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Intergovernmental Transfers and Uneven Development in Ecuador:
Evidence from a Resource Rich Economy

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List of Acronyms

BCE	Banco Central del Ecuador
	Ecuadorian Central Bank
BEDE	Banco del Estado
	Ecuadorian Development Bank
CEPAL	Economic Commission for Latin America
	Comisión Económica para América Latina
COOTAD	Organic code for territorial organization, autonomy, and decentralization in Ecuador
	Código Orgánico de Organización Territorial, Autonomía y Descentralización
ECODESARROLLO	Regional Amazon Fund for Eco-Development
	Fondo para el Ecodesarrollo Regional Amazónico
ECV	Living Conditions Survey
	Encuesta de Condiciones de Vida
ENEMDU	Employment and Unemployment Urban Survey
	Encuesta Nacional de Empleo y Desempleo Urbano
FEISEH	Ecuador's energy and hydrocarbons investment fund
	Fondo Ecuatoriano de Inversión en los Sectores Energéticos e Hidrocarburíferos
FLACSO	Latin American Faculty of Social Studies
	Facultad Latinoamericana de Ciencias Sociales
GAD	Decentralized Autonomous Governments
	Gobiernos Autónomos Descentralizados
GMM	Generalized Method of Moments
INEC	Instituto Nacional de Estadística y Censos
	National Institute of Statistics and Census
MINFIN	Ministerio de Finanzas
	Ministry of Finances
NBI	Basic needs poverty incidence
	Pobreza por Necesidades Básicas Insatisfechas
PNBV	National Plan for Buen Vivir
	Plan Nacional del Buen Vivir
SENPLADES	Secretaría Nacional de Planificación y Desarrollo
	National Secretariat of Planning and Development
SIISE	Integrated System of Social Indicators of Ecuador
	Sistema Integrado de Indicadores Sociales del Ecuador
UNDP	United Nations Development Program
	Programa de las Naciones Unidas para el Desarrollo

For my nephews:
Mateo, Juan, and Nico;
and for my nieces:
Ana Sofía, and María Paula.
For them and their generation
I wish a world with more fairness
than the one I here describe.

Abstract

This paper assesses the impact of political institutions: central government *vis a vis* local governments, in the territorial allocation of central government's transfers. The effect of political forces in the transfers system is analysed in the setting of a resource rich economy. Using data from local public finances in Ecuador, this research illustrates the political variables that interact with normative concerns, underlying intergovernmental relations. And although recent policies shifted towards an equitable territorial development agenda, path dependent and/or discretional behaviour have prolonged territorial differential access to central government resources. Furthermore, fiscal dependence on oil revenues makes the Ecuadorian case a significant laboratory to examine how the political economy of intergovernmental finances is related with the occurrence of natural resource revenues. It uses quantitative methods, Generalized Method of Moments (GMM) and Fixed Effects Model (FEM) to study the determinants of transfers' distribution. The results support the assumption that political institutions affected the intergovernmental distribution of transfers, increasing the territorial disparities in the access to central government resources. Moreover, this study has uncovered several important factors that are associated with the occurrence of resource surpluses. First, resource surpluses weaken political and fiscal restraints. Second, it provides evidence of the fiscal vulnerability to oil revenues, and therefore, it raises distress about the sustainability of public spending in Ecuador.

Relevance to Development Studies

Distributional considerations are at the heart of the state-led development paradigm. However, the degree at which the government coherently channels its efforts to redistribute resources across the national territory relies on institutional arrangements, and it is responsive to territorial structures. For that reason, this research attempts to shed light on how the state interacts with local actors, observing territorial distributive features.

Keywords

Intergovernmental Finances · Territorial Inequality · Lobby Groups · Budgetary Cycles · Redistribution · Resource Revenues · Public Spending

Chapter 1
Introduction

> 'Where do people earn the Per Capita Income?
> More than one poor starving soul would like to know.
> In our countries, numbers live better than people.
> How many people prosper in times of prosperity?
> How many people find their lives developed by development?'
>
> *Eduardo Galeano,*
> *'Those Little Numbers and People'*[1]

Distributional considerations are in the heart of the critics of a market-oriented development paradigm applied in Ecuador during the so called 'lost decade'[2] and subsequent neoliberal reforms. In an effort to bring inequality to a critical examination that deals with an uneven territorial development inherited from past regimes; several political, social and economic reforms have been implemented in the very recent years.

In this line, equitable development policies demand a research agenda that unveils the elements causing persisting territorial inequality in Ecuador, which is in fact a core objective to be fought against in the new political agenda. The rationale underlying this idea is to influence the elements conditioning territorial disparities. That is the role of local governments, and their interaction with the central government with regard to intergovernmental finances.

This *equalizing* territorial shift can be studied within a political economy framework, in order to better understand the political factors influencing the intergovernmental finances in Ecuador. Therefore, this study intends to evaluate the inter-institutional impact of political institutions, more specifically: the central government *vis a vis* the local governments with regard to the territorial allocation of central government transfers. This is the main variable describing intergovernmental relations within this context.

While recent policies shifted towards an equitable territorial development agenda, path dependent and/or discretional (or even tactic) actions may have extended territorial disparities in the access to central government resources. In this line, the research paper addresses an essential question underlying the political economy of intergovernmental finances in Ecuador: how do political institutions affect the intergovernmental distribution of transfers? This inquiry encompasses specific interrogations, namely: what are the tacit determinants or allocation rules of the transfer system? Is the distribution of transfers just due

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[1] As found in Farmer (2005)
[2] For an overview of the Latin American trajectory regarding contemporary development, please refer to Green (2003)

to secular changes? Or is there any evidence of normative concerns? Can it be predominantly influenced by political factors?

Besides the conventional normative concerns, primary object of debate when looking at intergovernmental finances, the impact of political forces conditioning central government transfers is enriched by setting the analysis in the situation of a resource rich economy. Using data from local public finances in Ecuador, the research attempts to show the variables that determine the transfer system over time considering a changing sectorial normative on the principal commodity exported by the country: oil.

Moreover, fiscal dependence on oil revenues makes of the Ecuadorian case a significant laboratory to examine how the political economy of intergovernmental finances is related with the occurrence of natural resource revenues. There is sustained evidence that resource revenues dramatically infringe the so called *rational* public spending (as found in Collier 2010). If it holds that resource revenues are likely to weaken political restraints and hence, deepen social and territorial disparities, a structural change in how intergovernmental funds are allocated will be required.

The paper is organized as follows: I will introduce the research topic in chapter one; subsequently the research goals and core questions will be placed in a particular analytical framework, developed in chapter two and directed to study the redistributive role of public finances. In this section, I will explore the role of lobby groups, political business cycles, and tactical redistribution in public sector decision making. The aforementioned concepts will be investigated for its territorial application. In chapter three, the Ecuadorian context will be presented. It includes topics on equitable territorial development, as stated in the specific institutional framework. Possible sources of territorial inequalities and the scope for redistribution are briefly discussed. In chapter four, I present the analysis of the determinants of central transfers' allocation. Since I make use of panel data, fixed effects model (FEM) and generalized method of moments (GMM) are the preferred methods presented. Chapter five discusses the empirical results followed by the conclusion in chapter six.

1.1   Research goals and core questions

The goal of this research is to understand the determinants of intergovernmental finances in a resource rich economy, by looking at the Ecuadorian case. In other words, I seek to understand the geography of public finances placement, understood as the interaction with observed and unobserved location-specific attributes that influence public financial resources placement (Walle et al. 1995); with a particular focus on the local political institutions and [central] government structure in intergovernmental finances in Ecuador. To disclose the research objective, the core question that guides this study is: how do political institutions affect the intergovernmental distribution of transfers?

Thus, I am inquiring what are the tacit determinants, or allocation rules, that guide the Ecuadorian transfer system. And besides what the norm states, I will also explore secular changes (or the absence of them, that will provide

evidence about path dependency when financing local governments). I have some insights about normative concerns underlying intergovernmental finances. Yet, I am also aware of the political factors (i.e. interest groups) interacting between and within territories, that have the potential to influence the normative and the design of institutional mechanisms, due to specific motivations.

Some considerations regarding intergovernmental finances need to be taken at this point. First, it is important to bear in mind that an important share of central government resources allocated to the territories does not take place through the direct financing to province governments, municipalities, or rural parish boards. But since the complete set of territorial based policies involves a detailed work to gather information, a changing legal framework, and it is mostly unorganized; it escapes the scope of this research[3].

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[3] For a more in-depth treatment of *territorialized* central government interventions, see Ministerio de Finanzas et al. 2010, Azevedo et al. 2008, Vos et al. 2003. So far, the research focus of this branch of studies in Ecuador has been kept in the social sector

Chapter 2   Analytical framework

2.1   Literature review on Public Finances: the relevance of the Local

Local public finances can play an important role, albeit complementary, to central government finances, when assessing the distributional consequences of public policy. Several studies have been conducted to analyse intergovernmental finances, from authors like Tiebout (1956) and Oates (1972) that emphasize on efficiency and equity imperatives; or Weingast (1995) and his concept of market-preserving federalism.

However, it can be claimed that 'the distribution of intergovernmental transfer is above all a political issue' (Gordin 2006). And it is with this motivation that the intergovernmental fiscal relations will be discussed in the underneath developed literature review, quarrying on the political factors conditioning it.

The political economy of local public finances

The aim of this section of the literature review is to understand important political issues related with public sector decision making, in its different territorial layers. In this view, central government interaction with local authorities can be fairly explored under the broad umbrella of political economy.

Nevertheless, political economy is not always regarded with favour of approval in the social sciences. The concept has changed both in its definition and scope of application. And furthermore, the new contributions in this area from the positive economist stand had been charged with 'pretence of knowledge' (Schnellenbach 2002).

Besides its contested role in development studies, and in an effort to expand the domain of economic policy analysis and enriching its proposals, I will present a brief exploration on how politics and economics can be integrated and can contribute to a broader understanding of public sector decision making.

The section begins with an overview about political economy theories and concepts, then it focuses on the recent contributions on intergovernmental interactions, (i.e. central government *vis a vis* local governments, and within local governments interactions) and finally, it proposes an analytical framework ought to be applied in this particular paper by means of a survey on previously applied empirical strategies.

Political Economy: in the search of an institutional framework

The historical antecedents of the analysis of public sector decision making, track back to the classical political economy, having Adam Smith and John Stuart Mill as the greatest expositors in this area. Classical economists used the

term political economy interchangeably with economics (Besley 2006), but with a clear cut between the positive science and the art of decision making, or its precepts. Therefore, an unavoidable normative or regulative character was implicit in the political economy, by prescribing 'what ought to be' *(Ibid)*.

Then, the term political economy changed to be used for comparative analysis of economic systems, especially in debates related with the relative merits of socialism and capitalism (Besley 2006). Discussion on political and economic issues where under the category of 'market socialism' debates *(Ibid)*.

At the present time and when looking at new political economy, authors seem to use this jargon to encompass any analysis that links economics and politics. However, a narrower definition provided by Besley (2006), proposes that public choice is located as the mainstream analytical tool that draws out the implications of rational self-interest for political interactions. This derived in different theoretical contributions, like the proposition of rational economic agents interacting with a benevolent dictator (namely the state) which maximizes social welfare defined by a welfare function (Laffont 2001 in Besley 2006); non-cooperative games conducted by rules specified by political institutions and that remarks the importance of interest groups and the inherently incentive problems existing when economic policy is delegated to politicians (Dixit 1996 and Laffont 2000, in Besley 2006)or that can support the claim favouring decentralization, in order to deal with efficiency losses and gains of a better accountability (Seabright 1996 in Besley 2006).

However, the abovementioned analytical tools provided in the new political economy, in order to produce 'value-free statements' regarding the preferences over alternative social orders, may bound to fail if the basic assumption, which is information, does not hold (Schnellenbach 2002). The fallibility mechanism follows: traditional public choice theory examines political competition as a possible means of leading the political process to a result that is in compliance with the preferences of the median voter *(Ibid)*. This definition assumes a typology of politics that is *rational*[4] in addition to *self-interested*. Consequently, it proposes a normative framework that 'legitimates the domain of the state in terms of the functions that citizens would freely consent to hand to the government' (Besley 2006). The formal mechanism would be through constitutions, which act as constraints for self-interest. However, all this process can only hold if the actors involved (e.g. state and citizens) have access to information:

> 'Limited accountability due to imperfect information is one of the main reasons why conflicts of interest between governors and governed cannot be completely resolved' (Besley 2006)

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[4] Even the meaning of rationality is not that clear in public choice theory: 'In some contributions, a political process is considered to be rational if its outcome coincides with the median voter's preferences, while others equate rationality with the transitivity of the social preference ordering, and still other contributions continue to use the yardstick of Pareto-efficiency to evaluate the results of the political process'. (Schnellenbach 2002)

So far, I have shown that a vast literature focuses on electoral preferences in order to understand decision making, arguing that politics would converge to the preferences of decision making (as described by Downs 1957, in Besley 2007).

Nonetheless, as Besley (2007) notes, there is an increasing understanding about the importance of institutional structures in order to explain systematic differences between median voter preferences and policy outcomes. In addition, extra-electoral policy making has capture recent attention, focussing on the role of lobbying and interest groups that participate in the political process in order to influence policy outcomes (Grossman and Helpman 1994). What is more, when looking at intergovernmental relations, the demand for policy coordination increases instead of competition between democratic [local] governments that can lead to a Pareto-inferior outcome.

The motivation that leads me to make use of political economy analysis, despite of the strong critiques to this branch of literature, is that it can play an important role in enabling individuals to come to informed values. However, it will not constitute 'a substitute for political philosophy and for critical reasoning' (Schnellenbach 2002) about the ordering of the society.

> '...what happens if the median voter is the ... socialist or the classical liberal and want to surrender some efficiency for political ideals? Or how does New Political Economy respond to an autocrat who wants to maximize GDP growth but has no interest in the will of his or her people' (Schnelenbach 196)

A particular case of policy [mis]coordination: the resource curse

Collier explores a different approach to the *resource curse* notion, besides the Dutch disease and its detrimental effect on the trade balance, or the thesis of crises originated in the inherent volatility (boom-and-bust phenomenon) of primary commodities. He focuses in democracy malfunction (Collier 2007). The author proposes that in the presence of poverty, valuable resources rents seem to be damaging for development, giving no space for *rational* public spending. Alternatively, a 'new law of the jungle of electoral competition in the presence of natural resources: *the survival of the fattest'*. In other words, resource revenues induce perverse competition among public institutions, with harmful consequences for development.

In this logic, the apparatus for the *survival of the fattest* behaves as follows: an abundance of resource rents alters the mechanism of electoral competition. Different public institutions compete for attracting votes in the most cost-effective manner, mainly by delivering public services more effectively than a rival can[5]. If the political institutions allow patronage politics, the perverse

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[5] This research will not cover the problem of resource rents as being proneness to autocracy. For an extension of this hypothesis refer to Collier (2007: 49-50)

competition among and within institutions leave the corrupt as winners (Collier 2007: 50)

In his view, resource surpluses do not only induce a large inefficient public sector in contrast to the '*minimal* state': the main problem is that, as an adverse net effect of democracy, the resource rich economies tend to underinvest. Underinvestment refers not only to the rate of the investment, but also to the return on investments. Namely, politicians have incentives to invest on *white elephant projects* (i.e. projects in which it cost exceed its usefulness). And this happens because governments in general, do not value investments that only come to fruition in the future affecting sustained increases in income (*Ibid*) since they are politically costly. Governments invest in low return projects that can be easily implemented and appreciated by the voters in the short track.

Extra-electoral policy making and its interplay with normative approaches

2.1...1   Extra-electoral policy making: the political support framework

I briefly mentioned in the previous section the attractiveness of extra-electoral policy making. Since voting models tend to treat parties as competing firms, this models can lead to voting cycles (when one party can always propose a policy platform that beats any other), probabilistic voting (in which a second problem arises, related with the fact that politics are not infinitely pliable), or just by observing that there can be systematic differences between median preferences and policy outcomes (Besley 2007).

Subsequently, if the focus is shifted towards institutions, in the sense that institutional structures can be more important than electoral preferences when defining the real ordering of the society, the attention should be placed in the analysis extra-electoral policy making. As a result, the set up for my analytical framework includes models of political support. Within this framework, model on interest groups are highly appealing, since they offer the possibility to analyse how institutional changes can affect policies equilibrium.

More specifically, the political support framework seeks to deal with interest groups and how they influence government choices, as may be illustrated by models on rational opportunistic political budgetary cycles (Veiga and Pinho 2007) and wide-ranging topics on extra-electoral policy making (Grossman and Helpman 1994, Gawande and Li 2009). In short, the aforementioned models are particularly interesting for this empirical application.

In a detailed review of the political support approach, a key author is Grossman (1994). In his work *Protection for Sale* (Grossman and Helpman 1994) develops a model to understand the structure of trade protection. Although the model is applied to analyse trade tariffs and subsidies, it is applicable to a number of redistributive policies (Gawande and Li 2009).

The model derives the government's objective as dependent on campaign contributions (coming from different interest groups) and voter well-being

(which is understood as the utility level achieved by the average voter). The aim is to provide a framework to analyse how institutional changes would affect equilibrium policies by endogenously changing the shape of the political-support function. Mainly, the methodology seeks to make explicit the process by which the government pays attention to the concern of particular interest groups.

Nevertheless, there are some preconditions for these interest groups to influence policy outcomes: they must be organized. The author argues that organized interest groups are able to offer political contributions. Their motivation is different from that stated in electoral competition models. In the latter, the interest groups make contributions by the prospect of influencing policy rather than motivated for electoral outcomes as in the former proposes. Hence, their contributions are valued by politicians, who perceive them as a potential gain for the upcoming election process. Under this logic, the government maximizes an aggregate social welfare function devised from a weighted sum of the total contributions originated in the interest groups. In other words, politicians see a relationship between total collections (i.e. sum of individual contributions from lobby groups) and their re-election prospects.

By means of stressing political support, it is possible to understand which interest groups will be especially successful in capturing the outcome of a policy. Grossman and Helpman (1994), make use of lobbies that represent special interest groups. And as specified by the authors, in contrast to the literature on voting competition, interest groups are motivated to make contributions to influence policy (and the aggregate social welfare) rather than linking its own contribution to the election outcome. Under this logic, their model has similar structure to those of common agency problem and moral hazard, due to the risk implicit in the unobserved actions by politicians.

2.1...2   Normative framework for intergovernmental relations

Along with public choice theories, fiscal federalism provides a normative framework to analyse the interactions between different government levels and their competences (accompanied with financial resources) across territories (Veiga and Pinho 2007). Then, intergovernmental finances constitute an important tool to allocate funds among different levels within the public sector. Due to its normative category, this approach assumes that the central government is motivated by efficiency and equity goals, with the broader objective of maximizing the welfare of the population *(Ibid)*.

This section of the literature review follows the argument: 'public spending is a potentially powerful instrument for fighting poverty' (Walle et al. 1995). On the other hand, anti-poverty strategies often overlook equity concerns (Townsend and Gordon 2002). Thus, this section brings together poverty reduction and equity concerns by looking at elements of public finances at the local level.

So far, this paper has focussed in public finances. Nevertheless, public financial resources have the final objective of being spent by politicians in their localities, following different governing principles, to name a few: maximization of social welfare, tactical spending, of simply self-interest. A

merely disorganized or even worse, an intentionally concentrated public spending can enhance territorial disparities, and deepen poverty across its inhabitants. This is the scope of a normative approach to interplay with public sector decision making.

2.1...3   The Role of Distributive Politics in a Territorial Basis

Positive political economy can help to inform individuals about the choice of political institutions associated with efficiency [gains] losses. Taking into account that this research takes place in a geographical basis, the previously discussed approaches are limited to 'show the political sources that systematically bias public decisions toward larger than efficient projects in the area of distributive policy making' (Weingast et al. 1981). This means that a distributive policy is restricted to 'a political decision that concentrates benefits in a specific geographic constituency and finances expenditure through generalized taxation' (*Ibid.)*

The consequence of taking this approach for territorial analysis is that allows analysing the side effects of intergovernmental political economy. Considering that 'geography is the hallmark of distributive politics' (Weingast et al. 1981), redistribution will be examined at a territory level. Within the proposed framework, a [re]distributive policy has a geographic incidence explicitly targeted, in contrast to a non-distributive program which can be accessible to all the individuals across the territories in the entitled category.

In parallel, geography is considered to be the basis for political organization and representation. Local representatives do care about who gains and who loses in proportion to their geographic location. Both categories of actors: central government and local governments have incentives to increase public spending beyond the efficient point at the local level due to electoral competition.

Territorial inequality and intergovernmental finances

Public finance models tend to assume that the economy operates only in two levels: the 'macro-economy' of the nation state, and the 'micro-economy' of individual firms and households (Martin 2003). This dichotomy has the risk of diminishing the role of the differing economic structures, dynamics and institutional arrangements that space encompasses.

However, uneven development does not only mean different outcomes from public spending in different territories: it can compromise the macro-economic management and can counter the outcomes intended through it (Martin 2003).

Territorialization comes to discussion due to a broad context of state reforms, where there is an increasing consciousness of territories as instruments of action (Boudreau 2003). From this perspective, the territory is not only defined as an area to be governed or controlled, it is used as an instrument to attain a broader goal *(Ibid).* Under this logic, state spatial strategies (Brener 2001, Harvey 1985 Boudreau 2003) are 'designed to

influence economic development and political struggles into specific structural coherence of spatial fix'.

From this stand, the analysis of public policies has to consider a new division of power between governing units, bearing in mind the place-based social relations that can affect the intended outcomes. Recent work deals with the analysis of state spatial strategies, with the aim of understanding the processes of spatial selectivity when designing local and/or regional policies (a survey of related literature can be found in Boudreau 2003, 185).

Consequently, the scope of public finances to equalize territorial development depends on the ability to understand spatial patterns of concentration of economic activity. In the analysis of regions, territorial inequalities present a relevant sphere for policy design, since they reveal the underlying power structures and have the potential to challenge individualistic explanations of inequality and social struggle.

However, there is a clear-cut point of intervention, when redistributing by means of public finances: differential capacity to provide public services. Regardless of a lack of consensus on the sources of territorial inequalities, a redistributive notion of social justice had been adopted in the orthodox economics, in which justice is advanced by an equitable sharing of economic and social gains among people living in all areas (Rodriguez-Oreggia and Rodríguez-Pose 2004).

Moreover, when a comprehensive taxation is not a viable option in the local political structure, public spending takes the leading territorial redistributive role. The norm should follow the argument of improving the distribution of economic welfare nationwide through public spending. And the redistributive response through public spending generally reacts to: (1) 'dissatisfaction with distributional outcomes in the absence of intervention': market failures deepened by social norms, (2) 'lack of alternative policy instruments': when comprehensive income taxes are generally not a viable option, and (3) 'need for fiscal restraint and the sharp trade-offs this makes governments face': targeted provision of public services, selective choice of beneficiaries due to financial limitations (Walle et al. 1995).

2.2 Empirical work on intergovernmental finances

In this section, I will explore different analytical approaches that can be considered in order to analyse the determinant of intra-government finances, namely in this case, transfers from central government to municipalities. The aim of the analysis is to evaluate the impact of political forces, and/or the relevance of normative concerns in the allocation of transfers in Ecuador.

We presented fiscal federalism as a normative approach, which assumes that the central government is motivated by efficiency and equity goals, with the broader objective of maximizing the welfare of the population. Along with normative approaches, public choice theory assumes, in the contrary, that politicians attempt to promote their own interest. We also mentioned that the political support framework, within the public choice theory, seeks to deal with interest groups and their influence in government choices. For this particular case, models on rational opportunistic political budgetary cycles (Veiga and

Pinho 2007) and extra-electoral policy making (Grossman and Helpman 1994, Gawande and Li 2009) will be tested.

Previous work on political business cycles (a detailed survey of this literature can be found in Veiga and Pinho 2007) dates back to the 1970s, with Nordhays (1975) and Lindbeck (1976). They used probabilistic voting models in order to show how incumbents can manipulate the economy before elections. For this purpose, they made use of an expectations augmented Phillips curve, concerning unemployment in pre and pro election periods. Later work from Rogoff and Sivert (1988) used signalling models of the rationality of pre-electoral manipulation. Recently, Person and Tabellini (2004) analyse how a country can discourage the emergency of budgetary electoral cycles. They found that the existence of political budgetary cycles depends on electoral rules and forms of government.

Similarly, previous work on tactical redistribution (*Ibid*) dates back to 1986, with the work of Cox and McCubbins related with risk-averse political candidates and its relation with close supporters. Dahlberg and Johansson (2002) tested the prediction of Cox and McCubbins (1986) in Sweden, finding no evidence of their model. Quite the opposite, they found that the proposal of Lindeck and Weibull (1987) was more likely to happen: the winning policy favours voters with weak party preferences.

In this paper, I test the above mentioned models of budgetary cycles using the Rogoff and Sibert (1998) framework, in which majors lobby the central government to receive a larger amount of funds during election years) and tactical redistribution (I apply the Grossman and Helpman (1994) framework for lobby groups). Due to theoretical reasons exposed before and enhanced by data constraints, I am going to focus only on extra-electoral policy making. Models of voting competitions are beyond the scope of this research.

Empirical setting

Dynamic model: path dependency, budgetary cycles, and normative concerns

In this section I am going to present the empirical strategy intended to investigate the political and socio-economic aspects of transfer distribution in Ecuador. This method is driven by the work *The political economy of intergovernmental grants: evidence from a maturing democracy* (Veiga and Pinho 2007).

Following the aforementioned method, I model real per capita transfers to municipalities as a function of (1) lags of the dependent variable, considering that transfer schemes are path dependent and therefore, are likely to persist over time; (2) a vector of variables related with political factors, such as political budgetary cycles (before and during election years), and presence of lobby groups (taking into account the pressure of these interest groups to influence policy outcomes); and (3) a vector of control variables associated with the normative approach, i.e. social welfare maximization, both trough efficiency and equity.

The dependent variable: share of [capital and current] transfers; is modelled in real values, deflated according to the annual [consumption] price index. Logarithms are also applied, to linearize the relationship with the explanatory variables and examine whether marginal changes in them have multiplicative effects on the dependent variable.

The vector of variables related with the political factors, tests for: (1) political budgetary cycles, by the analysis of dummy year variables, keeping in mind the election years and specially, the previous year election value. The argument is that municipalities can lobby the central governments before election years in order to increase *local* public investment (or what (Collier 2007) calls 'the survival of the fattest'). (2) We could also test for Grossman and Helpman (1994) model for political support. For this purpose, I will outline the interest groups. One alternative is to look at industry lobbies (Gawande and Li 2009). And within each sector, I look at the human capital (i.e. share of population working in a specific sector[6]). Theoretically, the human capital measure is taken to be exogenous because it is technologically constant (i.e. it is fairly constant over time (Gawande and Li 2009)). Even more, industrial concentration is an important determinant of collective action and correlated with political organization *(Ibid)*. This second alternative will make use of a fixed effects model, due to data availability, and will be described later in this paper.

As aforementioned, transfers to municipalities are considered path dependent, and therefore, conditional to their lagged values. The rationale is that for politicians it is difficult to reduce the previous levels of transfers without facing political restraints. Additionally, the amount of transfers from the central government can be considered responsive to the level of public credit, meaning that municipalities that depend on public credit are more highly dependent on central government' transfers. The opposite case takes place when municipalities are able to collect local taxes, and rely on tax revenues reducing the dependency on central government's transfers.

In what it concerns to the normative approach (and following Veiga and Pinho 2007), central government transfers should consider demographic, economic, and time variables. Differences in funds requirements, due to population size, include: population in thousands and population squared. The rationale in the inclusion of this variable is that the existence of economies of scale in the provision of public services, where the cost is supposed to decrease as the local population increases. Therefore, in order to promote horizontal equity the central government should transfer fewer resources to larger municipalities since they are able to provide identical public services at a lower level of taxation. Additional controls for natural regions (Coast, Amazon and Highlands included, reference region Islands) and metropolitan districts (Quito and Guayaquil).

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[6] To simplify the model, I can assume that the employed population is organized as lobbies, as stated in Gawande,K. (2009).

Finally, to test for the macroeconomic performance of the country I included oil prices series. This follows the abovementioned dependence of Ecuadorian economy on its [resource] revenues. A positive sign is expected for this variable, coming from what economic theory suggests and sector specific legal framework changes[7].

2.2...1   Model specification

For this particular case of linear dynamic panel-data models, *p* lags of the dependent variable are included as covariates and contain unobserved panel-level effects, fixed or random. Since the unobserved panel-level effects are correlated with the lagged dependent variables, standard estimators may be inconsistent. This can be verified by taking a naive approach to model transfers. It is described in the Equation (1), in which I simply pooled the data of the *i* municipalities over the *t* years, in order to apply OLS:

Equation 1

$$Transf_{it} = \propto Transf_{it-1} + \beta PolFac_{it} + \gamma Norm_{it} + a_i + \mu_{it}$$

$$i = 1, \ldots, N; \; t = 1, \ldots, T$$

However, with this procedure the estimates will be biased and inconsistent, since μ_{it} includes unobservable fixed factors (a_i) that stay constant through time for each *i* but are correlated with the explanatory variable (unobserved heterogeneity). [For a detailed explanation of panel data methods, see Wooldridge 2009 ,Chapter 13].

To solve this problem, and considering that the main reason to collect panel data is to allow for the unobserved effect (a_i) to be correlated with the explanatory variables, I difference the data across the years.

Equation 2

$$\Delta Transf_{it} = \Delta \propto Transf_{it-1} + \Delta \beta PolFac_{it} + \Delta \gamma Norm_{it} + \Delta \mu_{it}$$

$$i=1,\ldots,N; \; t=1,\ldots,T$$

But this would imply that I must assume that $\Delta\mu_{it}$ is uncorrelated over time with the explanatory variables in each time period, for the usual standard

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[7] As stated in the official document 'Lineamientos de la Política Económica 2011-2013' (Ministerio de Coordinación de la Política Económica 2011: 13), the sovereignty in the administration of natural resources has allowed to an increase on social expenditure and public investment when compared with previous regimes. This is evidenced in the upsurge of oil revenues from 2006 (year in which the Ecuadorian State modified the sectorial normative in order to increase the participation in oil revenues); and the sharp increase from 2008 onwards, due to the dissolution of the contingency funds and its provision to the National Budget.

errors and test statistics to be valid. Consequently, I can use lagged values of the dependent variables as instruments, assuming that past should not be affected by future shocks. This new model is described in the Equation 3, where:

Equation 3

$$Transf_{it} = \sum_{j=1}^{p} \alpha_j Transf_{i,t-p} + \beta Pol\_Fac_{it} + \gamma Norm_{it} + \varepsilon_{it}$$

i=1,…,N; t=1,…,T

Transfers are a functions of its lagged values $\sum_{j=1}^{p} \alpha_j Transf_{i,t-p}$, political factors Pol_Fac_{it} and normative factors $Norm_{it}$. The model is specified for T periods and N observations (municipalities). However, the lagged value of the dependent variable would be correlated with the error term due to the dominance of cross sections (N=219) over time periods (T=10) in the sample (following the rationale described in Veiga and Pinho 2007)

The model can be estimated using a Generalized Method of Moments (GMM). Arellano and Bond (1991) developed a GMM estimator that first differences the individual effects and the resulting equation becomes estimable by instrumental variables (Veiga and Pinho 2007). Later, Blundell and Bond (1998) developed a system estimator that uses additional moment conditions, in order to exploit new moment conditions for the data in levels while retaining original conditions from the transformed equation (Roodman 2006). Additionally, in a system GMM time-invariant regressors can be included, which would disappear from a differenced GMM.

The system GMM embodies the subsequent assumptions, as found in Roodman (2006):

1. The process may be dynamic, where current values of the dependent variable (transfers) are influenced by past ones.
2. The idiosyncratic disturbances may have individual-specific patterns of heteroskedasticity and serial correlation.
3. The idiosyncratic disturbances are uncorrelated across individuals.
4. Some regressors may be predetermined but not strictly exogenous: independent of current disturbances they may be influenced by past ones. For this application, tax earnings are modelled as predetermined.
5. The number of time periods of available data T, may be small.

Fixed Effects Model: testing for the influence of lobby groups

Unfortunately, to assess the relationship between poverty and intergovernmental finances at the canton level, I can only rely on census data. Also, information on lobby groups at the municipality level (in this case, I am considering the share of workers within each interest group) is reliable only

from national census data. Therefore, a fixed effects model of two periods is adapted in order to test for the political support framework.

2.2...1 Model specification

The model tries to exploit the endogenous transfers' placement at the local level. The questioned criteria for local public spending: (1) political factors captured by support or interest groups (2) normative factors: mainly related to poverty together with socio-demographic characteristics and (3) macroeconomic performance (oil prices)

Equation 4

$$Transf_{it} = \sum_i \beta_i PolFac_{it} + \sum_i \theta_i Norm_{it} + a_i + \epsilon_{it}$$

i=1,...,N; t=1,2

Where $Transf_{it}$ is the per capita value of transfers from the central government to municipalities in the time t, $PolFac_{it}$ groups the political factors, $Norm_{it}$ groups the normative criteria stated before. Under this specification, a_i describes time invariant unmeasured attributes and ϵ_{it} the random time-varying error.

I estimate the fixed effects model by pooling the data from two periods. The most important feature is that a_i has disappeared and the assumption that μ_m is uncorrelated with the explanatory variables is not necessary. The time-constant unobserved heterogeneity is therefore, no problematic. On the other hand, when using fixed effects I am only comparing the before-after difference on the share of per capita transfers of those municipalities who accessed it.

The assumptions for the fixed effects model follows:

1. For each i the model is $Transf_{it} = \sum_i \beta_i PolFac_{it} + \sum_i \theta_i Norm_{it} + \mu_i + \epsilon_{it}, t = 1,2$ where the $\beta_i, \theta_i \ and \ \varphi_i$ are the parameters to estimate and a_i is the unobserved effect.

2. We have a random sample from the cross section

3. Each explanatory variable changes over time (for at least some i), and no perfect linear relationships exist among the explanatory variables

4. For the fixed effects model: strictly exogenous conditional on the unobserved effect [once controled for a_i there is no correlation between the x_{isj} and the remaining idiosyncratic error ϵ_{it}, E(ϵ_{it}|X_i, a_i)=0]. Under these four assumptions, the fixed effects model is unbiased.

5. Var(ϵ_{it}|X_i, a_i)=Var(ϵ_{it}) for all t=1,...,T

6. The idiosyncratic errors are uncorrelated (conditional on all explanatory variables and α_i. Under these set of assumptions, the FEM estimator is BLUE (best linear unbiased estimator).

Chapter 3   Context

This chapter will introduce the Ecuadorian context. Ecuador has shifted towards a more humanistic development paradigm: *Buen Vivir* , 'Good living' or 'living well'; adopted as an orienting concept of the new Constitution (passed in popular referendum, in 2008). *Buen Vivir* seeks a new interrelation of beings and knowledge(s): '*buen vivir* denotes, organizes, and constructs a system of knowledge and living based on the communion of humans and nature on the *spatial*-temporal-harmonious totality of existence*'* (Walsh 2010 emphasis added).

The design for the application of *Buen Vivir* is detailed in the National Plan of Development (*Plan Nacional del Buen Vivir 2009-2013)*, developed by the National Secretariat of Planning and Development (*SENPLADES*). And what makes this document the umbrella norm regarding my analysis is its focus on 'decentralization and deconcentration of power'[8]. In this document, territorial equity is a core question. As a result, the abovementioned shift in the conception and application of territories for national planning is what motivate me to look at the Ecuadorian case as a thought-provoking one, when analysing intergovernmental relationships.

In addition, and since the Plan is based on an analytical diagnosis of the evolution of economic, social, and political processes that illustrate the country's *failed*[9] development in the last decades, I am going to introduce these processes in the forthcoming subchapters. The Plan refers to an 'excluding social contract in Republican Ecuador'. I am looking at the uneven regional development in particular, in the following section.

3.1   Uneven territorial development: the Ecuadorian case

A territorial approach has recently been adopted in Ecuador. It seeks to identify 'specific functionalities, articulating complementarities in order to promote equal access to opportunities, by means of promoting synergies across different geographic spaces, circumscribed in an endogenous strategy' (República del Ecuador 2009). This approach rejects competitiveness across spaces and places; on the contrary, it encourages complementarities.

The Ecuadorian strategy for territorial development and organization, deconcentration, and decentralization; proposes 'mechanisms to transform the Ecuadorian territory, as well as to promote a (re)distribution of wealth among and between the territories'[10]. For that reason, public policy must be based in coordination between government agencies at different territorial levels, pursuing complementarities and synergies.

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[8] http://www.senplades.gob.ec/c/document_library/get_file?uuid=e1f159cb-e84c-4f88-a857-0188b7a4c1b5&groupId=18607

[9] *Ibid.*

[10] *Ibid.*

The territorial strategy stated in the Plan, encompasses a polycentric, articulated, and complementary national territorial structure. This means that territories are conceived as spaces with specific functions, but always promoting domestic integration.

Nevertheless, when looking at the historical and relational diagnosis of the Ecuadorian geography *(Ibid),* clear signs of dualism, polarization, asymmetries, uneven development strategies, and regional diverging forces can be identified. All of them challenge the territorial strategy proposed, carrying elements of a persistent unequal territorial setting.

Regionalism in Ecuador

Regionalism constitutes a central feature of Ecuadorian politics (Clark and Becker 2007). Regional divisions have a notable impact in citizen-state relations and political developments *(Ibid)*. In this section, I will briefly present the historical and relational diagnosis of regionalism in Ecuador.

Ecuador is composed of four [geographic or natural] regions: the tropical Pacific coastal lowlands area centred around the city of Guayaquil, the temperate Sierra highlands around the capital city of Quito, the eastern upper Amazon basin (*Oriente*) where oil production takes place at the present time, and the Galápagos archipelago. This regional divide rooted in the geographical composition of the country, and studied by authors like Hurtado (1977), Pineo (1996)[11], Acosta (2006), Kim (2007), among others; appears to have deepened political and cultural divisions (Clark and Becker 2007): 'Until well into the twentieth century, economically and demographically the highlands dominated the rest of the country'. Before the Spanish conquest, the Inca civilization gave particular preference to the highlands, provoking the exclusion of the coastal and Amazon regions. Later in time, and due to the export-led economic growth based on large scale plantations, a demographic shift took place: rural workers from the Sierra highlands began to migrate to the coast[12] *(Ibid)*.

And the historical roots of regionalism persist up to present. The regional divide continues to be a central feature of politics: 'Regional disputes have been an important source of social and political instability in Ecuador throughout the 19th and 20th centuries. Ecuador's main political parties are formed along regional lines, weakening central authority and forcing a style of policy making that allocates resources, taxes, and quotas of political power in an effort to maintain regional balance' (Beckerman 2002)

Dualism in Ecuador

As part of the mentioned geographical patterns: dualism, points to the critical character of nodes into shaping the national space fix. This dualism is

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[11] An interesting synthesis of his work and related with state building problematic can be found in (Martz 1997)

[12] By the 1970s, more people lived on the coast than in the highlands, with less than four per cent living in the Amazon (Beckerman 2002).

illustrated in the supremacy of the two biggest cities in Ecuador: Quito and Guayaquil as centres of dynamism and economic activities, with particular flows and forces shaping the economic geography. Quito has a political pre-eminence, as the political centre. The coastal city of Guayaquil constitutes the 'economic engine' of the country. Together, these two cities concentrate 30 per cent of the national population *(Ibid)* but almost 70 per cent of the domestic economic activity[13]. Not surprisingly, this dual setting is perceived as an outcome of historical privileges towards these nodes in an intra-urban dynamic converging towards a metropolis biased setting, as stated in the referenced source.

Sources of [territorial] inequality in Ecuador

A recent study conducted by Ponce (2010), analyses the evolution of inequality in Ecuador, in the last decade. The author founds a 'dividing wall' between the types of economic growth associated with inequality changes. His argument is that during the 1990s the country experienced low but pro-rich, economic growth. On the contrary, better levels of economic growth experienced during the 2000s were also reinforced with a pro-poor shift in policies.

The previous contrast in the type of economic growth attained in Ecuador finds evidence in the increasing inequality over the past decade, where the Gini coefficient (over per capita income) increased from 0.48 per cent in 1990 to 0.58 in 2000. The total series is presented in the subsequent figure.

Figure 1 Gini coefficient (over per capita income), 1990-2010
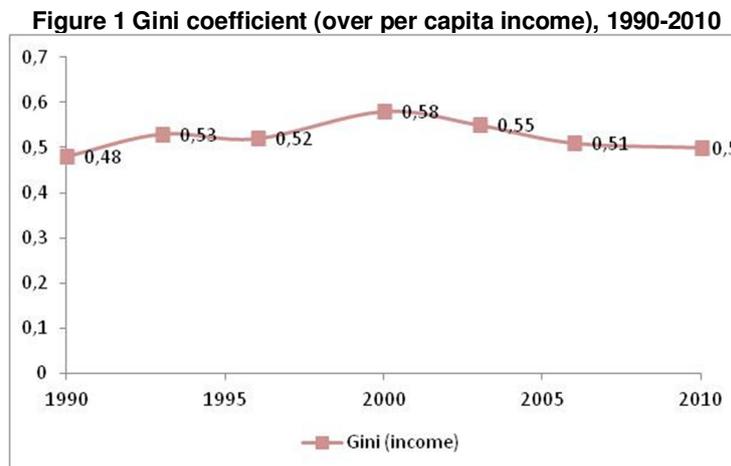
Source: Ponce 2011[14] Elaboration: the author

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[13] A recent article by Fernando Carrión Mena "Bicentralismo y Bicefalía Urbana" in Diario Hoy (2011) announced that the two cities comprise 69.3% of the domestic economic activity.
[14] Ponce (2010)

It is possible to identify how the financial crisis (1999) deepened income inequality. However, up to that point the inequality had been increasing due to the liberalization of the economy (Ponce 2010).

Still, inequality in Ecuador has different sources as acknowledged in context related literature. It follows a condensed list of the sources identified:

Labour market based

Wage gaps reinforced by trade liberalization can be identified as a cumulative source of inequality in Ecuador. Structurally, there is a persistent reduction in the number of labourers employed in the modern sector of the economy, especially across the poorest deciles (Ponce 2010).

Figure 2 Labour market composition, 2010
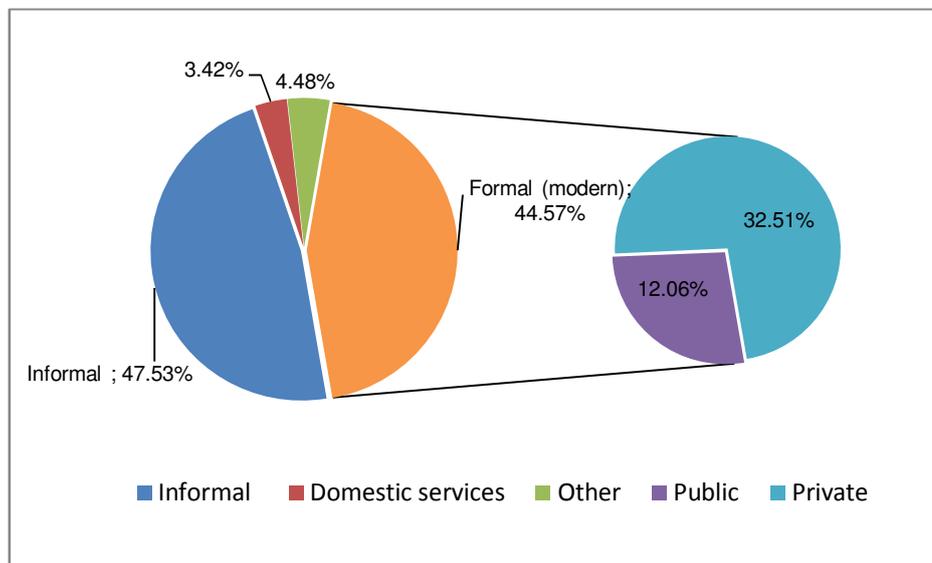
Source: SIISE-MCDS

During the 1990s, the share of fully employed workers fell from around 50 per cent to 40 per cent in 2006. This can be correlated with an increase in underemployment for the same period, from 49 per cent at the beginning of the last decade, to 62 per cent in 2006. In conclusion, there is acceptance of the idea of a contraction in the modern sector, founded in an enlarged informality in the economy.

Figure 3 Labour market in Ecuador: unemployment, underemployment, and employment, 1993-2006

Underemployment — Modern sector employment — Unemployment
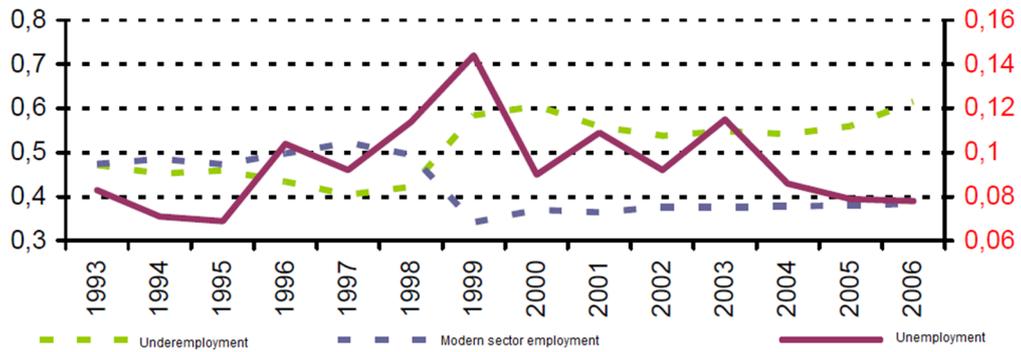
Source: INEC, Ponce 2010

Considering that there is evidence about an increase in the informal sector, it is important to point that it has been accompanied with the related wage gap, when compared to the modern sector. Overall, this wage divide in the labour market has the disadvantageous potentiality of depressing the aggregate demand and therefore, is likely to inhibit [domestic] economic growth.

Figure 4 Share of workers in the modern sector (urban)

Decile	1990	1993	1996	2000	2003	2006	2010
Poorest	0.46	0.47	0.49	0.41	0.43	0.33	0.13
2	0.53	0.49	0.45	0.42	0.42	0.32	0.24
3	0.52	0.50	0.51	0.45	0.47	0.40	0.30
4	0.52	0.47	0.46	0.45	0.49	0.41	0.35
5	0.56	0.50	0.54	0.51	0.47	0.45	0.41
6	0.52	0.52	0.54	0.48	0.55	0.49	0.46
7	0.51	0.55	0.57	0.53	0.53	0.55	0.52
8	0.56	0.58	0.59	0.53	0.58	0.59	0.56
9	0.57	0.58	0.64	0.64	0.65	0.64	0.63
Richest	0.66	0.62	0.65	0.69	0.72	0.74	0.74
Total (urban) ⇧	0.55 ⬈	0.54 ⇧	0.56 ⬈	0.54 ⇧	0.55 ⬈	0.52 ⬇	0.48

Source: Ponce 2011 Adaptation: The author

The export sector occupies mainly qualified workers, who are, on average, four years ahead in schooling compared to workers occupied in the non-tradable (i.e. domestic only) sector of the economy (República del Ecuador 2009). With an export led strategy, the situation for low skilled workers is likely to worsen.

Figure 5 Schooling, working population average (from 25 to 55 years old)

Decile	1990	1993	1996	2000	2003	2006	2010
Poorest	7.00	7.20	8.10	7.50	7.40	7.70	8.50
2	7.90	7.50	8.00	7.70	7.70	8.20	9.10
3	7.40	8.00	8.00	8.60	8.60	8.50	9.30
4	7.80	8.20	8.80	8.90	8.90	9.40	10.20
5	8.40	8.80	9.20	9.00	9.20	10.10	10.40
6	8.90	9.00	9.80	9.00	9.80	11.00	11.60
7	9.00	9.70	10.40	10.30	10.50	12.50	13.00
8	10.30	10.60	11.40	10.90	11.50	14.00	13.50
9	11.10	11.40	12.40	12.50	12.70	15.40	15.90
Richest	12.60	13.30	13.40	13.90	14.60	18.00	18.10
Total (urban)	9.40	9.70	10.40	10.30	10.60	12.20	12.60

Source: Ponce 2011 Adaptation: The author

As a consequence of this modern *vis a vis* informal dichotomy (Acosta 1995), there is a strong indication that Ecuador endogenously 'generates and reproduces its own problems in a process of circular cumulative causation' (as Acosta 1995 refers to the thesis developed by Myrdal 1963). The mechanism explained to support this thesis follows: (1) a marginal informal sector with low capital productivity faces constraints to invest due to lack of resources, (2) this informal sector interacts in the same field with a modern sector that has high capital productivity and consequently, occupies a lower labour share; (3) investment is doubly constrained since the modern sector has slight incentives to direct its efforts to the domestic economy, thus, (4) the informal/modern dichotomy replicates and deepens through time. Exchange of technology across these sectors, qualified labour force, infrastructure improvements is less likely to happen if the structure remains unchanged.

Highly concentrated markets:

Related with the previously identified source of inequality, it is central to point out that a large share of the market is controlled by a few enterprises that engage in oligopoly like activities. Consequently, the unequal market power induces anti-competitive behaviour: lack of transparency and below-equilibrium remuneration to its workers: 'it has limited real competitive conditions; and obstructed transparent market practices and the expansion of *formal*, well-compensated, and inclusive labour demand' (República del Ecuador 2009).

Table 1 Industrial concentration 2005 (Gini coefficient)

Description	Beverages[1]	Milk Products[2]	Trade[3]	Hotels[4]	Construction[5]
Sales	0,9651	0.9507	0.9411	0,8828	0,8015
Assets	0,9519	0.9434	0,9412	0,9211	0,8948

[1] 31 companies of which seven reported no sales

[2] 97 companies of which 46 reported no sales

[3] 80 companies of which 18 reported no sales

[4] First one hundred companies in sales

[5] First one companies in sales

In addition, the industrial concentration in Ecuador is not only verified within sectors, it has also a territorial dimension. Economic factors [e.g. consequences of structural adjustments, financial crises, export-oriented strategies, and dollarization process] have conditioned the territorial arrangement of activities. For instance, Quito is the residence of the biggest private bank of the country, and legal residence of flower exporter companies, retailers, press and communication companies. Guayaquil, the coastal port, hosts important economic groups, related with exportation/importation sectors. This concentration has consequences in the nationwide redistribution of resources, due to political economy restraints reinforced by lobby groups located in better-off areas.

An instance of this can be verified when decomposing the added value at the province level, using province accounts (BCE)[15]. There are signals of a territorial concentration of productive activities. Together, Pichincha (where the capital is located, location of the government) and Guayas (principal port of the country, financial and exporter centre) account for 45 per cent of the added value at the province level. The Amazon provinces (especially Sucumbíos and Francisco de Orellana), where most of the oil production takes place, account for 23 per cent of the added value (in the period of analysis, the decrease in 2 points for Sucumbíos has been taken by an proportional increase in the production in Francisco de Orellana).

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[15] Data on oil production uses international prices, conversely to data on oil processing that uses domestic prices; consequently this is the reason of the negative sign in the added value for Esmeraldas, province in which the biggest share of oil and gas refineries is located. A detailed description of province accounting methodology can be found in http://www.bce.fin.ec/documentos/Estadisticas/SectorReal/CuentasProvinciales/Anexo.pdf

Figure 6 Province accounts: added value (US$)
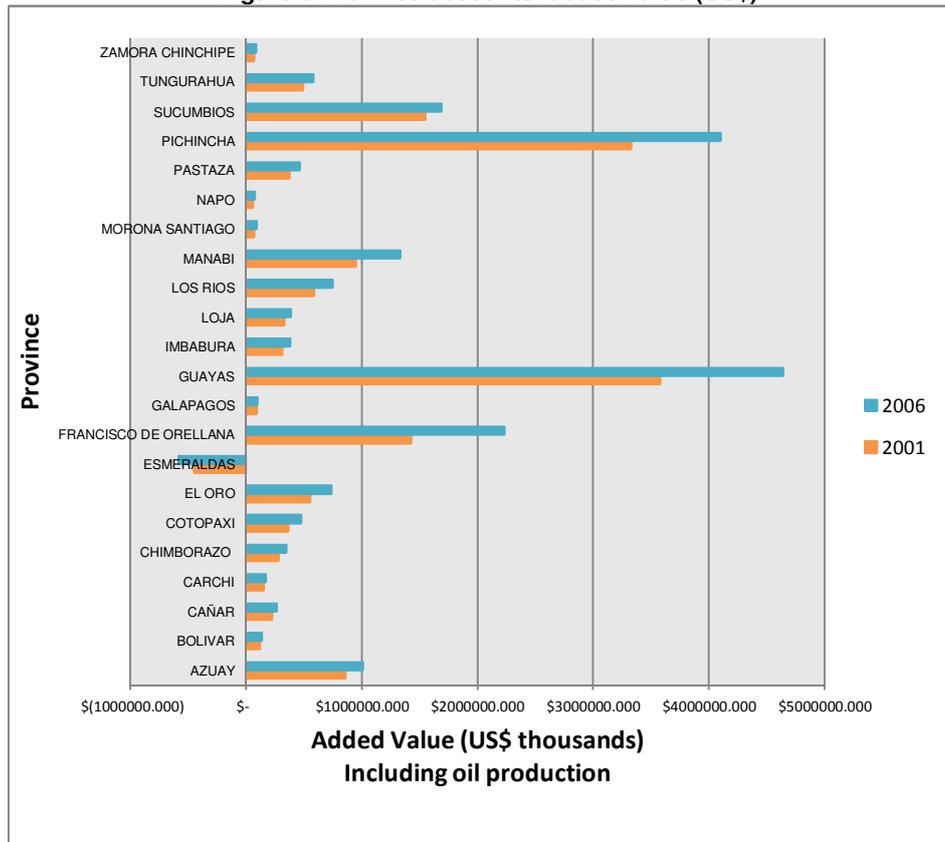
Source: BCE Elaboration: the author

However, when comparing the added value at the province level without including oil production, the territorial pattern changes, except for the pre-eminence of Pichincha and Guayas (which in this case account for 52 per cent of the national value in 2001 and increased to 55 per cent in 2006).

Figure 7 Province accounts: added value (US$) without oil production
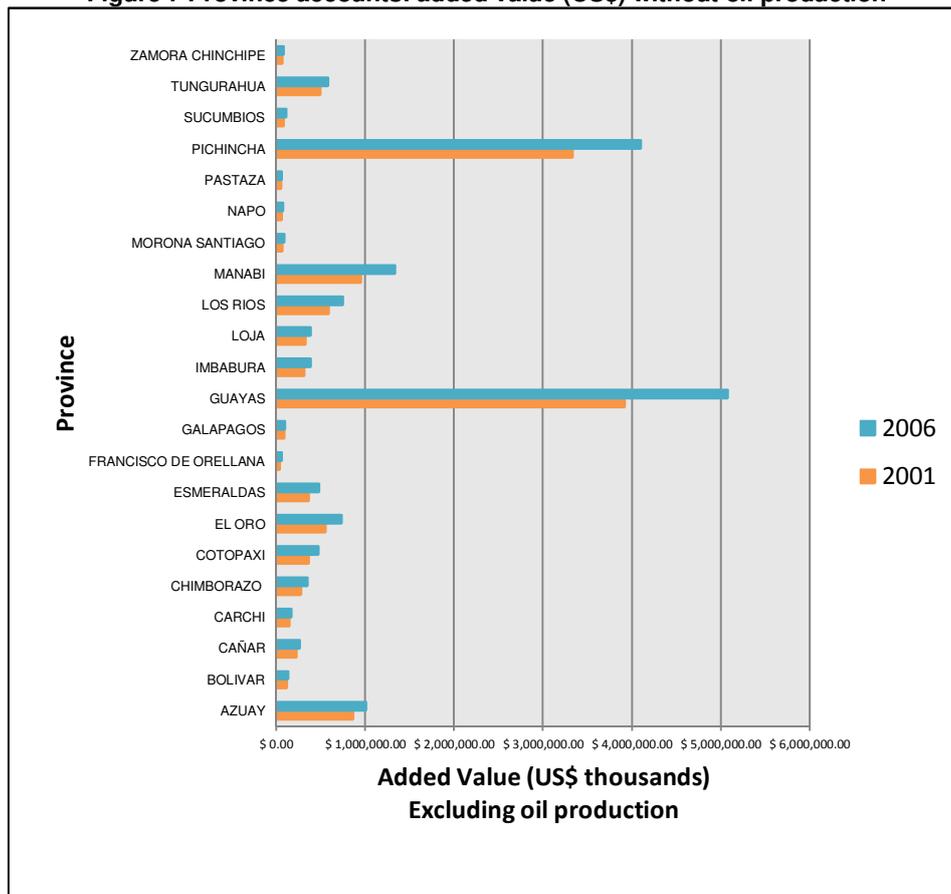
Source: BCE Elaboration: the author

Targeted social policy

Budget pressures were stated as the main argument to target fiscal resources for social programs during the 1990s (República del Ecuador 2009). However, during the same period important shares of fiscal resources were allocated to the private sector, due to politic interest underlying policy making:

> 'The contradiction is evident. If, on one hand, the budget for the social sector was decreased and the focus set on reducing the fiscal deficit; on the other hand, there was a continuous flow of support filtered to the private sector. This caused a perverse effect by increasing the fiscal deficit, that is, the opposite effect to that postulated in neoclassical economics (*Ibid)*[16].

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[16] This observation applies before the financial crises and consequent dollarization of the economy.

As a consequence of these contradictory practices, the fiscal deficit increased during the neoliberal period, together with a less than moderate impact in the social sector. 'This is how inequality is explained in relation to the few resources destined to social investment, to expenditure cuts… and inefficiency in focusing on social emergency programs that never promoted social mobility. As a result, the "new" social policy had almost no impact either on poverty or on the population's wellbeing' (Vos et al. 2000, Vos et al. 2003, República del Ecuador 2009).

Nonetheless, recent trends in social investment are aimed to break that tendency: the share of social investment respect to GDP increase from 4.7 per cent in 2006 to 7.2 in 2009.

Figure 8 Evolution of social investment in relation to GDP. Ecuador, 1999-2009
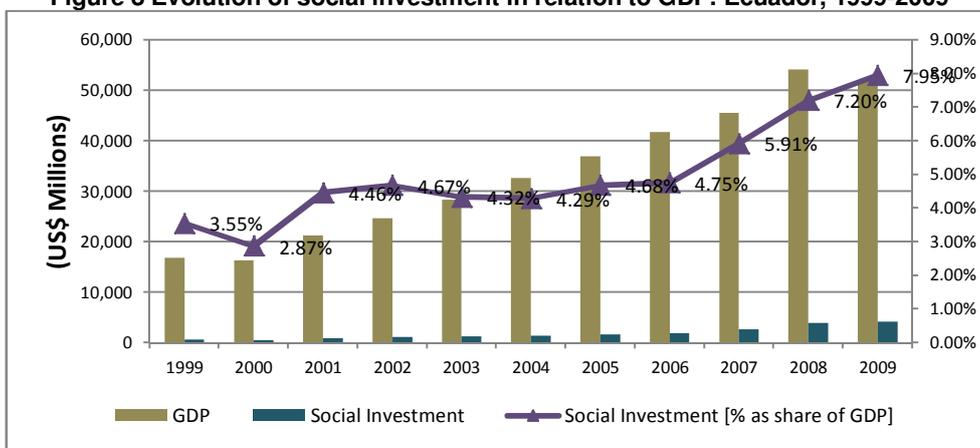
Source: BCE Adaptation: the author

Unequal access to land

As a heritage from the Colonial times, fertile land has been highly concentrated (with a land Gini coefficient of 0.768[17]). And from the same historical roots, exploitative and low remunerated labour established as a common practice in the countryside. Additionally, owners of export oriented crops were closely related to the financial sector, benefiting disproportionally from their privileges. (República del Ecuador 2009).

Land inequality has also a territorial dimension. There are intra and inter regional differences in the resources available for agricultural and livestock production. For instance, (Clark and Becker 2007) accounts the intraregional divide for the Sierra region:

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[17] Data obtained in online document:
http://www.siise.gov.ec/Publicaciones/2inf10.pdf (SIISE - Ecuador)

'the northern highlands (Carchi, Imbabura, Pichincha, and Cotopaxi provinces) have the most fertile and productive lands … The central highland provinces (Tungurahua, Chimborazo, and Bolívar) have similar characteristics but with smaller agricultural and livestock zones than the north. Finally, the southern provinces (Cañar, Azuay, and Loja) have less fertile, more volcanic soil, with fewer possibilities for agricultural development'.

The Coast and Amazon regions exhibit diverging patterns in land ownership, both in extension and quality. Important as this topic on land disparities is to explain territorial dimensions of inequality, it is beyond the particular scope of this research.

3.2 Inequality and poverty interactions: regional balance in development

Some authors find evidence that high inequality not only translates into higher absolute income poverty, it also lessens the poverty-reducing impact of economic growth (Mendoza-Botelho 2011). In this section, I am going to assess whether that is also the case for Ecuador. For this purpose, I contrasted poverty reduction and inequality changes, at the city level (i.e. urban only, due to data availability). The graph shows the harmful effect of the financial crisis (1999), both in poverty and inequality. And more importantly, it presents an increment on inequality (i.e. increase in the Gini coefficient) together with poverty reduction.

Figure 9 Evolution of poverty and inequality (Ecuador, urban data)
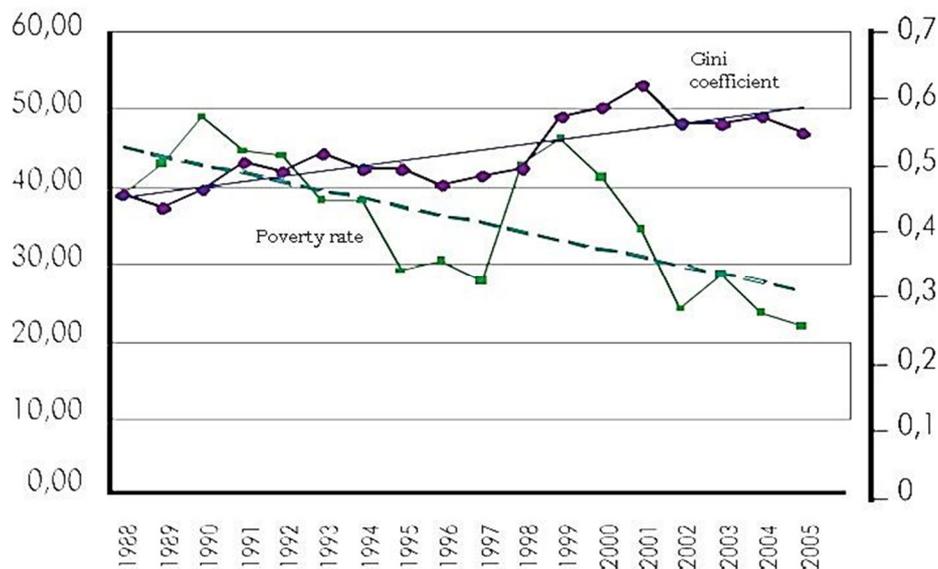
Source: Ramírez (Ramírez Gallegos 2008) Adaptation: the author

Hitherto, this poverty reduction in Ecuador 'is not associated with any structural transformation oriented both to employment generation and inequality reduction' (República del Ecuador 2009). On the contrary, some

authors claim that the central source of poverty reduction in Ecuador is mainly linked to favourable oil prices and remittances[18] (Ponce et al. 2010, Ponce and Acosta 2010).

Additionally, the poverty-reducing impact of economic growth has not been equally distributed across the national territory. Analysis on territorial inequality conducted during the last decade (Ramírez Gallegos 2008) present evidence of a territorial divide in poverty reduction. Basic needs poverty reduction, accounted from 1990 to 2001, achieved greater results in already better off areas (the author accounts this effect at the parish level). This renders in persistent poverty of remote areas and a lessened effect of poverty reduction policies.

Moreover, social policy in Ecuador has been perceived as subsidiary and assistance oriented; failing to achieve factual wealth redistribution, together with transforming economic policies: 'the "new" social policy had almost no impact either on poverty or on the population's wellbeing' (as found in the English version document of the PNBV 2009-2013, República del Ecuador 2009)

Regional balance of inequality in Ecuador

From the census data it is not possible to directly estimate income and consumption variables. As a consequence, inequality measures such as the Gini coefficient are not directly obtainable. Nevertheless, the World Bank used data from household surveys (1999) and extrapolated it to the census data (2001), in order to obtain a canton based consumption poverty line. A [consumption] poverty head count is then estimated for each municipality, except for those in the Amazon region, where province data is not available.[19] And, using an estimated value of consumption, a Gini coefficient was obtained at the canton level[20]. The results show the highlands as the most unequal region of the country, since most of the municipalities with higher inequality in consumption belong to this region. Unfortunately, the lack of data about the Amazon region can lead to partial understanding of the territorial dimension of inequality and its impact in poverty reduction.

A territorial analysis of inequality that includes data on the Amazon region can be found in the report on the Millennium Development Goals, conducted in Ecuador by the United Nations Development Program, and accompanied by government organizations and members of the academia. Likewise, there are no province values on Gini coefficient for the Amazon region, although the regional average is certainly higher than the national value. As mentioned

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[18] This argument will be developed at more detail in the section related with fiscal vulnerability.

[19] The lack of accurate information for the Amazon is in a large extent cause and consequence of the lagged state-led development of this region.

[20] Later on, Ponce (2006) used World Bank results to analyze the relationship between poverty and inequality. The author finds a positive direct association between the Gini coefficient and the incidence of [consumption] poverty at the canton level.

before, the lack of disaggregated data for the Amazonia follows the design of household surveys that fail to reach remote [Amazon] areas in the national territory. In spite of those methodological elements, the data reveals that the overall value of inequality obtained for the Amazon region is five points over the national average (0.46). This inequality has detrimental consequences for the region, at the economic and social levels[1].

Table 2 Consumption Gini coefficient, province level

Province	Gini
Los Ríos	0,36
Cañar	0,38
El Oro	0,39
Guayas	0,42
Tungurahua	0,42
Cotopaxi	0,43
Esmeraldas	0,44
Azuay	0,44
Imbabura	0,44
Bolívar	0,45
Pichincha	0,46
Carchi	0,47
Chimborazo	0,48
Loja	0,48
Amazon region	*0,51*
Manabí	0,54
National	**0,46**

Source: UNDP, 2010

To sum things up, I present the recent work on spatial economics applied to the Ecuadorian context, from a new economic geography perspective[21]. The Inter-American Development Bank (2006) in Ecuador conducted a spatial decomposition of inequality. The authors (Azevedo et al. 2008) examined the spatial sources of inequality: intra/inter group based, applying methods developed by Shorrocks (1984) and Jenkins (1995)[22]. The results display that in Ecuador, 10 per cent of the overall consumption based inequality is due to the inter-province disparities; 20 per cent corresponds to inter-cantonal disparities; 30 per cent from parish disparities; and 45 per cent from inter-zone disparities. On the basis of their results, the authors make a claim for geographical targeting of social programs, in order to reduce inter-group inequality and tackle the overall measure of inequality in the country.

Regional balance of poverty reduction in Ecuador

A regional balance of poverty can be demonstrated by means Kernel density estimation, a non-parametric estimation of the probability density function[23]

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[21] Referring to *Neoclassical* space-economy, like orthodox quantitative geography and regional equilibrium theory, as found in Weberian (1960s) location theory, Krugman (1991) locational events analysis

[22] As stated in the referenced source.

[23] http://www.stata.com/help.cgi?kdensity

for basic needs poverty at the canton level; comparing the base year values (from 2001) with the changes in poverty incidence for 2010. It gives the impression that there is an overall reduction on the poverty rate, especially for those municipalities near to the average value. Yet, and since I am using simple averages collated from the parish level and using both urban and rural values (as provided by the MCDS), it is important to point out that the benefits of poverty reduction vary greatly across cantons, deepening in some cases (where the orange dashed line is superior to the green line from 2001).

Figure 10 Kernel density estimation: basic needs poverty incidence 2001-2010
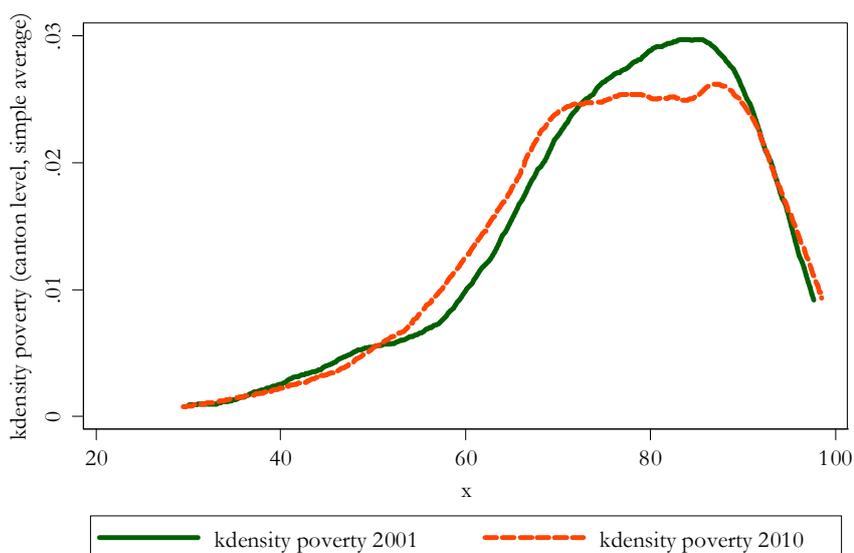
Source: INEC-MCDS Elaboration: the author

Using the longitudinal features of the data gathered, I present below a compacted analysis of transition probabilities [at the canton level] on poverty incidence variation for the period of study, to explore whether at the canton level there is a dissimilar performance in poverty reduction.

Table 3 Poverty incidence (basic needs approach) transition probabilities at the canton level, period 2001-2010

Transition probabilities for poverty*

Poor	0	1	Total
0	89.42	10.58	100
1	19.13	80.87	100
Total	52.51	47.49	100

* where the poor municipalities are those over the median value, just for methodological purposes

Source: INEC, MCDS Elaboration: the author

For the 47.49 per cent of the municipalities in the sample that were ever in poverty, 80.87 per cent remained in poverty in 2010 (a fictional poverty line

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was established, equivalent to the mean value: 76.35 for 2001 and 75.90 for 2010[24]).

I obtained a dot comparison across provinces as well, trying to understand better the territorial divide in poverty reduction. Again, some attention should be considered regarding the use of simple averages at the province level, not weighted by grouped canton/parish population. Regardless of that observation, there is some evidence of digging poverty among the Amazon provinces (Orellana, Pastaza, Sucumbíos; concurrent element with oil production location).

Figure 11 Poverty incidence, province level. 2001-2010
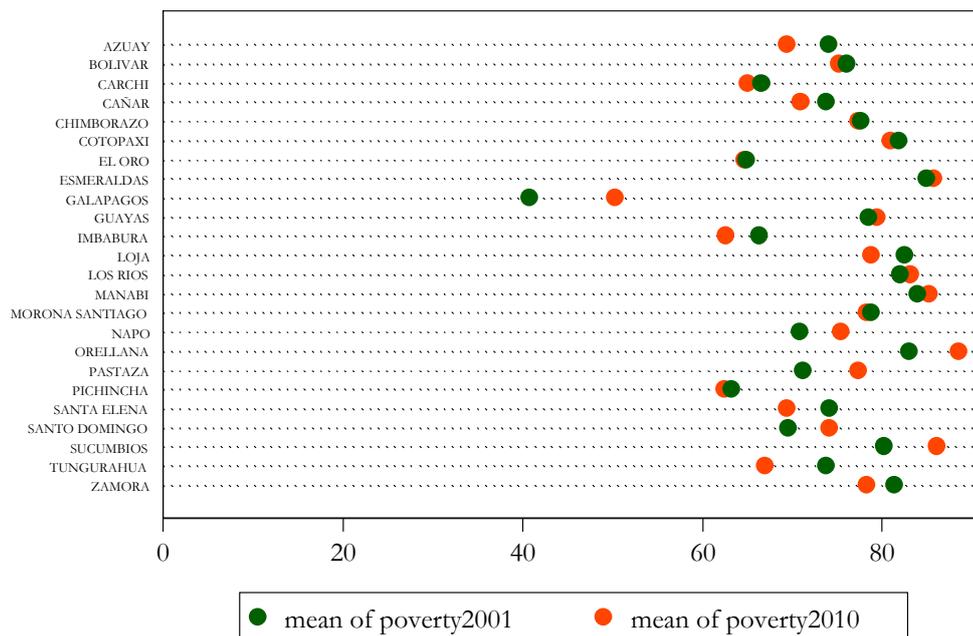
Source: INEC, MCDS Elaboration: the author

Below I introduce a ranking of canton level poverty incidence (using the basic needs approach), comparing data from 2001 with the most recent census data, corresponding to 2010. On the whole, despite a decade of *equalizing* territorial investment in human capital and social infrastructure, polarization patterns persist. In other words, remote areas of the Amazon region are persistently poor, in contrast to the already better off municipalities back in 2001, which are mainly province capitals located in the highlands and relatively close to the national capital. The Galapagos archipelago also exhibit low

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[24] I also constructed a table using the median and percentile 60, presenting similar behaviour. Although I preferred the probability transitions calculated over the mean value, I am presenting the mean value following its use as the common threshold considered in the Ecuadorian public sector to target resources to deprived areas.

poverty rates over time, although they are considered a special regime when it comes to territorial national planning.

Table 4 Incidence of basic needs poverty 2001-2010 (share %, canton level)

	Canton	2001			Canton	2010		
		Ranking	% Poor	Absolute value		Ranking	% Poor	Absolute value
Less poor	Rumiñahui	1	⇩ 30.1	19,816	Quito	1	⇩ 29.5	658,870
	Quito	2	⇧ 33.6	618,033	Rumiñahui	2	⇧ 31.5	27,004
	San Cristobal	3	⇩ 36	2,026	Cuenca	3	⇩ 38.0	189,880
	Cuenca	4	⇧ 42.4	177,284	Ibarra	4	⇩ 39.5	71,243
	Santa Cruz	5	42.4	4,825	San Cristobal	5	⇧ 41.9	2,910
	Isabela	6	44	712	Loja	6	43.4	92,097
	Mera	7	44.1	3,565	Baños de Agua Santa	7	⇩ 44.3	8,659
	Ibarra	8	⇧ 44.6	68,383	Riobamba	8	⇩ 46.2	103,039
	Baños de Agua Santa	9	⇧ 45.2	46,935	Tulcán	9	47.1	40,210
	Riobamba	10	⇧ 46.9	90,730	Guayaquil	10	47.5	1,110,113
Poorest	24 De Mayo	216	⇩ 94.1	26,618	Paján	216	94.5	34,856
	Espindola	217	94.3	14,854	24 De Mayo	217	⇧ 94.9	27,338
	Manga del Cura	218	⇩ 94.3	16,681	Huamboya	218	95.2	7,990
	Olmedo	219	⇩ 94.4	8,727	Guamote	219	95.5	43,079
	Putumayo	220	94.5	5,829	Arajuno	220	95.7	6,208
	Loreto	221	94.9	12,775	Tiwintza	221	95.8	6,035
	Urbina Jado	222	95.6	48,138	Manga del Cura	222	⇧ 96.2	19,964
	Guamote	223	96.1	33,841	Olmedo	223	⇧ 97.4	9,588
	Eloy Alfaro	224	97.6	32,617	Rioverde	224	⇩ 97.5	26,196
	Taisha	225	⇩ 97.6	12,762	Muisne	225	98.1	27,943
	Rioverde	226	⇧ 97.7	21,655	Taisha	226	⇧ 98.5	17,832

Source: INEC and MCDS Elaboration: the author

The data provided in the table supports the idea of a territorial polarization process in Ecuador, where poverty deepened in the already worse-off areas, back in 2001. The regional dimension of poverty is also clear: most of the poorest municipalities are located in the Amazon region. One of the latest cantons incorporated to the poorest ranking is the newly created municipality Tiwintza, which is also located in the Amazon region. Finally, the chart also presents the absolute values, as an important reminder of the increased number of people behind the [decrease] increase in poverty rates.

It is important to clarify that due to the dimensions used to assess poverty through the basic needs approach, which are mainly related with access to social infrastructure and public services, the sensitivity of this poverty parameter to short-term policies is lower than the income-based approach. However, it has the potential to show the incidence of public spending at the local level, as its impact positively the dimensions mentioned afore.

3.3 Intergovernmental relations: brief description

Intergovernmental finances: sources and distribution

I recall the focus of this research, which is to understand the political factors influencing intergovernmental both central government and local governments decision making, together with structural elements, such as the concurrence with state-owned extractive activities. To this end, it is necessary to address both sides of the fiscal equation: sources and uses of public finances, with a territorial focus.

Sources of public revenues in Ecuador

The extractive industries constitute an essential source of public revenues, dating back from the 1970s and the *oil boom* in Ecuador (Acosta 1995). The *oil boom* was not accompanied of any equalizing effort; it rather remained favouring elite structures in the society, besides taming the state-led development. Nonetheless, during the very recent years the state has increased his participation in resource revenues. This shift in natural resources management has motivated inquiries about the scope for redistribution of the increased resource revenues, due to a favourable price scenario. In sum, it presents the potential to reduce the territorial divide.

Several changes on the legal framework augmented the participation of the state in oil and mining resource revenues. The most critical changes were adopted during the functioning years of the Constitutional Assembly (2007-2008), and can be summarized as follows: first, the dissolution of FEISEH[25] and transferring of this resources to the Current National Treasury Account (Grupo FARO 2010, Grupo FARO et al. 2011); second, the sustained intensification in oil production conducted by the state-owned enterprise EP-PETROECUADOR; and third, the increased participation in oil revenues due to changes in the taxation system[26].

During 2008, the share of oil revenues with respect to the total national earnings reached 32 per cent (4,400.8 US$ million, from which approximately 2,000.0 US$ millions came from the dissolution of the FEISEH). A further consideration is that public finances proof are highly dependent on resource revenues. An instance of this can be verified in the following figure. Oil revenues have represented on average 5.6 per cent of the Gross Domestic Product during the period 2000-2009.

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[25] Ecuador's energy and hydrocarbons investment fund
[26] Ley de Régimen Tributario, 2007 (reformed in 2009) Source: (Grupo FARO 2010)

Figure 12 Fiscal vulnerability to oil revenues, 2000-2009

Fiscal vulnerability

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Central Government earnings	20.3942	18.0931	18.3622	16.6598	15.8647	16.2736	16.5097	18.5418	25.2331	22.2655
Tax revenues	10.1875	11.1513	11.0435	9.7412	9.6976	10.0599	10.1618	10.3723	12.0137	13.9493
Oil revenues	8.7646	6.0230	5.4725	5.4518	4.7728	4.2147	4.1152	3.8530	8.4880	4.4177
Oil price	$24.87341	$19.15671	$21.82482	$25.66275	$30.12537	$41.01107	$50.74873	$59.85867	$82.98508	$52.56124

Source: Banco Central del Ecuador Ellaboration: the author

Uses of public revenues: a normative assessment

Simultaneously to the increase in central government earnings, the share of resources allocated to social investment also raised. This has been argued as a change of state priorities, where human capital investment appears as a core element in the policies adopted. The following figure confirms this.

Figure 13 Accrual social budget as share of the national budget (US$ millions)
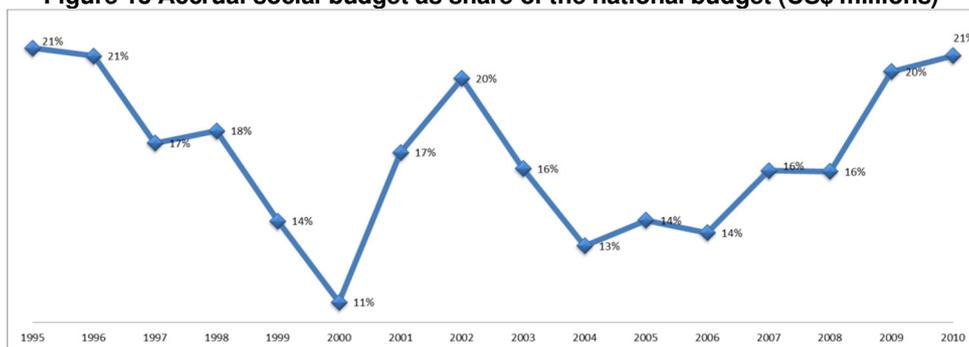
Source: SIISE-MCDS

In addition, the above figure places the attention in how internationally induced changes in oil prices easily translate in budgetary restrictions. To explore the interplay between oil prices and budgetary restrictions, I have summarized oil revenues across different governments in Ecuador. It is possible to identify a substantial increase in oil revenues supporting public finances for the current government. In sum, I bring the attention to this element in order to relate it with the increased social investment occurred in

the last period: it is rooted in favourable international prices of raw materials. There is little evidence of a structural change in the production system; instead it remains the fiscal dependence on primary exports.

Figure 14 Oil revenues across different Ecuadorian government administrations

Government	Nominal oil revenues				Real oil revenues			
	Total*		Monthly		Total*		Monthly	
Jaime Roldós		$ 2,239.70	$	117.90		$ 1,982.80	$	104.40
Oswaldo Hurtado		$ 4,960.60	$	121.00		$ 3,223.80	$	78.60
León Febres Cordero		$ 4,465.60	$	93.00		$ 3,105.60	$	64.70
Rodrigo Borja		$ 4,584.10	$	95.50		$ 3,589.40	$	74.80
Sixto Durán Ballén		$ 5,184.20	$	108.00		$ 3,625.60	$	75.50
Abdalá Bucaram		$ 855.90	$	71.30		$ 615.60	$	51.30
Fabián Alarcón		$ 1,476.60	$	70.30		$ 1,053.40	$	50.20
Jamil Mahuad		$ 1,702.80	$	113.50		$ 1,307.40	$	87.20
Gustavo Noboa		$ 5,485.40	$	152.40		$ 4,167.60	$	115.80
Lucio Gutiérrez		$ 6,346.80	$	226.70		$ 4,512.10	$	161.10
Alfredo Palacio		$ 8,084.70	$	404.20		$ 5,645.00	$	282.30
Rafael Correa*		$18,836.40	$	428.10		$12,474.20	$	283.50

*million US dollars

**(from Jan 2007 to Aug 2010)

Source: Ponce & Acosta, 2010[27] Elaboration: the author

This observation has been extended to other *leftist* governments in Latin America: 'Social spending in the contestatory left has suffered from clientelistic practices and is vulnerable to economic downturn as it has been founded by extraordinary commodity export revenues, notably oil and gas' (Kingstone 2011).

Intergovernmental finances: the relevance of municipalities

Because of the attention placed in public finances conducted by local governments at the canton level: *municipalities*, I introduce several reasons that validate this focus; coming from the political viewpoint, financial vulnerability and social matters. Thereupon, municipalities are relevant:

- Due to political/organisational reforms introduced in the Constitution of 2008 ((Art. 238 República del Ecuador 2008), where the state decentralises the political organization; by means of recognizing political, administrative, and financial autonomy to regional and province governments, municipalities and rural parishes.
- In the last decade, public spending had been kept centralised (Salazar et al. 2009). The central government concentrated 81.8 per cent of the general public spending (15.6 per cent of GDP on average, for the period 1993-2008). Municipalities follow in relevance, they account for the 14.3 per cent of the general public spending (2.7 per cent of GDP,

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[27] http://hdl.handle.net/10469/2896

same period of analysis). The share of the province governments is marginal: 3.9 per cent of the general public spending (0.7 per cent of GDP, same period of analysis). Regional governments and rural parishes are not even considered since their level of public spending is unnoticeable yet.

- Considering that municipalities are the second important channel for public spending, the degree of financial dependence from the central government is particularly relevant: 74 per cent of the municipalities' earnings (calculated for the period 1993-2008) are transferred from the central government (Salazar et al. 2009).

- Municipalities have the specific competence of providing social infrastructure and basic services at the canton level. To a large extent, access to both elements: infrastructure and basic services, explains the differences in poverty across the national territory. Therefore, municipalities have a latent influence on the canton level poverty incidence.

Figure 15 Poverty and access to water, 2001 and 2010
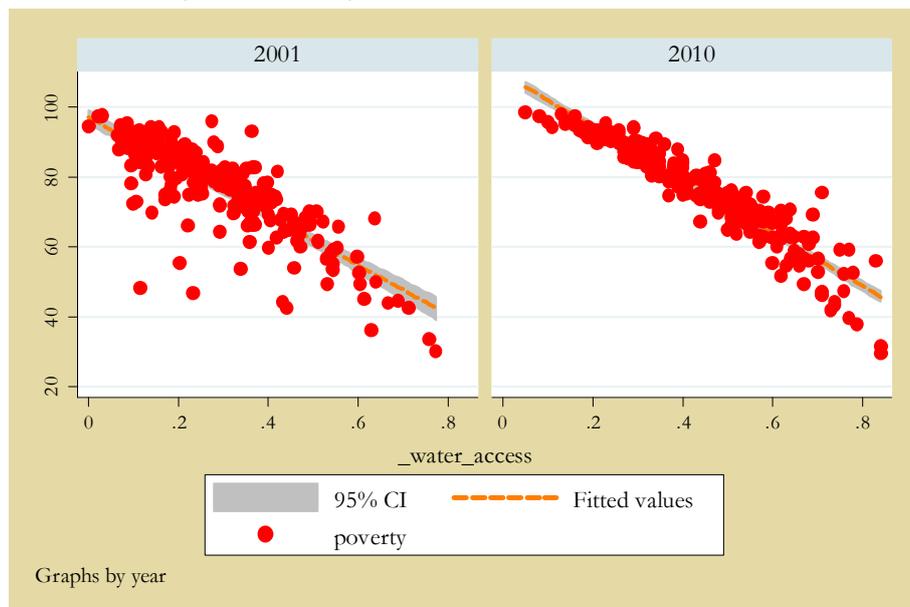
Source: INEC and MCDS Elaboration: the author

Legal framework: financing local governments

With basis in the new law concerning territorial organization, autonomy and decentralization in Ecuador –COOTAD (Ministerio de Coordinación de la Política y Gobiernos Autónomos Descentralizados 2011), the share of public resources from the national [central] government allocated to local governments should be submitted to the following criteria:

3.3...1 Territorial equity:

Local governments are entitled to participate on the 21 per cent of the permanent national earnings (directly from the National Treasury) and to 10 per cent of the non-permanent capital earnings from the National Treasury, except for those originated by debt. This criterion increases the potential for horizontal territorial equity, and attempts to close vertical gaps across geographical disaggregation levels.

The local placement rules formally defined in COOTAD are responsive to:

- Population size.
- Population density.
- Basic needs poverty incidence.
- Reduction on basic needs poverty incidence (annual variation).
- Fiscal capacity[28]: that compares the revenues collected at the local level to the latent revenues calculated for each local government.
- Administrative effort: this category assigns 50 per cent in an egalitarian basis to all the governments within each local disaggregation category; and the left 50 per cent values are allocated in a progressive relation between total revenues and current expenditure.
- Harmonization with National Development Plan and local governments' planning.

Summarizing from *COOTAD*: when the source is permanent earnings of the National Treasury, local governments are meant to spend up to 30 per cent of their transfers on permanent expenditures; and a minimum of 70 per cent on non-permanent expenditures, required in order to sustain their exclusive competences Transfers from non-permanent national earnings disclosed in the National Treasury should be used in at least 10 per cent of non-permanent expenditures.

3.3...2 New competences:

If local governments are own new competences, they will obtain the corresponding financial support from the central government. This criterion has not specific *ex-ante* allocation rule.

3.3...3 Compensation for the exploitation and industrialization of non-renewable resources:

In the COOTAD (2010) is stated that the allocation rule will be defined by sectorial law. Nevertheless, it establishes its expenditure on human development and environmental protection. It also allows its use for public

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[28] Fiscal capacity, administrative effort and planning harmonization would be calculated using the last three years performance data of each local government.

infrastructure and clean energy projects. Even so, local governments of the non-renewable resource rich areas have been accessing to *compensation* funds prior in time. Dating back to 1989, with the creation of the fund for energy production shared revenues (*Ley 077 de Asignaciones para Provincias por Venta de Energía de* INECEL); and to 1992, with the establishment of a fund entitled *Ley 010: Fondo para el Ecodesarrollo Regional Amazónico (*Regional Amazon Fund for Eco-Development)

A summary of the funds allocated to municipalities under this criterion follows:

Figure 16 Total resources from oil revenues sharing fund (Ecodesarrollo) allocated to municipalities (US$ real values), 2001-2010
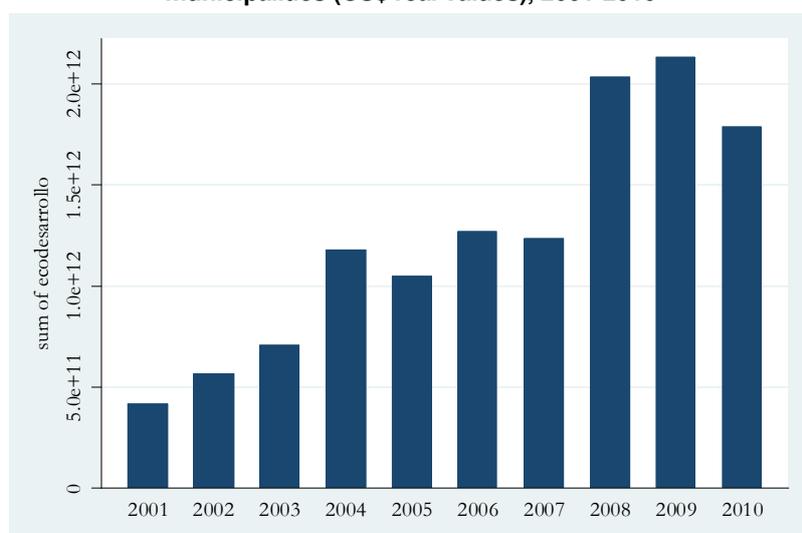
Source: Banco del Estado Elaboration: the author

Changes in the sectorial legal framework together with beneficial international oil prices explain the sharp increase shown in the last years of the series. From 2006, a partial nationalization of the oils assets allowed a sharp increase on oil revenues, also evidenced at the local level[29].

Nevertheless, it is also important to control for population in order to assess better the distribution of the oil revenues sharing fund *(Ecodesarrollo)*. The following table and figure summarizes the per capita allocation of *Ecodesarrollo*, comparing them with the municipalities' total earnings.

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[29] The former Minister of Finances, Rafael Correa (current President of Ecuador) introduced a windfall tax of 50 per cent (applied to the extraordinary benefits from oil prices perceived in private extractive activities, *Ley 42-2006*).

Table 5 Oil revenues sharing fund (*Ecodesarrollo):* per capita US$, real values

Year	Mean	SD	Freq.
	Oil revenues participation (ECODESARROLLO), per capita real values		
2001	56.90 USD	28.53	37
2002	73.93 USD	37.18	37
2003	97.20 USD	113.68	41
2004	146.65 USD	96.70	41
2005	106.73 USD	69.50	41
2006	133.76 USD	86.24	41
2007	131.48 USD	88.90	41
2008	141.04 USD	94.37	44
2009	156.13 USD	100.26	42
2010	171.70 USD	95.53	34

Source: BEDE Elaboration: the author

Distributional plots of per capita resource revenue fund transfers *(Ecodesarrollo)* compared to per capita total earnings of recipient municipalities are similarly presented below.

Figure 17 Oil revenues sharing fund (*Ecodesarrollo*) and municipalities' total earnings: per capita real values US$
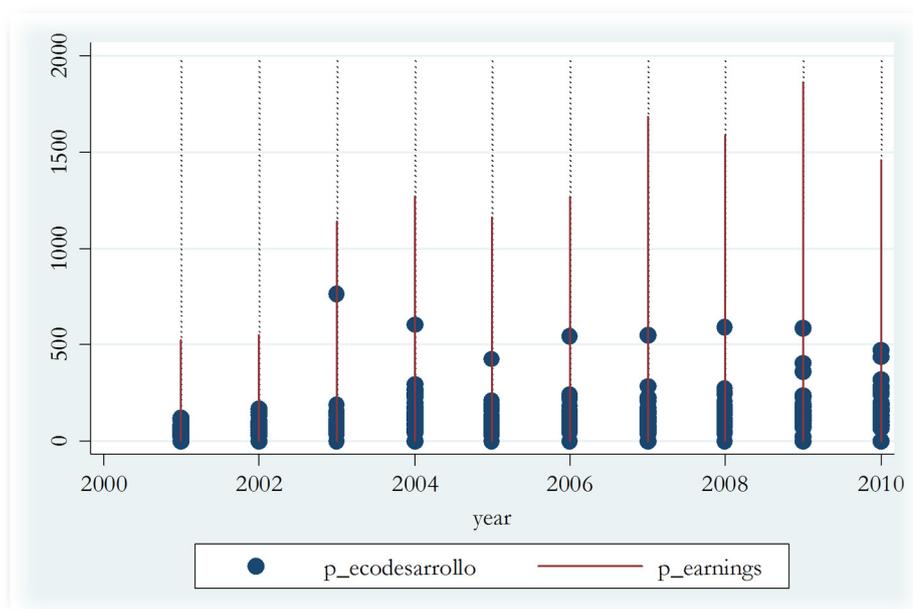
Source: BEDE Elaboration: the author

Nevertheless, the revenue-sharing transfer system for local governments, *Fondo para el Ecodesarrollo* has been contested as regressive. According to FARO

group[30] (2010) there is a '*discretional*' allocation of resource revenues share among municipalities. FARO group reveals this postulation by means of a cross-table analysis that contrasts the per capita allocation of revenue sharing fund [*Ecodesarrollo*] resources according to the canton level poverty incidence (*Ibid*).

Table 6 Allocation of Ecodesarrollo resources at the province level (US$ per capita and poverty rate)

Per capita allocation *Fondo para el Ecodesarrollo (2008)*

Province	Poverty rate	US$ per capita
Tungurahua (Baños canton only)*	45%	59
Pastaza	67%	191
Chimborazo (Peripe canton only)*	73%	300
Morona Santiago	76%	212
Zamora Chinchipe	77%	243
Napo	77%	184
Sucumbios	82%	157
Orellana	87%	158

* Poverty rate at the canton level only

Source: FARO 2010 Adaptation: the author

It the emphasis will be retained in the average comparison provided in the previous table, there will be an absence of a clear pattern of resources allocation: neither a *redistributive,* nor an *efficiency* criterion, is perceived. When comparing the poverty rate at the province level with the per capita allocation of resources from *Ecodesarrollo* fund, there is no evidence of equalizing criteria. Similarly, the efficiency argument does not hold: the provinces in which the oil fields are located (the last three rows on the table) and have the industrial and productive infrastructure for this activity are receiving less transfers per capita.

On the other hand, a more comprehensive understanding of the dynamics between *Ecodesarrollo* resource allocation and canton level poverty, using a linear regression plot that compares two points in time: 2001 and 2010 supports the great disparity in access. It is possible to verify a great dispersion in the per capita share of *Ecodesarrollo* at the canton level. However, the data gives signs of determination towards a more progressive allocation of *Ecodesarrollo* (evidenced in the positive slope for 2010).

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[30] FARO Group (Foundation for Advance of Reforms and Opportunities), is 'an independent, impartial and secular Civil Society Organization (OSC) that provides support and promotes active participation of the civil society, the business sector and state entities, based on research and analysis, for the proposal, implementation and monitoring of public, local and national policies, aimed to consolidate an Ecuadorian State that is more efficient, equitable, non-discriminatory and democratic.' Source: http://www.grupofaro.org/farogeneral.php

Figure 18 US$ per capita real values USD$ revenue sharing fund ECODESARROLLO and poverty
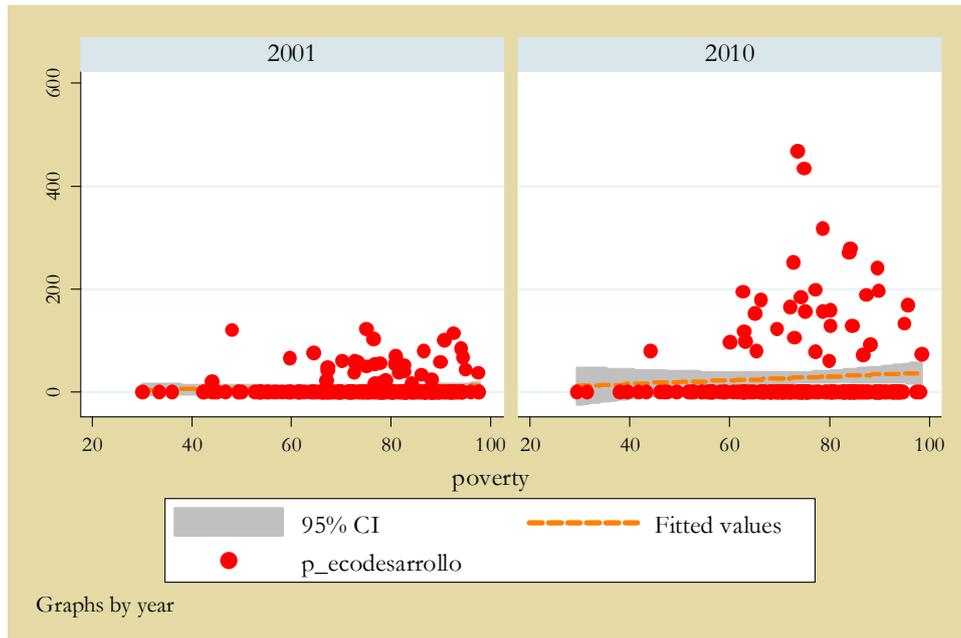
Source: Banco del Estado Elaboration: the author

An assessment of the intergovernmental financing system

Public finances placement is at the heart of the debate on decentralization and deconcentration processes: it can be an element of confrontation as well as an element of pacification of territorial tensions (Castells 2001). And the different territories will focus their debate according to their own interests. In some cases, wealthy territories will push for autonomy, since a centralist and paternalist state will withdraw resources to the common pool and transfer it to the poorer areas. In other cases, the same territories will try to keep a centralist state design, if they had consolidated as important political interest groups that can enjoy and control disproportioned shares of financial resources. A converse logic can also operate at the other side of the tail: poorer territories can perceive a centralist state as an equalizing agent that works towards them and fill the institutional capacity gap that they could face; or, they can perceive themselves abandoned by the central government and will in this case favour the ability to decide to a larger degree on their own destinies and political sceneries *(Ibid)*.

Thus, poverty can explain the reasons or justifications to finance local governments. It also can shape the expectations of a change in the local government financial position. Because government spending, that can also be conducted through local governments, is perceived as a redistributive instrument which can have as a final objective fighting poverty. Additionally, the basic needs poverty incidence can be relevant to assess both sides of the equalizing criterion underlying intergovernmental finances: it can act as a *determinant* of transfers' distribution, and it can also be used as an *impact*

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indicator for distributive goals, related with the progressivity of the transfer system.

Since this paper is focused on the first side of the equalizing criterion, which is related to the determinants of transfers' distribution; I would just sketchily explore in this section the distributive impact of intergovernmental finances. For this purpose, I look at the use of financial resources at the local level, considering that the basic needs poverty is responsive to investments in social infrastructure.

The next figure shows how the level of capital expenditure at the canton level is responsive (or became more responsive) to local needs. This is captured by its relation with the basic needs poverty incidence. Besides an overall increase in the level of transfers, demonstrated in the displacement of the values to the right of the axis, there is variation to a sharper slope in 2010, supporting a more equalizing (or pro-poor) territorial investment.

Figure 19 Capital expenditure (logged US$ real values) and poverty, canton level
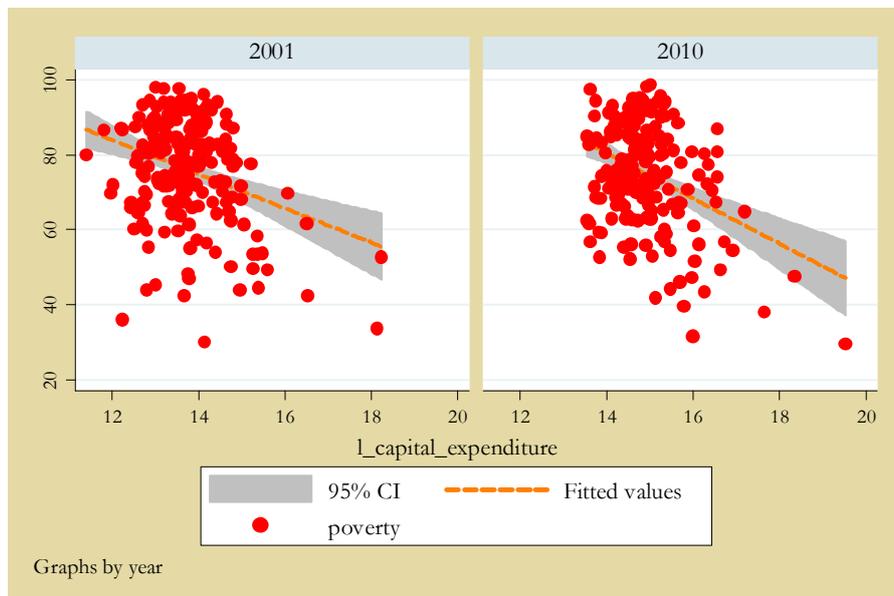
Source: Banco del Estado Elaboration: the author

To conclude this section, I can brief comment on the distributional implications of intergovernmental finances. On account of this, the series of central government transfers to municipalities is evaluated with a conventional measure of inequality: the Lorenz curve[31]. In the upcoming graphs, there are sings for a more equalizing allocation of current expenditure, conversely to

[31] The Lorenz curve plots the percentage or total income earned by various portions of the population when the population is ordered by the size of their incomes (Gaswirth 1971: 1037). In this case, I plotted the per capita real value of capital and current transfer, following the aforementioned theoretical principle.

what is found in the plot of capital transfers (this remark should not fail to recall that in comparison, current transfers represent a modest percentage of the municipality local earnings, as the following chapter will discuss in more detail.

Figure 20 Lorenz curve: per capita capital transfers (2001-2010, US$ real values)
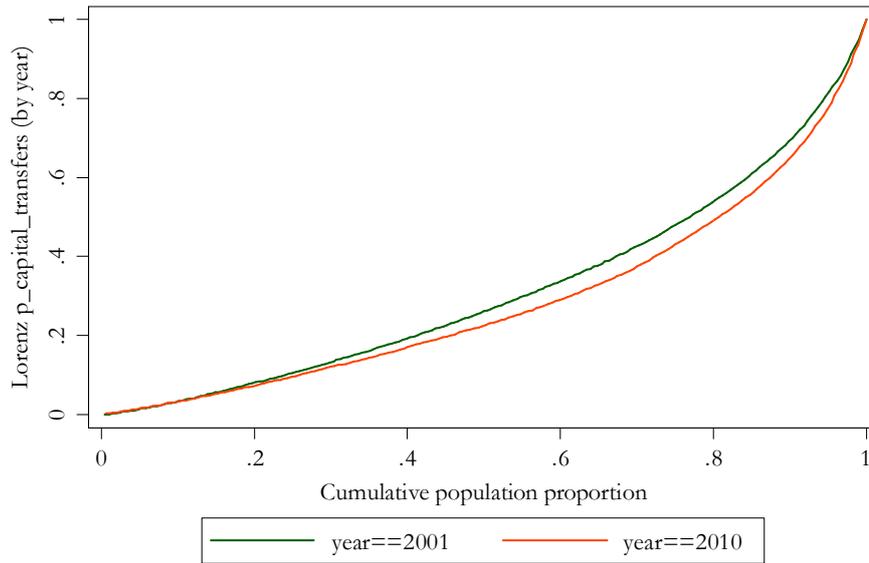
Source: BEDE Elaboration: the author

The increase in inequality from 2001 to 2010 on the per capita capital transfers needs to be carefully studied. It has not *per se* a negative connotation: a pro-poor allocation of transfers can increase the inequality, in a simple arithmetic reasoning. An equivalent consideration holds when looking at the graph on per capita current transfers. Overall, it has a less unequal distribution than the per capita capital transfers. However, and as stated before, the share of current transfers (that the legal framework indicates should not be more than 10 per cent) has a reduced potential to affect the well-being of the population at the local level, when compared with permanent investments, which can be conducted with capital transfers. But, financing the local administration expenses could also be considered a strategic part of intergovernmental relations. In any event, the analysis of transfers' distribution requires a more detailed scrutiny, explained in the forthcoming chapter.

Figure 21 Lorenz curve: per capita current transfers (2001- 2010, US$ real values)
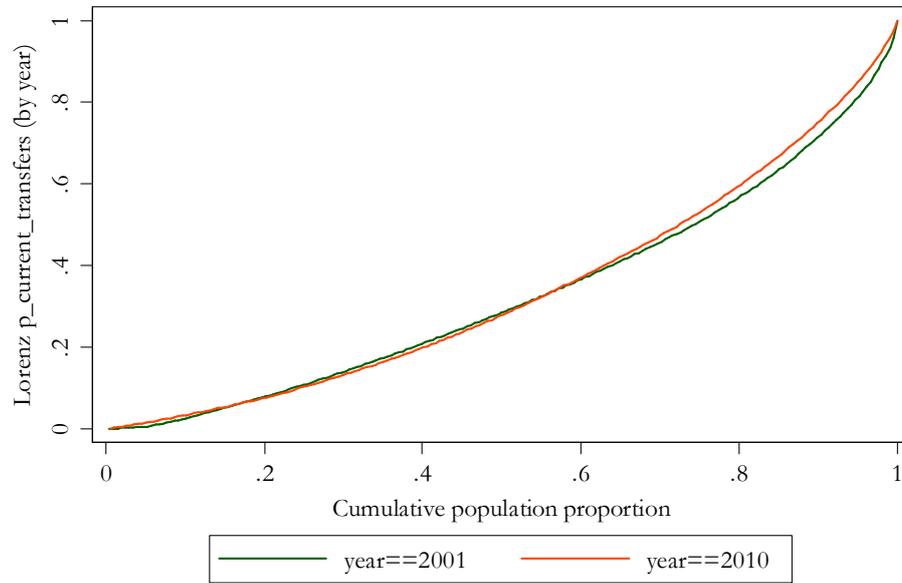
Source: BEDE Elaboration: the author

Chapter 4   Analysis

4.1   The data

Data used for the dynamic model

The dynamic model uses longitudinal data on local government finances provided by the Ecuadorian Development Bank (BEDE), and enriched with socio-demographic data obtained from the national census (2001 and 2010) and economic variables (oil prices and labour market composition); obtained from the department of National Statistics (INEC) and the Ecuadorian Central Bank (BCE), respectively.

Descriptive statistics are provided in the table below. These data were subjected to arithmetic transformations: public finances (i.e. transfers, public credit, and local tax earnings) are presented in logarithms and refer to real values (where 2005 is used as baseline for the price index, consistent with the methodology recently implemented by BCE[32]); population and population squared are presented in thousands of inhabitants.

Table 7 Descriptive statistics (dynamic model)

Local government finances 2001-2010

Variable		Mean	Std. Dev.	Min	Max	Observations	
Capital	overall	14.52948[1]	0.9235029	8.803439	18.98153	N	2136
transfers	between		0.7840169	12.99649	18.48862	n	219
(logarithm)	within		0.481539	8.823396	15.82429	T-bar	9.75342
Current	overall	12.59714[2]	0.9031493	9.278994	16.87132	N	2135
transfers	between		0.7602056	11.14608	16.09203	n	219
(logarithm)	within		0.486397	10.42966	14.78453	T-bar	9.74886
Public	overall	11.99518[3]	1.630203	5.239293	18.12417	N	1164
credit	between		1.028803	10.03383	16.80164	n	219
(logarithm)	within		1.152715	6.508113	15.95606	T-bar	5.31507
Local tax	overall	11.53255[4]	1.788992	3.003595	18.07749	N	2133
revenues	between		1.69398	7.133212	17.89486	n	219
(logarithm)	within		0.6006763	7.145118	14.91611	T-bar	9.73973
Population (thousands)	overall	60.55242	206.197	1.238	2336.754	N	2190
	between		206.4204	1.3626	2198.591	n	219
	within		9.113003	-76.7049	266.5911	T	10

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[32]http://www.bce.fin.ec/documentos/PublicacionesNotas/Catalogo/CuentasNacion ales/Tratamiento_Petroleo_Propuesta.pdf

Variable		Mean	Std.Dev	Min	Max		N
Population	overall	46164.4	429585.4	1.532644	5460419	N	2190
squared	between		429036	1.882206	4839200	n	219
(thousands)	within		35050.63	-502092	915918.7	T	10
Oil price	overall	46.81344	22.52998	19.15671	84.2	N	2190
	between		0	46.81344	46.81344	n	219
	within		22.52998	19.15671	84.2	T	10
r1=Coast	overall	0.3789954	0.4852478	0	1	N	2190
(dummy)	between		0.4862484	0	1	n	219
	within		0	0.3789954	0.3789954	T	10
r2=Galapagos Islands	overall	0.0136986	0.1162633	0	1	N	2190
(dummy)	between		0.116503	0	1	n	219
	within		0	0.0136986	0.0136986	T	10
r3=Amazon	overall	0.1872146	0.3901728	0	1	N	2190
(dummy)	between		0.3909774	0	1	n	219
	within		0	0.1872146	0.1872146	T	10
r4=Highlands	overall	0.4200913	0.493686	0	1	N	2190
(dummy)	between		0.4947041	0	1	n	219
	within		0	0.4200913	0.4200913	T	10
Metropolitan districts	overall	0.0091324	0.0951481	0	1	N	2190
(dummy)	between		0.0953443	0	1	n	219
	within		0	0.0091324	0.0091324	T	10

[1] $ 2,042,081.11 real US$ value

[2] $ 295,711.62 real US$ value

[3] $ 161,972.20 real US$ value

[4] $ 101,981.84 real US$ value

Sources: BEDE, INEC, BCE

As can be seen from Figure 19, municipalities' earnings (from the sources detailed below in the figure) shows a considerable rise over time, from which capital and current transfers rapidly increased from 2006 onwards. The figure also confirms that capital transfers are the more important source of earnings for municipalities. It appears that public credit increased its share on the total earnings in very recent years, whereas local taxation earnings remained unceasing during the period.

Figure 22 Per capita transfers to municipalities (mean, real values)
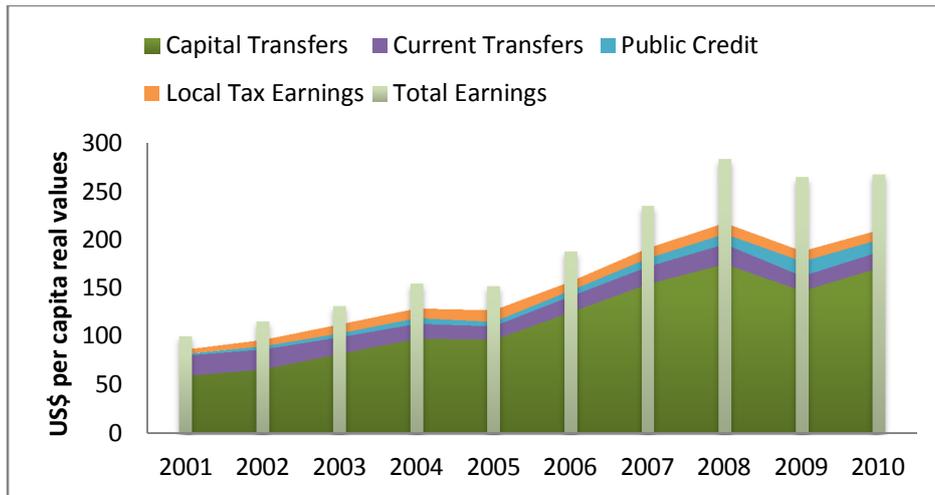
The following figure controls for population, using the series in per capita US$ real values. By way of contrast, figure 20 takes away the atypical cases that Quito and Guayaquil constitute, which as metropolitan districts can absorb a considerable share of transfers. In the same way as figure 19 revealed, there is an increase in transfers from 2006 onwards, and the decline in 2009 due to changes in international oil prices.

Figure 23 Municipalities earning categories, excluding Quito and Guayaquil (per capita real US$)
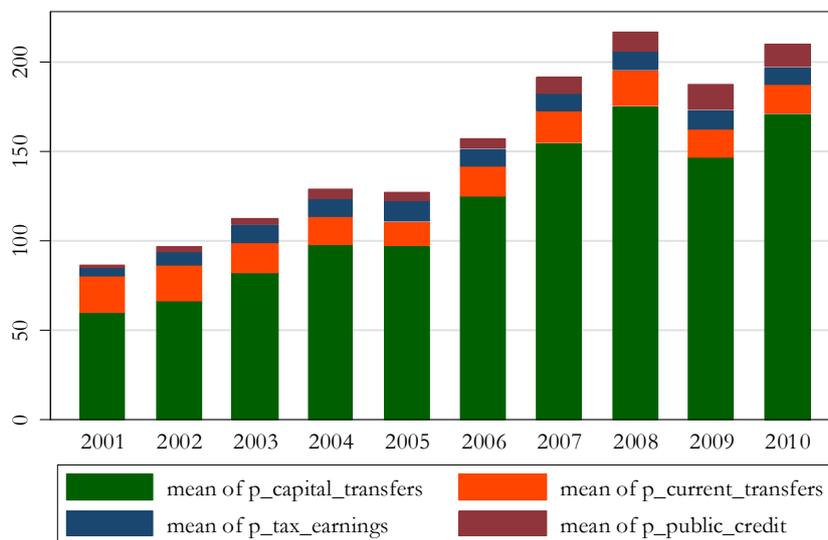
Another point that can be made is that per capita capital transfers have a regional dimension. By decomposing the series over natural regions, a diverse arrangement is identified. The coast and highlands have been receiving a lesser

amount of per capita transfers than the Galapagos archipelago and the Amazon region. These regional differences probably account for the reduced population size in the archipelago and the Amazon region.

Figure 24 Municipalities current and capital transfers, regional disaggregation (per capita real US$)
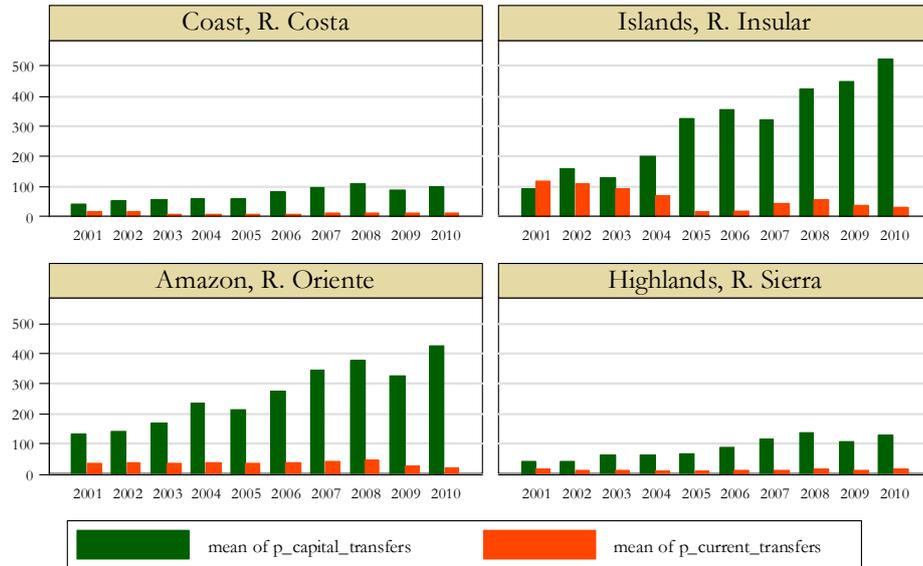
Graphs by naturalregion and region

Source: BEDE Elaboration: the author

Finally, it should be noted that the series exhibit high serial correlation: Cor[Yt,Yt-1] =0.9479 in the case of logged capital transfers and Cor[Yt,Yt-1] =0.8428 in the case of logged current transfers. Consequence of this finding, an Arellano and Bover/Blundell and Bond GMM system estimator[33] will be applied.

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[33] GMM system estimator that uses level moment conditions and moment conditions in which lagged first differences of the dependent variable are instruments for the level equation.

Figure 25 Serial correlation matrix: capital and current transfers (logged values)

	Corr(Yt, Yt-n)			
	Capital transfers		Current transfers	
L1.	0.9479		0.8428	
L2.	0.9362		0.7895	
L3.	0.9347		0.8364	
L4.	0.9274		0.8031	
L5.	0.9147		0.7265	
L6.	0.9232		0.6713	
L7.	0.9114		0.6269	
L8.	0.8482		0.8504	
L9.	0.7998		0.7496	

Source: BEDE Elaboration: the author

Data used for the fixed effects model

The variables considered for the fixed effects model consider only two periods, 2001 and 2010; corresponding to the years in which national census took place. Again, these data were subjected to arithmetic transformations: public finances (i.e. transfers, public credit, and local tax earnings) are presented in logarithms and refer to real values (where 2005 is used as baseline for the price index); population and population squared are presented in thousands of inhabitants. Next, the data were enriched with specific census data, which includes: They are given in Table 7.

Table 8 Descriptive statistics (fixed effects model)

Local government finances, years 2001 and 2010

Variable		Mean	Std. Dev.	Min.	Max.	Observations	
Capital	overall	14.42548[1]	1.04818	8.803439	18.98153	N =	405
transfers	between		0.8481567	12.0925	18.42563	n =	217
(logarithm)	within		0.6045915	11.13642	17.71454	T-bar =	1.86636
Current	overall	12.82348[2]	0.9198843	9.606685	16.87132	N =	405
transfers	between		0.8518911	10.90568	16.69535	n =	217
(logarithm)	within		0.3216236	11.52449	14.12248	T-bar =	1.86636
Public	overall	11.9576[3]	1.758984	6.313869	17.24931	N =	209
credit	between		1.634995	6.313869	17.24931	n =	165
(logarithm)	within		0.6646404	9.339903	14.5753	T-bar =	1.26667
Local tax	overall	11.30972[4]	1.847731	3.003595	18.07749	N =	405
revenues	between		1.685963	5.833136	17.82715	n =	217
(logarithm)	within		0.7134169	8.480182	14.13926	T-bar =	1.86636
Population	overall	60.991	209.0398	1.238	2336.754	N =	438
(thousands)	between		208.6942	1.5295	2211.438	n =	219
	within		15.62173	-110.657	232.639	T =	2

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Population	overall	47317.77	443242.8	1.532644	5460419	N =	438
squared	between		439532.5	2.424343	4906164	n =	219
(thousands)	within		60970.53	-661687.6	756323.1	T =	2
Poverty	overall	76.12705	13.80183	29.45412	98.54112	N =	438
incidence	between		13.26834	30.78862	98.02056	n =	219
	within		3.852851	56.13168	96.12243	T =	2
Public network	overall	36.89566	18.20046	0	84	N =	438
water access	between		16.24929	3.6	80.7	n =	219
(share)	within		8.235398	11.49566	62.29566	T =	2
Labour force	overall	0.0243694	0.0247623	0.0031942	0.2266571	N =	435
industry	between		0.0242178	0.0046008	0.2108344	n =	219
(share)[5]	within		0.0050496	-0.0056915	0.0544303	T-bar =	1.9863
Labour force	overall	0.0050976	0.0199426	0	0.2033949	N =	435
mining	between		0.0215104	0	0.2033949	n =	219
(share)	within		0.0080567	-0.0850007	0.0951959	T-bar =	1.9863
Labour force	overall	0.0007786	0.001356	0	0.0176228	N =	435
energy	between		0.0013075	0	0.0174721	n =	219
(share)	within		0.0003512	-0.002294	0.0038511	T-bar =	1.9863
Labour force	overall	0.0197744	0.0112023	0.0034072	0.0907143	N =	435
construction	between		0.0106663	0.0049348	0.0892205	n =	219
(share)	within		0.0047219	-0.0198647	0.0594135	T-bar =	1.9863
Labour force	overall	0.0010582	0.001301	0	0.0093659	N =	435
finances	between		0.0011678	0	0.0079669	n =	219
(share)	within		0.0005709	-0.0013092	0.0034256	T-bar =	1.9863
Indigenous	overall	0.1199711	0.2083208	0	0.9765142	N =	438
population	between		0.207403	0.00117	0.9324758	n =	219
(share)	within		0.0219084	0.0032987	0.2366435	T =	2
Mestizo	overall	0.522066	2.195987	0	25.46254	N =	438
population	between		2.145166	0.0012226	20.20595	n =	219
(share)	within		0.4807798	-4.734518	5.77865	T =	2
Illiterate	overall	11.67109	5.234017	2.1	39.5	N =	438
population	between		4.998112	2.199706	33.28408	n =	219
(share)	within		1.571932	4.078367	19.26381	T =	2
Secondary	overall	15.28813	6.960046	2.2	36.8	N =	438
education	between		5.061704	5.6	30.65	n =	219
(share)	within		4.783307	6.138128	24.43813	T =	2

Oil price	overall	51.67835	32.55883	19.15671	84.2	N =	438
	between	0	51.67835	51.67835		n =	219
	within		32.55883	19.15671	84.2	T =	2

[1] $ 1,840,375.16 real US$ value

[2] $ 370,822.95 real US$ value

[3] $ 155,998.24 real US$ value

[4] $ 81,611.05 real US$ value

[5] Labour force as share of *total* population

Sources: BEDE, INEC, BCE

4.2   Empirical results

Distribution of capital transfers: dynamic model

A GMM system performed on the data revealed the determinants of [the logarithm of] real capital transfers. The estimators and robust standard errors are given in the Table 7. Columns (1) and (3) report results of a GMM system that considers all regressors as strictly exogenous. Column (1) includes only time dummies, whereas column (3) includes a time trend, to take into account the persistent increase on transfers over time. By way of comparison, columns (2) and (4) considers a GMM system where local tax earnings (logged) are considered as predetermined, and public credit (logged) as endogenous. Column (2) includes only time, while column (4) includes a time trend.

Table 9 Estimation results for capital transfers (2001-2010)

Local government finances 2001-2010, GMM system

	(1)	(2)	(3)	(4)
$L_{(-1)}$.ln(capital transfers)	0.317	0.138	0.317	0.138
	(0.124)**	(0.072)*	(0.124)**	(0.072)*
ln(public credit)	0.010	-0.004	0.010	-0.004
	(0.008)	(0.018)	(0.008)	(0.018)
ln(local tax revenues)	-0.001	0.031	-0.001	0.031
	(0.030)	(0.026)	(0.030)	(0.026)
Population	0.002	0.005	0.002	0.005
	(0.002)	(0.002)***	(0.002)	(0.002)***
Population squared	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)***	(0.000)	(0.000)***
Oil price	0.117	0.146	0.011	0.013
	(0.041)***	(0.020)***	(0.002)***	(0.002)***
Coast region[1']	0.303	0.064	0.303	0.064
	(2.515)	(0.867)	(2.515)	(0.867)
Amazon region	0.121	0.184	0.121	0.184
	(2.427)	(0.863)	(2.427)	(0.863)
Highlands region	0.158	-0.026	0.158	-0.026
	(2.196)	(0.827)	(2.196)	(0.827)
Metropolitan district	4.349	0.698	4.349	0.698
	(6.006)	(2.645)	(6.006)	(2.645)
Year 2002	6.560	8.261		
	(2.458)***	(1.195)***		
Year 2003	6.282	7.988	0.123	0.233
	(2.302)***	(1.130)***	(0.079)	(0.084)***
Year 2004	5.852	7.349	0.160	0.183
	(2.139)***	(1.048)***	(0.075)**	(0.082)**
Year 2005	4.598	5.832	0.053	0.109
	(1.716)***	(0.838)***	(0.061)	(0.062)*

Year 2006	3.687 (1.316)***	4.624 (0.644)***	0.167 (0.054)***	0.192 (0.050)***
Year 2007	2.779 (0.968)***	3.479 (0.475)***	0.218 (0.044)***	0.255 (0.045)***
Year 2008	0.177 (0.055)***	0.239 (0.044)***	0.058 (0.031)*	0.089 (0.035)**
Year 2009	3.489 (1.309)***	4.458 (0.648)***	0.148 (0.092)	0.251 (0.067)***
Year (trend)			0.004 (0.002)***	0.006 (0.001)***
$m1^2$	-4.3777	-4.8008	-4.3777	-4.8008
m2	1.4393	0.79057	1.4393	0.79057
Sargan (p-value)[3]	0.5292	0.6531	0.5292	0.6531
Observations	1109	1109	1109	1109
Number of municipalities	219	219	219	219

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

[1] Reference region: Galapagos archipelago

[2] where m1 and m2 are the test results for first-order and second-order serial correlation in the first-differenced residuals, under the null hypothesis of no serial correlation.

[3] the smaller the p-value, the more strongly the test rejects the null hypothesis H_o: over-identifying restrictions are valid.

The GMM system revealed that capital transfers are path dependent. The estimator of the lagged value of capital transfers showed a significant positive relation across the different specifications. Neither the variable for public credit, nor the level of local tax earnings, was significant.

Population (and population squared) was only significant in the second GMM system specification (where local tax earnings are considered as predetermined and public credit as endogenous). Controls for regional dummies and metropolitan districts were not statistically significant.

Oil prices, were significant across the different GMM system specifications.

There was an overall substantial positive effect with the inclusion of a time trend: the year trend showed that capital transfers were steadily increasing over time. All time dummies were highly significant.

Distribution of current transfers: dynamic model

For a second time, a GMM system was used, to explore determinants of [the logarithm of] real current transfers. The estimators and robust standard errors are given in the Table 7. Columns (1) and (3) report results of a GMM system that considers all regressors as strictly exogenous. Column (1) includes only time dummies, whereas column (3) includes a time trend, to take into account the persistent increase on transfers over time. By way of comparison, columns (2) and (4) considers a GMM system where local tax earnings (logged) are considered as predetermined, and public credit (logged) as endogenous. Column (2) includes only time, while column (4) includes a time trend.

Table 10 Estimation results for current transfers (2001-2010)

Local government finances 2001-2010, GMM system

	(1)	(2)	(3)	(4)
L(-1).ln(capital transfers)	0.364	0.282	0.364	0.282
	(0.081)***	(0.054)***	(0.081)***	(0.054)***
ln(public credit)	-0.008	-0.049	-0.008	-0.049
	(0.015)	(0.029)*	(-0.015)	(0.029)*
ln(local tax revenues)	0.042	0.070	0.042	0.070
	(0.049)	(0.053)	(-0.049)	(0.053)
Population	0.003	0.001	0.003	0.001
	(0.006)	(0.003)	(-0.006)	(0.003)
Population squared	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Oil price	0.083	0.088	-0.004	-0.002
	(0.016)***	(0.021)***	(-0.003)	(0.002)
Coast region1'	0.469	1.598	0.469	1.598
	(1.121)	(1.396)	(-1.121)	(1.396)
Amazon region	0.582	1.492	0.582	1.492
	(0.935)	(1.435)	(-0.935)	(1.435)
Highlands region	0.834	1.489	0.834	1.489
	(0.918)	(1.430)	(-0.918)	(1.430)
Metropolitan district	-8.779	-1.481	-8.779	-1.481
	(11.503)	(3.672)	(-11.503)	(3.672)
Year 2002	5.429	5.561		
	(1.113)***	(1.341)***		
Year 2003	4.557	4.747	-0.539	-0.474
	(1.053)***	(1.276)***	(0.182)***	(0.159)***
Year 2004	4.268	4.442	-0.442	-0.383
	(0.921)***	(1.171)***	(0.159)***	(0.140)***
Year 2005	3.285	3.405	-0.475	-0.447
	(0.716)***	(0.916)***	(0.139)***	(0.106)***
Year 2006	2.763	2.828	-0.15	-0.156
	(0.556)***	(0.708)***	(-0.119)	(0.075)**
Year 2007	2.102	2.125	-0.017	-0.045
	(0.416)***	(0.518)***	(-0.085)	(0.057)
Year 2008	0.091	0.063	-0.008	-0.039
	(0.077)	(0.063)	(-0.068)	(0.058)
Year 2009	2.375	2.575	-0.39	-0.258
	(0.543)***	(0.677)***	(0.112)***	(0.071)***
Year (trend)			0.004	0.004
			(0.001)***	(0.001)***
m1	-4.8595	-5.0725	-4.8595	-5.0725
m2	-1.314	-1.0951	-1.314	-1.0951
Sargan (p-value)	0.0041	0.3892	0.0041	0.3892
Observations	1108	1108	1108	1108
Number of municipalities	219	219	219	219

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The GMM system applied shown that current transfers are path dependent. The estimator of the lagged value of current transfers exhibited a significant positive relation across the different specifications. The variable for public credit was marginally significant. Yet, the level of local tax earnings was not significant.

Oil prices, were significant only when the time trend was not included. The inclusion of a time trend shown highly significance, although, it altered the significance of year dummies. No other regressors even approached significance.

Lobby groups: fixed effects model (two periods)

A fixed effects model performed on the data revealed the determinants of [the logarithm of] real capital transfers and of [the logarithm of] real current transfers. The estimators and robust standard errors are given in Table 9.

Table 11 Estimation results for capital and current transfers (2001-2010)

Local government finances 2001-2010, Fixed effects model

	(1) ln(capital transfers)	(2) ln(current transfers)
ln(public credit)	0.037	-0.055
	(0.023)	(0.043)
ln(local tax revenues)	-0.243	0.038
	(0.102)**	(0.137)
Population	-0.022	-0.002
	(0.008)***	(0.011)
Population squared	0.000	-0.000
	(0.000)***	(0.000)
Poverty incidence	0.006	0.007
	(0.009)	(0.013)
Access to water public network	0.011 (0.010)	-0.005 (0.022)
Labour force industry	-2.043 (5.130)	7.342 (6.779)
Labour force mining	-10.380 (10.469)	32.426 (23.863)
Labour force energy	203.786 (117.003)*	-662.852 (186.003)***
Labour force construction	6.653 (4.559)	-13.920 (10.822)
Labour force finances	-18.233 (86.684)	89.830 (108.349)
Indigenous population	4.958 (1.562)***	-2.105 (3.168)
Mestizo population	0.092 (0.048)*	-0.069 (0.065)
Illiterate population	0.049 (0.032)	0.006 (0.038)
Secondary education	-0.004 (0.010)	-0.015 (0.019)
Oil price	0.021 (0.002)***	0.004 (0.004)
Constant	13.681 (1.396)***	14.427 (1.975)***
Observations	209	209
Number of municipalities	165	165
R-squared	0.95	0.34

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The fixed effects model revealed that tax revenues had a highly significant negative interaction with capital transfers, dissimilar to current transfers where it was not significant. The variable for public credit was not significant, neither for capital transfers nor for current transfers.

Population (and population squared) was only significant in the model explaining capital transfers. Poverty incidence, access to water from public network, and complete secondary education where not found significant.

Lobby groups estimators were marginally significant. The interaction between the share of workers in the energy sector and capital transfers was positive and slightly significant. On the contrary, its interaction with current

transfers was negative but highly significant. Interactions with other labour force indicators were not significant. The share of indigenous populations was positive and highly significant only for capital transfers. The interaction between, the share of mestizo population, and capital transfers, was marginally significant, unlike its interaction with current transfers. Education indicators were not significant for both dependent variables. Oil prices were significant in both specifications.

Chapter 5 Discussion

The evidence that I have examined suggests that political institutions do affect the intergovernmental distribution of transfers in Ecuador. However, the interaction mechanisms are highly dependent on the model selected and the variables included.

I start by investigating the determinants of the capital transfers received by municipalities (expressed in real logged values), and whether political factors, and normative features have influenced its distribution.

The GMM system model supports the hypothesis of path dependency: yearly changes of US$647,339.71, on average, are due to an inertial increment (as the estimator of the lagged value suggests) if the time trend is considered in the model; in comparison to a value of US$281,807.19 on average, it the time trend is not included.

The interaction of capital transfers with public credit and local tax earnings shows negligible significance. Consequently, the initial motivation to include these variables has no empirical support. Capital transfers are neither responsive to a higher level of public credit nor to changes in local taxation revenues.

Concerning normative features underlying the distribution of capital transfers, it is assumed that the government observes equity goals. This would be evidenced when controlling for population size. Nonetheless, population shows significance only when public credit is considered as endogenous, and local tax revenues as predetermined. By way of illustration, changes in one thousands of inhabitants can be associated with a relative increase in 0.05 per cent on the level of capital transfers. Regardless of theoretical assumptions of economies de scale, it is provided by the positive sign that capital transfers are mainly responsive to population growth. Population squared exhibits the same behaviour.

Oil prices, assumed as a proxy of the macroeconomic performance, are significant across the different GMM system specifications. This supports the suggestion of fiscal vulnerability respect to oil revenues in Ecuador: for each dollar of increment in the oil price, capital transfers increment more than proportionally, with a relative change going from 11.7 (if all the regressors are considered exogenous) to 14.6 per cent (if public credit is considered endogenous and tax revenues predetermined).

Finally, it seems that the inclusion of a time trend is pertinent. Besides its significance, it helps to provide signs of budgetary cycles in election years. First, during the year 2004 it is shown a relative increment from 16 per cent to 18.3 per cent (where the interval is conditional to the assumptions for the system specification) that correspond to an election year of majors and president. Second, during 2006, year of presidential elections, there is a relative increment going from 16.7 per cent to 19.2 per cent. Third, during 2007, year of presidential and National Assembly elections, where the estimator shows the most substantial relative increase: from 21.8 per cent up to 25.5 per cent.

Fourth, during 2009, year in which the last presidential elections took place, the relative change in capital transfers goes from 14.8 per cent to 25.2 per cent.

To sum, capital transfers are responsive to political budgetary cycles. Although the results of this study contradict my hypothesis that the municipalities can lobby the central government *before* election years, it gives support for a Downsian model, in which politicians formulate policies and serve interest groups in order to gain office (Downs 1957). This is also in line with the work of Veiga and Pinho (2007), which founds evidence that majors lobby for resources during balloting years in order to have more funds available for electoral campaigns, and therefore, to increase their likelihood of re-election. Besides, this proposition can be related to the hypothesis of Collier (2007) : *the survival of the fattest,* which holds the in abundance of resource rents, electoral competition is altered, and politicians would attract votes in the most cost-effective manner. If there is the case for patronage politics in Ecuador, electoral competition leaves the corrupt as the winners. Unfortunately, previous data on specific features of electoral competition is not included in this research.

Concerning the determinants of current transfers received by municipalities, the GMM system gives less robust results, in comparison to the capital transfers model. Regardless of this, it provides some insights on the subject of public spending allocation. First, it shows that current transfers are path dependent, but in a lesser extent than the previous case: yearly changes of US$1.44, on average, are due to an inertial increment (as the estimator of the lagged value suggests) if the time trend is considered in the model; in comparison to a value of US$1.33 on average, it the time trend is not included. Second, the variable for public credit was marginally significant conditional to the assumption of endogeneity, showing a decrease in current transfers of US$0.95 on average, due to the interaction with public credit. Third, neither oil prices nor year dummies show robust results: significance and direction of the impact varies dramatically among specifications. Fourth, population has a negligible effect on current transfers' allocation.

However, the dynamic model for current transfers uncovered an important factor, associated with the inertial component of public expenditure: fixed costs of the local administration, which are expected to be related with organisational features rather than with normative concerns.

Lastly, the fixed effects model supports the assumption of political support. The presence of indigenous population has a significant impact in the share of capital transfers to municipalities, as well as the share of labour force occupied in the energy sector. This last point, related with the interaction between capital transfers and energy production activities, has its foundation in the Ecuadorian legal framework: local governments participate in the revenues of energy sales, as stated in *Ley 47, Venta de Energía* (Salazar et al. 2009). Regardless of the econometric results, I find difficult to incorporate in the model the channels through which workers can influence local leaders, particularly for the Ecuadorian context that presents a highly informal economy that encompasses a large unorganized labour force living in marginality.

The fixed effects model also evaluates the normative criteria in the allocation of transfers to municipalities. The results support the assumption of economies de scale, where the population is negatively related with capital transfers, assuming that bigger municipalities are more efficient and therefore, less dependent on central government' transfers. Nonetheless, capital transfers are not responsive to other important normative related variables, such as poverty incidence, access to water, and education indicators.

In sum, political factors seem to influence the capital transfers' system in Ecuador. First, evidence for path dependency from the dynamic model supports the notion that politicians observe past values of investment in order to decide the optimal or feasible present value of investments. In other words, they are subjected to inertia.

Before closing the discussion, I wish to reiterate the interaction of transfers with public credit and local tax revenues, despite the results obtained in the model. As the forthcoming figure presents, public credit have increased over time. However, there is a great variability on access to public credit, as the right side of the figure signals. This has two consequences: (1) bigger municipalities, with better institutional capacities are more likely to access to other sources of credit (not necessarily public credit, it can also include international development cooperation, or private sources), and for which transfers are less relevant, and (2) the *recycling*[34] nature of public finances in Ecuador, that conditions the smaller municipalities to *recycle* their transfers in order to access to public credit (where the most important provider is BEDE): if municipalities are highly dependent on central government transfers, and their debt ceiling depends on its value, central transfers will be reprocessed through public credit.

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[34] For a detailed description of the legal framework that sustains public credit through BEDE and other public financial institutions:
http://www.bancoestado.com/index.php?option=com_content&view=article&id=38&Itemid=186&lang=es

Figure 26 Public credit and capital transfers, 2001 and 2010
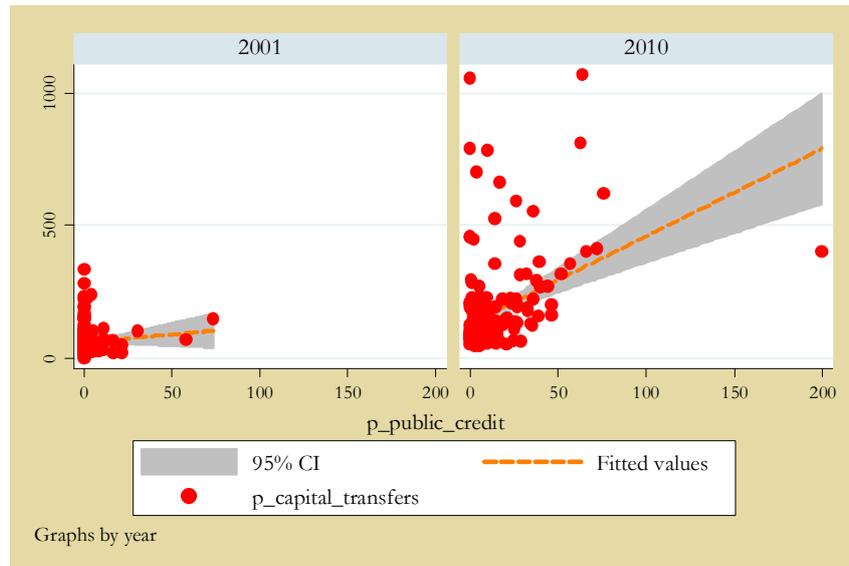
Source: BEDE Elaboration: the author

A somehow similar pattern can be described for local taxation earnings. Salazar et al. (2009) find evidence of a decrease in the level of local taxation, that the authors argue is due to 'the lack of political will to increment local taxes revenues'. In this sense, transfers can offer a *perverse* mechanism against the local co-responsibility on intergovernmental finances.

Figure 27 Local taxation earnings and capital transfers, 2001 and 2010
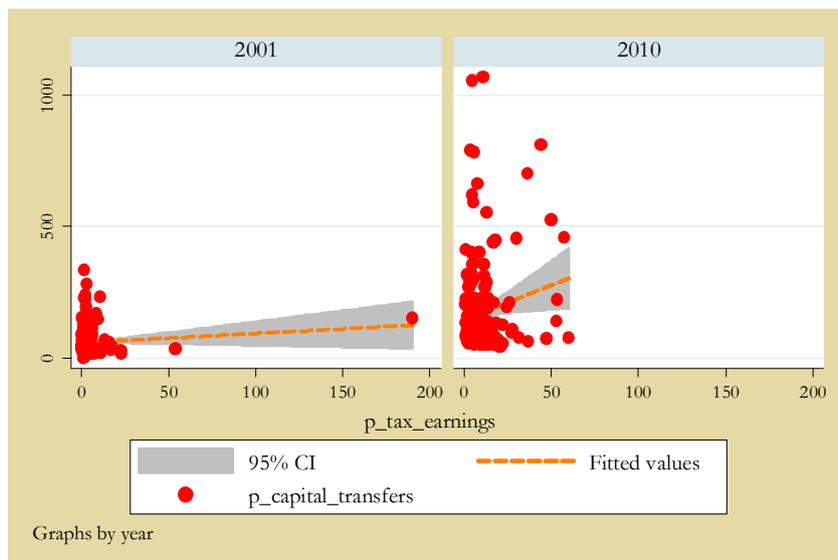
Source: BEDE Elaboration: the author

Chapter 6 Conclusions

This study began with the premise that political institutions affect the intergovernmental distribution of transfers. The essential elements considered to evaluate the distribution of transfers were political factors, and normative principles. Political factors evaluated for path dependency, budgetary cycles, and interest groups. Normative principles included demographic originated economies of scale, poverty reduction, and regional equity.

The results support the assumption that although recent policies shifted towards an equitable territorial development agenda, path dependent and/or discretional behaviour continued the territorial disparities in the access to central government resources.

Moreover, this study has uncovered several important factors that are associated with the occurrence of resource surpluses. First, resource surpluses weaken political and fiscal restraints (Collier 2007). That is the case of the Amazon region, which receives disproportionally larger capital transfers (once controlled for population), without the consequent improvement in living conditions (i.e. poverty stagnation). Second, it provides evidence of fiscal vulnerability to oil revenues, and therefore, it raises distress about the sustainability of public spending in Ecuador. Provided that oil revenues are important for fiscal purposes, a productive transformation with equity comes as the next step in the political agenda. Additional research is needed to specify more precisely the elements under which territorial equity can be attained.

Generalizing from the methods applied, I concur with authors like Walle et al. (1995) that point at the weaknesses of public spending evaluation. Considering that for evaluating policy's impact, it is required to evaluate how different the situation would have been in its absence, analysing public spending impact constitutes a challenge: the counterfactual of no intervention is tricky to quantify. Therefore, this study cannot be viewed as conclusive.

I have also seen that econometric analysis applied to the political economy related factors has important limitations. Fundamentally, institutions tend to be relatively fixed over time, offering reduced variability to be incorporated in quantitative research. Furthermore, 'quantitative analysis necessarily has to represent actual institutions with few variables' (Schnellenbach 2002). Indeed, this can lead to oversimplifying complex dynamics, giving as a result *fallible proposals* for policy design. Therefore, a challenging task for further research is the analysis of political institutions over time, in a more comprehensive setting.

Besides methodological limitations, it should be recognized from critical reasoning, that intergovernmental finances have a limited scope to achieve territorial cohesion: 'It is important to stress that territorial cohesion requires as a precondition, a *political consensus* and the acceptance of a *common project* among the different regions. Financial problems can certainly become political problems, but political problems can rarely be solved through financial measures alone. Therefore, we should not demand of intergovernmental finances what they cannot do'. (Castells 2001)

Whatever its shortcomings, and there are many, the analysis of political institutions and its relation with territorial uneven development is offered as an alternative to the conventionally used cost-benefit analysis for impact evaluation. It is hoped than some of the findings presented here will establish a preliminary field for further research. What is more, it is hoped that this study motivates a more inclusive territorial development agenda in Ecuador. The most important challenge for the state, in order to guarantee *Buen Vivir*, is embrace the territories as the places for social interactions; that contain historical and structural patterns, and are in continuous evolution. If the research and effort continues, a nation with more justice than the one I here described can be visualized.

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Appendices

[1] Uneven regional development in Ecuador: mapping the inequalities

Map 1Poverty map (basic needs approach, quintiles), province level

|		
1	36.7	47.7
2	47.7	58.7
3	58.7	69.7
4	69.7	80.7
5	80.7	91.7
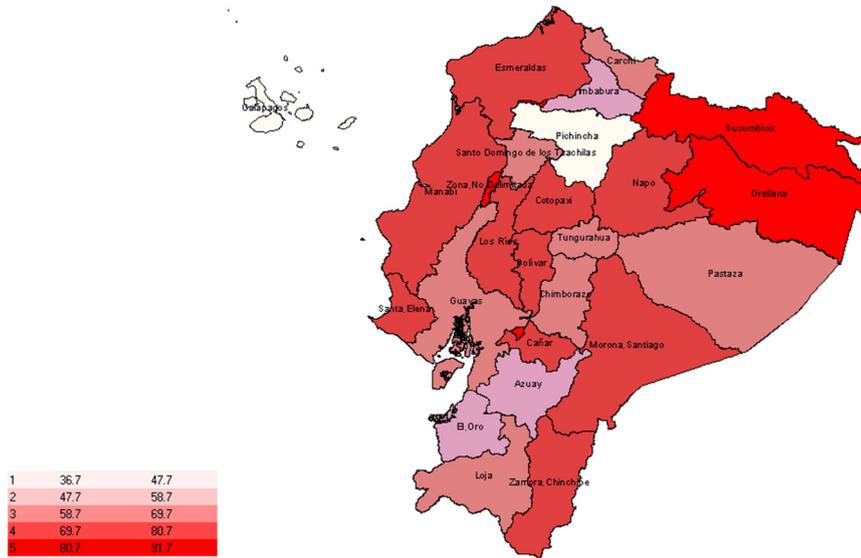
Source: SIISE 2010

Map 2Poverty incidence map (consumption based approach, quintiles), province level

1	22.5	33.0
2	33.0	43.5
3	43.5	54.0
4	54.0	64.5
5	64.5	75.0
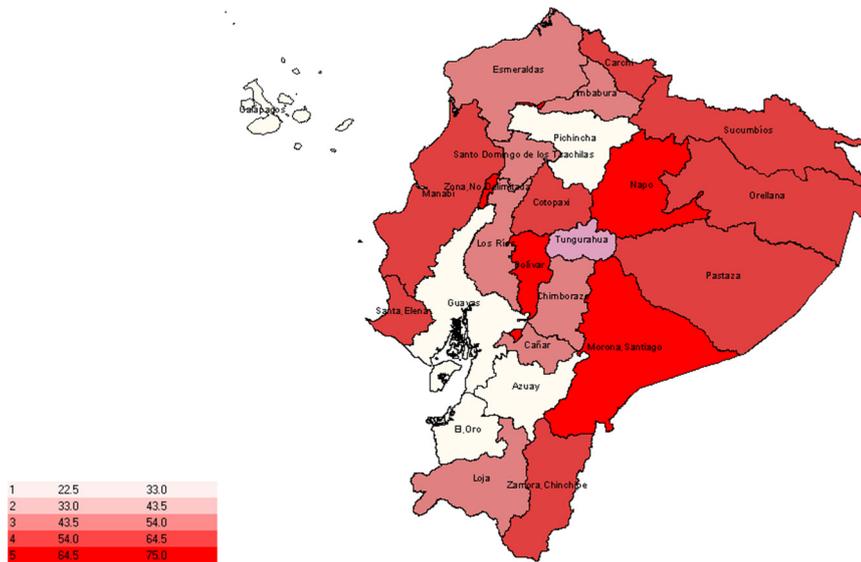
Source: SIISE 2010

Map 3 Access to water, from public network map (quintiles), province level

1	8.7	30.0
2	30.0	32.5
3	32.5	41.1
4	41.1	49.1
5	49.1	72.4
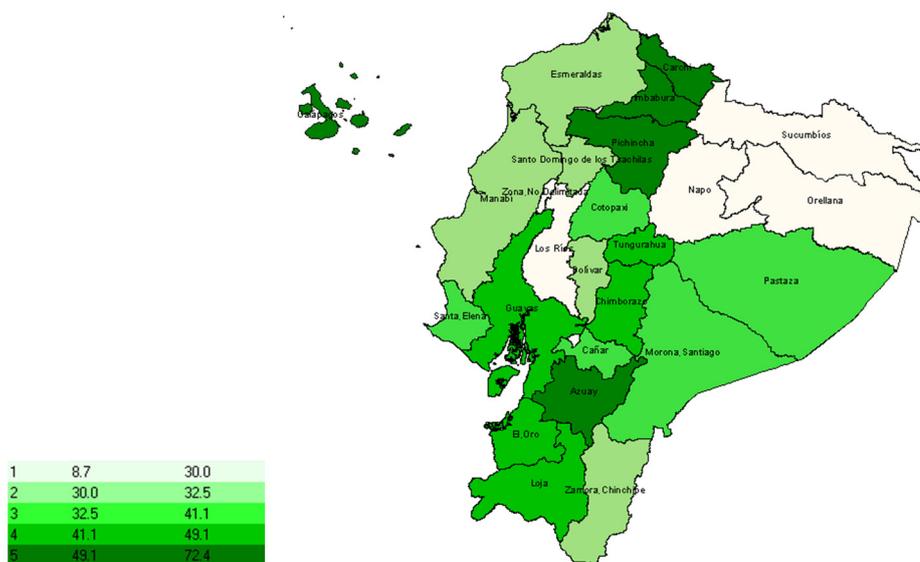
Source: SIISE 2010

Map 4 Schooling, map (year of schooling, quintiles), province level

1	4.8	5.7
2	5.7	6.6
3	6.6	7.6
4	7.6	8.5
5	8.5	9.5

Source: SIISE 2010