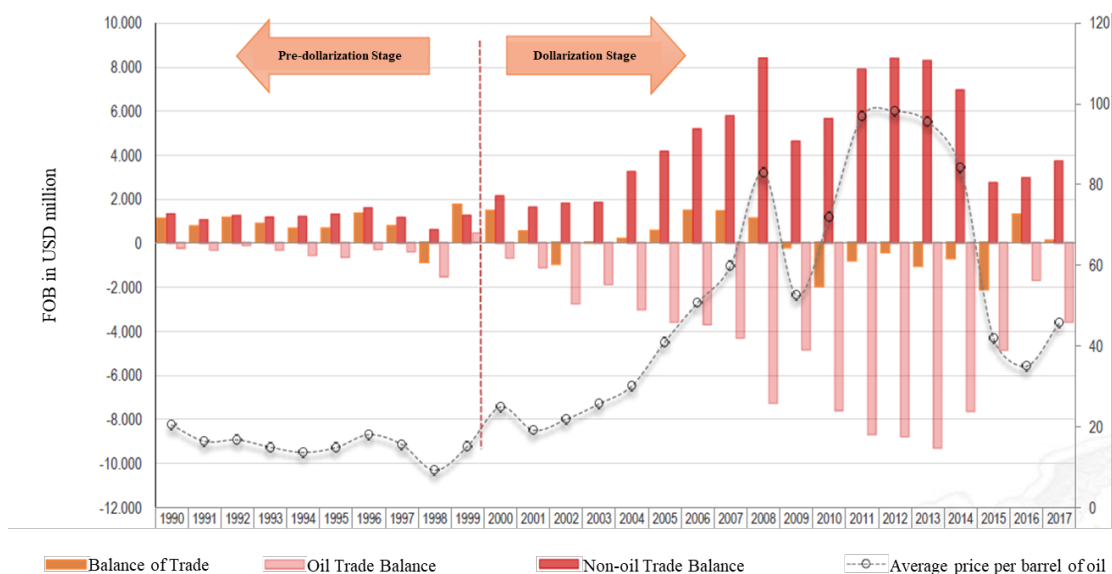
The comparison of Ecuador's GDP growth rate with the average for Latin America and the Caribbean (Graph 1) shows similar dynamics. Growth pulled by *commodity* exports starts in 2003, with a drop in pace during the international financial crisis of 2008-2009, and a marked superiority of the Ecuadorian rate concerning the region on average. This can be explained in part by the 'positive externality' of the dollar devaluation, now the country's official currency (Meireles, 2014). Regarding foreign trade, graph 2 shows that, although the increase in oil prices has boosted the country's production, the deficit in terms of trade balance are verified from 2007 onwards with a large increase in total imports until 2017 (Ecuador, 2018). The influence of oil exports is also evident in the variation of the GDP with a trend of decelerating growth due to the fall in oil prices since 2013.

Graph 1 - Evolution of the GDP growth rate compared to the regional average: 1995-2017 (constant USD)



Source: CEPALSTAT (UN, 2021)

Graph 2 - Total trade balance, oil, non-oil, and the average price of a crude oil barrel: 1990-2017 (million US\$ FOB)



Source: Central Bank of Ecuador (2018)

Public investment was defined as a growth driver that would improve systemic competitiveness, too (García Álvarez 2016). Its path was influenced by the external sector volatilities and the changes of political orientation in the Executive: it went from 4.9% of GDP in 2005 to 11.2% in 2008, reaching the highest level in 2013 with 14.8% and from then to the levels of 8.3%, 6.0%, and 3.7%, in 2017, 2018 and 2019, respectively (ECB, 2020). A substantial part of the public investment went to infrastructure projects. Some aimed at the energetic matrix, such as the construction of nine hydroelectric projects to overcome the dependence on energy from fossil fuels (García Álvarez, 2016). However, the country had imbalances to improve the share of renewable energy in total final energy consumption — 15,90% in 2007, 11,80% in 2013, and 17,10% in 2017 (IEA, 2021).

Regarding the labor situation, Ecuador conducts a national survey on employment, unemployment, and underemployment to produce data on working conditions. For example, unemployment levels in 2007 and 2020 reached over 5,0% and 4,9%, respectively (INEC, 2022). For employment methodology, it considers adequate employment mainly comprises people who earn more than the basic unified wage and work 40 hours or more per week or work less than the statutory hours, while inadequate employment groups all individuals who do not meet the legal minimums in both earnings and hours (INEC, 2017). Considering unemployment as one inadequate type on behalf of insufficiency of work-time or income level (INEC, 2022), this indicator reached a level of 7.7% in 2012, but with the cooling of

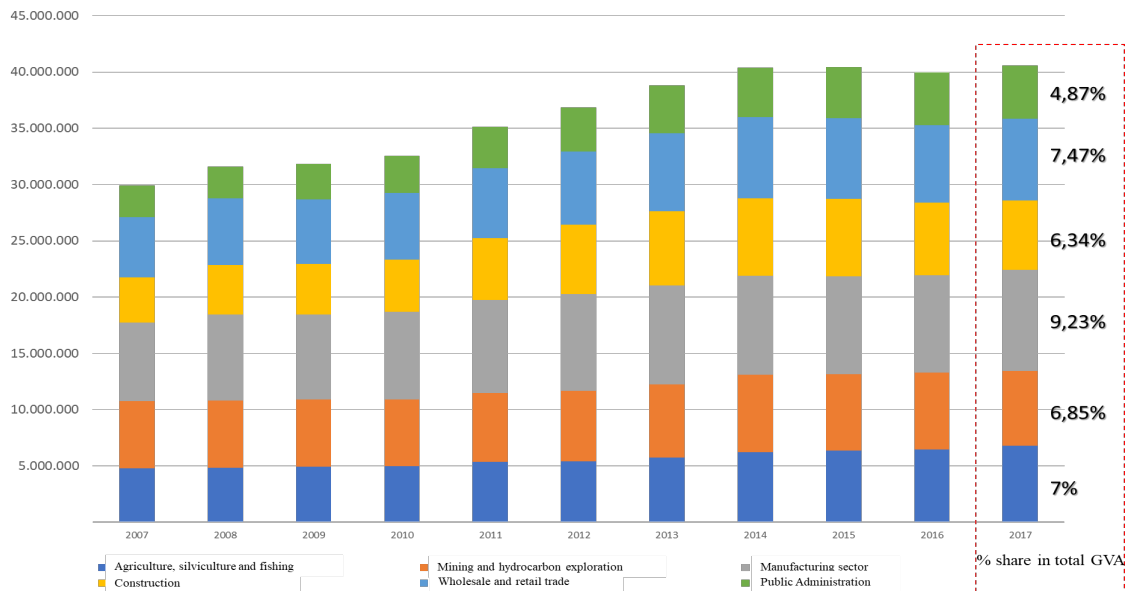
economic activity in recent years, it has grown again and exceeded 18% (ECB, 2018). However, as the methodology to evaluate employment has changed in 2014, some criticism is made about face overvaluation of what is called adequate employment (Carrión Sánchez, 2019). Regarding the manufacturing sector, the wage level is still close to the average of the total level of formal jobs (INEC, 2017).

In 2017, the bioeconomy sector recorded 20% of jobs, equivalent to 1.53 million workers. This is less than the share of 46% of the service sector, but more than the 5% of manufacturing, 8% of construction, and 8% of the power sector. Within the bioeconomy, 76% of jobs were generated in bioagriculture and the rest were in bioindustry, biomanufacturing, and bioenergy (BCE, 2017, Ecuador, 2018 cited by Ortega-Pacheco et al., 2021). Wages in the sector represent only 10% of the country's total, while manufacturing has a significant weight of 22%. On average, a bioeconomy worker earns \$207 per month, which is less than the minimum monthly wage. The situation reflects the existence of inadequate working conditions and high informality in the sector, especially in the primary sector (Ortega-Pacheco et al., 2021). Further, the definition of bioeconomy includes goods (bananas, coffee, cocoa, shrimp) whose production and/or extraction does not necessarily if not rarely, correspond to structural change based on new green technologies or services. Also, a review regarding bioeconomy in Latin America has identified 8 different bioeconomy sectors — in which Ecuador has participation only in 3 branches (Rodríguez, Hitschfeld, & Mondraini, 2017). Still, the cited authors have considered that Ecuador recently is exercising some leadership in developing bioeconomy strategies, however many obstacles still need to be overcome structurally.

The indices of gross value added (GVA, graph 3) show an increase of 26% in the manufacturing industry from 2007 to 2014, but then it stagnates. The construction sector had a significant increase of 53% during the period 2007-2017, partly induced by public investment, through infrastructure works. So, the overall results of the macroeconomic regime for economic activity are significant. The GDP production structure is consistent with our analysis of the GDP demand structure. In graph 4, we see that among the manufacturing divisions the structural composition is quite similar to the previously if we look at the average of two periods — 2007-2012 and 2012-2017. Coke and refined oil products had an important decrease due to oil price fall. Among the sectors with major share, non-metallic mineral and chemicals products have increased by 34,66% and 20,68%, respectively. However, industries with greater technological content still have low shares of

total Manufacturing Value Added (MVA) which is problematic if one thinks in terms of diversification.

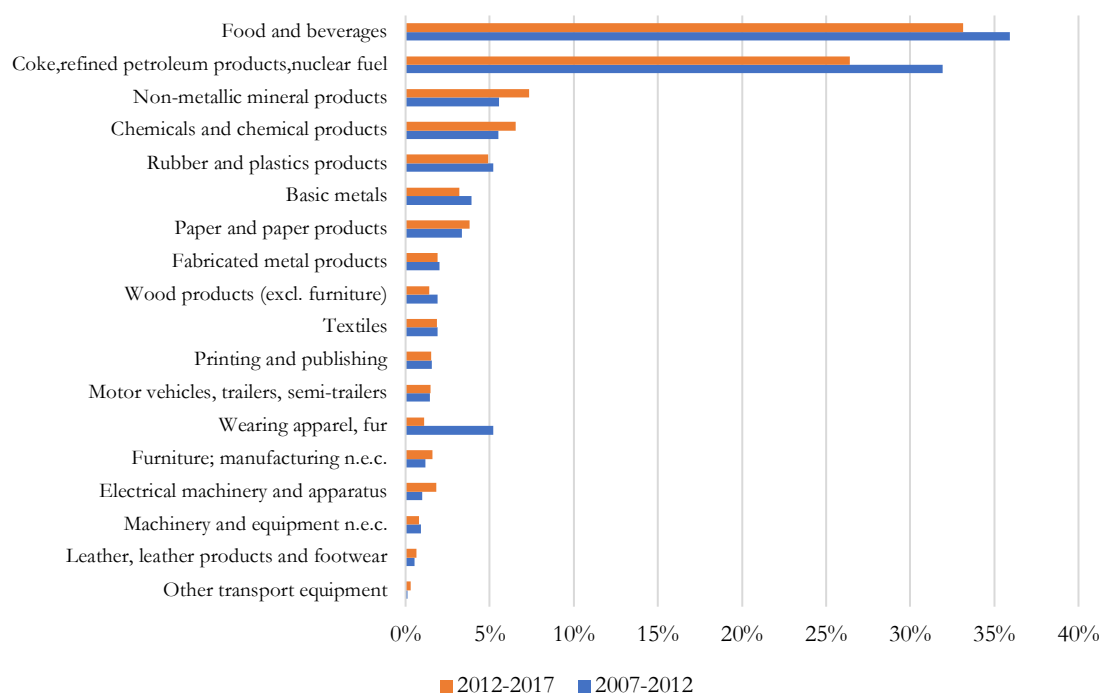
Graph 3 - Gross Value Added by selected sectors, 2007-2017 (thousands of US\$ in 2007)



Source: ECB (2017), and authors elaboration.

In an analysis of 2017's GVA (Ortega-Pacheco et al., 2021), the sector represents 14% of what was added, it is worth noting that there is equitable participation between what these authors classify as primary (bioagriculture) and secondary (bioindustry and bio-manufacturing of agricultural and animal products) sectors. With a low remuneration of the labor factor in the primary sector of the bioeconomy, this large contribution to the gross value added would be explained by a higher return to the capital factor in this sector (ibid.).

Graph 4 - Relative share in the average of Manufacturing Value Added (MVA): 2007-2012 and 2012-2017 (USD)



Source: UNIDO (2020), and authors elaboration.

Moreover, the value-added in construction grew driven by the public investment in infrastructure. Funding for this spending was possible due to improvement in the fiscal position and foreign debt with the government of China and, to a lesser extent, Brazil (Dávalos, 2016). As cited before, this was driven by building hydropower plants. A renewable index indicates renewable energy supply was 9,6% In 2010 and 15,9% in 2017 (IIGE, 2021).

There was a significant advance so that the country does not need to import a significant amount of electricity anymore – but at the expense of territorial and ecological conflicts with local communities (Latorre, Farrell, & Martínez-Alier, 2015, Dávalos, 2016). As the predominance of hydropower in increasing the electricity capacity address mainly the demand from export activities such as mining, global demand appears as a key factor guiding the expansion of this new infrastructure even at the expense of facing resistance from poor communities with environmental concerns (Latorre, Farrell, & Martínez-Alier, 2015). Lastly, the potential energy capacity in Ecuador is non-bioeconomic, as assumed by Ortega-Pacheco et al (2021). But the cited study suggests that the country can tap abundant biomass sources from banana, rice, corn grain, sugar cane, and wood production. Other possibilities cited for biotechnology energy generation could come from shrimp, coffee, and cocoa processing

residues.

It is evident the general maintenance of Ecuador's position in the productive value chains as a supplier of raw materials, with the difference that it now has new trading partners — also, this explains why Rafael Correa's partnership with Alianza País was considered part of the '*commodities consensus*' (Svampa, 2015). There have been insufficient progressive and coherent policies for changing the productive structure towards sectoral diversification (Villalba-Eguiluz & Etxano, 2017). Despite fine definitions in the PNBV I and II, there were no substantial changes in policy implementation that could establish a relation between product diversification and BV goals of life quality and harmonious relationship with nature. The maintenance of extractivism to sustain the dynamics of inequality reduction ended up creating an inconceivable dichotomy between material well-being and ecological sustainability.

Conflicts with ecological movements are a worrying sign about the ability of communities to exercise decision-making power over the use of land and its products. It coincides with an analysis of Ecuadorian agrarian policy that describes how state intervention in agriculture has sustained transformations of power relations within this branch of the economy, not to make them fairer, but rather to reinforce the dominance of capital (Madrid Tamayo, 2019). The cited author describes how agroindustry became more concentrated in a smaller number of large companies after the period driven by the neoliberal agenda — which is a continuous conflict as some of these activities are less intensive in labor force and are driven by exports.

It also coincides with what has been cited about the precariousness of labor in bioeconomy sectors, being one more element for contradictions in Ecuadorian contemporary configuration: a primary-export productive matrix persists, but at the same time economic and social advances have been made, and such as the overcome of a deep crisis that led to dollarization, the amplified access to infrastructure and the reduction of inequality (García Álvarez, 2016). As we have already said, raising income and employment through extractive activities are necessary for reducing social inequality and bringing well-being for Ecuadorians, but not sufficient as environmental concerns and community participation play a positive influence on life satisfaction (Guardiola & García-Quero, 2014) The success in reducing inequality and expanding the productive structure is certainly an important achievement of the Citizen Revolution period, but not so different than in other South American countries that have passed through progressive years with greater annual

rates of growth than “others” national governments but were not able to provoke deep structural changes (Fernandez, 2021). The dependence on oil activity is still a cause for concern not only due to the volatility of the international prices, but also because Ecuador's proven crude oil reserves may be exhausted by mid-2026 (Torres, Zumárraga, & López, 2020). Anyhow, the expansion of the extractive frontier into ecologically sensitive areas should be avoided, assuming the precautionary principle for a post-oil society (Vallejo et al., 2015). From another perspective, evidence revealed that in countries highly dependent on commodity prices and US interest rates, voters' assessments of political mandataries were determined by these exogenous factors (Campello & Zucco, 2016) — which could be another form to approach the problem of what kind of policy a Latin American country should consider towards a socioecological transition.

5. Conclusions

We now understand that clashes around BV perspectives are concentrated on two major differences: the structural change relies heavily on assuming alternatives to development overcoming Eurocentric paradigms or by facing socioeconomic capitalist structures towards satisfying needs through a renewed form of socialism. However, we found that concrete mechanisms and policies for operationalizing such a kind of transition are still lacking. Our intention was to contrast BV with Latin American structuralism and some pioneers of development, because in our understanding it is necessary to incorporate historical contributions from the latter that are fundamental to achieve mechanisms for policymakers to prepare transitions. This contribution could inspire other countries in similar conditions and with similar aspirations.

Our empirical analysis identified an improvement in the GDP structure induced by public spending towards infrastructural investment. However, regarding industries with a high level of technology, we have not identified a substantial trend in our MVA analysis. Intensifying the oil and mining industry led to improved infrastructure through public investment to serve the needs of this branch of the economy, which on the one hand improved the government's fiscal position to finance social programs against income inequality, but on the other hand, it also intensified the extractivist profile. This is in alignment with the high FDI towards raw materials in Ecuador, which contributed significantly to further the actual position of the country in the international division of labor: provider of extractive products with a low value-chain. Despite infrastructural improvement in new hydropower plants to provide new renewable energy sources, the country is still

heavily dependent on fossil fuel energy. Finally, the improvement in employment inside key sectors — such as manufacturing and bioeconomy — is still far away from the empowerment of working classes towards the arrangements and better conditions inside these economic activities.

For all the reasons presented in section 3, our hypothesis that the evolution of the Ecuadorian economy has not enabled development - as defined in the original formulations of BV - seems correct. The strategy defined in the development plans during the government of Rafael Correa/ Alianza Pais aimed at changing the production matrix but was not sufficient for overcoming structural heterogeneity and for the objectives of BV — on the contrary, it has reinforced dependency and backwardness.

Latin American historical experience shows that the harnessing of natural resources for the development of its own biotechnologies in line with the will of the people cannot occur spontaneously in response to market signals, but through active industrial and technological policies (ECLAC, 2018). In this context, the question is whether a country with a small, liberalized economy, subject to being stuck in productive specialization, can achieve a product diversification that promotes income redistribution while remaining immersed in a rigid regulatory system predetermined by the institutionalization of free trade as the single option for international integration (Falconí & Oleas-Montalvo, 2016).

In the case of Ecuador, the best possibilities for escaping from this place at the international division of labor while promoting BV seem to be connected with the effective implementation of the new strategies for biodiversity and biotechnology. Still, it is desirable to build these strategies through bottom-up practices with applicability beyond niche circles, which means in the case of BV to consider it as a practical, plural tool to empower communities (Chassagne, 2019).

However, it is a great challenge because requires furthering the disputes within the state, and fighting against strong elites. It would be, then, a key extension of this research to understand the possible paths to renew power and wealth coalitions in favor of workers' and poor people's interests. A possible starting point would be verifying the impact of the wealth redistribution in the 2017 and 2021 elections of politicians that defend the principle of BV.

Moreover, considering the task to advance research agendas in the Global South by looking at the elements of nature in political economy analyses closely and inwardly to collectivities, BV in Ecuador has brought a historical legacy for improving the

bioconsciousness and for showing strong institutional and structural challenges. Degrowth in industrialized countries, and post-extractivism in Latin America – such as the outstanding work of Alberto Acosta –, are theoretical fields that emerged to contribute to medium and long-term transformations and may gain greater space in the academic literature in the coming years.

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