Local participatory budgeting in a multilevel government – an institutional analysis of Ecuadorian municipal expenditure policies

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Abstract: This paper analyses participatory budgeting in multilevel governance settings. The Institutional Development and Analysis framework is applied to evaluate two Ecuadorian municipal case studies. Here, participatory budgeting piloted bottom-up institutions to include citizens' preferences in the allocation of local government expenditures. To formalize and up-scale these local innovations, participatory budgeting became a requirement for all government levels under the 2008 constitution. Higher government level requirements for planning subsequently introduced conflicting demands on decentral budgetary processes and led to partial re-centralization of municipal investment planning. The study thus exemplifies difficulties of i) vertical policy coordination in multilevel participatory budgeting and ii) integrating long-term planning in yearly participatory budgeting investment decisions. These problems need to be resolved to facilitate legitimate and effective participatory budgeting in multilevel governments.

Keywords: collective decision making, decentralization, institutional development, participatory governance

1 Introduction

2 Public spending policies could arguably aim at satisfying citizens' preferences for public goods.
3 Mechanisms that increase accountability and responsiveness in corresponding decision-making
4 processes are therefore not just subject to (normative) political and economic studies but also a
5 (practical) challenge for both policy makers and citizens (O'Flynn 2007). Many of such fiscal
6 mechanisms are formally defined in the constitutional division of competencies, expenditures and
7 revenues within multi-level government structures (Oates 1972). Goods and services of national
8 interest are arguably best provided through central government policies. Local municipal
9 government expenditures, however, provide access to many vital public goods and services for
10 their constituencies. Road infrastructure, potable water, sanitation, education, crime prevention,

zoning, environmental protection and waste treatment are just a few of the goods and services that can be found within the realm of municipal competencies and thus expenditure policies.

Optimistic theories promise that decentralization may serve to increase performance and accountability of government behaviour (Rodden 2005; Faguet 2014; Tiebout 1956; Breton 1998). The devolution of powers to lower level governments is often conceptualized as diminishing the distance between decision makers and citizens. It is argued that if decision makers are closer to the people, they will tend to make decisions that are in better alignment with preferences in their constituency (Oates 1999). Thus, regional variations in citizens' preferences can be better captured through decentral public policies (Oates 1972). There is empirical evidence to support such ideas from various contexts in both the industrialized and the developing world (Faguet 2004; Gonçalves 2014; Wright et al. 2015). While promising, decentralization is not a blueprint solution. It may be subject to captures by local elites and interest groups (Bardhan 2002). Opening up the decision making processes to public engagement may (Fung 2015) or may not (Hinnerich and Petterson-Lidbom 2014) balance out elite captures. Participatory mechanisms can enhance legitimacy and justice of bottom-up public policies but there is no guarantee. Allowing citizens to decide on public finance nevertheless integrates participation deep into the traditional authority of the executive: the power to spend public money. Correspondingly, the institutional design of participatory budgeting (PB) mechanisms and their potentially emancipatory power to align public finance with citizen preferences are of interest (Fung and Wright 2001; Fung 2006; Goldfrank and Schneider 2006). Yet, such a decentral, bottom-up participation may pose coordination problems of multi-level government cooperation, coordination, and vertical integration (Weingast 2014; De Mello 2000).

In this paper, we follow this line of inquiry and seek to answer: *What can we learn from PB mechanisms about collective preference formulation in a multi-level government setting?* To this end, we analyse PB mechanisms in Ecuador as municipalities in Ecuador have piloted PB since the early 2000's. Subsequently, the 2008 constitution established a nation-wide PB requirement for all

government levels. The Ecuadorian case therefore serves as an example of a decentralized implementation within an overall constitutional framework. For the Ecuadorian case, our goals are twofold: (i) to study two municipal level PB mechanism and articulated preferences for public good provision from a comparative perspective, and (ii) elaborate on what we can learn about institutional development of a decentral PB in a multilevel government setting. We apply the institutional analysis and development framework (IAD) deductively to evaluate the general constitutional requirements in a multilevel government and the institutional development of two municipal PB case studies in Ecuador. We show that the two selected municipal PB case studies experimented with taking citizens preferences for public (infrastructure) development into account. The constitutional reform placed longer-term planning requirements on municipal governments that complicated local PB implementations of yearly investment decisions. By studying the Ecuadorian mechanism, we thus contribute to understanding the specific role of local PB in multilevel government settings. We discuss how the requirements at higher levels need to be well aligned to allow for effective participation at local level. We thereby contribute to the literature on PB by analysing a case of a multi-level PB policy in Ecuador and challenges of multi-level coordination and vertical integration.

After reviewing the literature on participation and PB (section 2), we introduce the IAD framework (section 3). We present case study selection and data collection (section 4). In the institutional analysis we analyse the policy processes across government levels, constitutional requirements, and case-specific implementations within two municipalities in Ecuador (section 5). For the empirical analysis, data on 10 years of PB implementation is used to analyse the articulation of collective preferences for municipal PB investments (section 6). We discuss how problems resulting from conflicting constitutional and legal requirements for municipal planning resulted in a hindrance for decentral PB implementations (section 7). We conclude with remarks on lessons learned for PB in multilevel governments (section 8).

61 **Literature review**

62 Participatory mechanisms increase the direct involvement of citizens in governmental decisions.
63 The very idea of it is closely related to principles of democratic governance (Nabatchi and
64 Blomgren Amsler 2014). Through participation people engage in political decision making and
65 (self-)governance processes regarding their daily lives. Various forms and degrees of such public
66 engagement can be found around the world and at different government levels ranging from local
67 to (inter-)national (Nabatchi and Leighninger 2015; Theesfeld, Dufhues, and Buchenrieder 2017).
68 However, depending on who participates in governance-beyond-the-state and who does not, such
69 mechanism may or may not increase legitimacy and accountability of governmental decisions
70 towards their constituencies (Ostrom 1990; Cabannes and Lipietz 2018). Whether participation
71 enhances representation of collective preferences hinges, inter alia, on the object of decision, and
72 participants (Nabatchi and Blomgren Amsler 2014).

73 PB mechanisms are a very specific form of public participation, where citizens engage in
74 budgetary decisions – mostly at a decentral level of municipality or (city) district governments –
75 and thus combine decentralization with participation, democracy and emancipation (Cabannes
76 2004; Baiocchi and Ganuza 2014). PB had originally been developed in a leftist, experimental
77 political setting in Porto Alegre, Brazil, in the early 1990s. It has since been implemented in more
78 than 7000 cities worldwide (Dias 2018). Policy diffusion started in Latin America (Porto de
79 Oliveira 2017; Baiocchi and Ganuza 2014), it is now widespread in Europe (Sintomer, Röcke, and
80 Herzberg 2016), and recently started expanding in the United States (Miller, Hildreth, and Stewart
81 2019). Often these are local, not legally required democratic innovations. Yet there are also more
82 formal implementations. In 2004, the Peruvian government has implemented a top-down PB for
83 all sub-national government levels (Jaramillo and Alcázar 2017; McNulty 2012). While mandating
84 local participation top-down faces challenges, it can be successful when sufficient engagement of
85 local actors can be stimulated (McNulty 2012).

86 Various international development agencies promote PB (Bland 2011; Goldfrank 2007;
87 Goldfrank 2012; Sintomer, Allegretti, and Herzberg 2010; Cabannes 2004). Yet, it is important to
88 note that not every mechanism that is called PB entails active and direct control over budgetary
89 decisions by citizens and merely consultative platforms also go under a PB flag (Goldfrank 2007;
90 Nabatchi and Leighninger 2015; Dias 2018). This may be one reason for the overall mixed
91 empirical results. Some PB studies display promising impacts (Nabatchi and Leighninger 2015).
92 For example, PB implementations have been found to be generally associated with improvements
93 in basic services (Cabannes 2015). PB in Brazil attracted a wide range of participation from both
94 low-income, less-educated and high-income, better-educated people (Pateman 2012). Despite the
95 participation of better-off parts of society, public budgets under PB are more often spent in low-
96 income neighborhoods (Baiocchi et al. 2006; No and Hsueh 2020) and clientele practices could be
97 reduced (Souza 2001). In some Brazilian PB regimes, education and sanitation spending increased
98 (Touchton and Wampler 2013), infant mortality decreased (Gonçalves 2014), and the number of
99 civil society organizations increased (Touchton and Wampler 2013). New democratic forms of
100 online participation (e-participation) were employed in Belo Horizonte (Coleman, Cardoso
101 Sampaio, and Sampaio 2017). For New York, Russon-Gilman (Russon Gilman 2016) sees both a
102 potential of PB to empower political participation through inclusive governance and a sufficient
103 ability for PB processes to develop rational proposals within city budgets. Calabrese et al. (2020)
104 show how earmarking of revenues determines officials' choice of funding areas within New York's
105 PB. Similarly, PB has been discussed as an inclusive learning arena that builds political capital in
106 terms of multiple sources for democracy education (Kasdan and Markman 2017; Goldfrank and
107 Schugurensky 2019). Such democratic learning is a potential source of the policy diffusion of PB
108 (Porto de Oliveira 2017).

109 But there are also contradictory results. While there was an observable increase in Brazilian
110 urban PB spending on health and sanitation there is little evidence of positive effects on citizens'

well-being in terms of the Human-Development-Index (Boulding and Wampler 2010). While PB may increase accountability towards citizens through budgetary authority but it may simultaneously undermine other local democratic institutions powers, for example municipal councils (Wampler 2004). In Peru, water and sanitation services did not significantly improve under PB (Jaramillo and Alcázar 2017). An increase in grey infrastructure such as buildings, roads and other ‘bag of cement’ projects through PB in the rural Andes has been criticised as being preferred by government officials and (international) donor agencies rather than citizens (Cameron 2009).¹ Furthermore, there may be a lack of continuity, for example in externally supported PB initiatives in El Salvador (Bland 2011). A widely varying degree of participation can be observed, down to virtually no participation in Seoul (Im et al. 2013). There can be a lack of actual implementation of proposals resulting from PB, for example in Spain (Font, Amo, and Smith 2016). Furthermore, it is observed that there is an instrumentalization of PB by political promoters in Spain (Bherer et al. 2016) or elite entrenchment in Bolivia (Kohl 2003), potentially because it does not fundamentally change existing power relations (Cabannes 2015). Montambeault (2019) argues that beyond the constant participatory rhetoric in Brazilian PB there is a policy change of gradual deinstitutionalization and delegitimization happening on the ground.

These varying results call for further studies of PB mechanisms to provide a wider spectrum of empirical results, and a linkage of institutional mechanisms to their scope. In particular, there exist close to no studies regarding the institutional embeddedness of decentral PB in settings with varying competencies of multilevel governments. McNulty’s (2019; 2012) analysis of the challenges of centrally required decentral participation makes an important step in this direction but focuses more on top-down participation and democracy than on policy integration and vertical coordination of decentral PB in multilevel governments. This paper therefore sets out to analyse the working of PB within the multi-level government system of Ecuador – where decentral

¹ However, this can partly be explained by corresponding competences of the local government for infrastructure development (Cameron 2009).

participation in both planning and PB has been constitutionally required since 2008. We next present the institutional analysis framework before proceeding with a justification of case selection.

Analytical framework

The IAD framework has been developed at the Workshop in Political Theory and Policy Analysis (Ostrom 2010; McGinnis and Walker 2010). It is meant as a guiding structure to analyse human interactions and outcomes. It is particularly suited to analyse procedures such as PB processes because it provides a framework to systematically identify various institutional levels that shape the generation of collective choices (Theesfeld, Dufhues, and Buchenrieder 2017). By analysing PB through the lens of the IAD framework we seek to analyse how individual preference turn into public spending decisions in a multilevel government setting.

Figure 1: Institutional Analysis and Development Framework. Source: adapted from Ostrom (Ostrom 2005; Ostrom 2010) and Andersson (Andersson 2006)

The IAD framework consists of a nested structure of building blocks that in turn may host stacks of further specifications (see Figure 1). The general framework structure has three *contextual* building blocks that influence the action situation of an actor, environmental or biophysical conditions, socio-economic or communal conditions, and institutional (rules-in-use) conditions. These contextual variables each influence an action arena where actors interact. The action generates outcomes which can either lead to direct changes in (one of) the conditions or the

situation itself. An evaluation of outcomes can influence action situations through reflexive feedback and may indirectly influence contextual conditions. The cyclical view systematizes how human action shapes institutions that in turn shape actions – thus institutional development.

In this paper, we will place emphasis on the rules-in-use that specify the three levels of situations, namely the *constitutional*, the *collective choice* and the *operational level* (Ostrom 2005). These levels do not fully correspond to different levels of government but they provide a focus on both actual implementation and rules in use. The IAD framework thereby allows us to specify the various levels of institutional rules that shape how PB are conducted, who participates in the action arena, and specify and analyse outcomes of the PB processes, while taking institutional learning into account. Accordingly, it also allows to identify where higher level requirements conflict with local practices. We track the stages of policy process from early PB implementation to maturation and scaling up to a national requirement on all levels, through the lens of IAD and with a focus on rules in use at different levels, and practices on the ground.

Case study selection and data collection

Case selection

Ecuador is a case of a PB implementation at national scales within a multilevel government structure. Although first pilots were implemented before PB became a nation-wide constitutional requirement in Ecuador in 2008, we start our analysis at the overarching constitutional, nation-wide level which was at least partly influenced by the first implementations of early movers and thus constitutes institutional learning (Ortiz Crespo 2008). It thus allows to study the embeddedness of local PB implementations within a wider constitutional framework and thus makes inference on the scale and structural limits of local empowerment. The Ecuadorian case has been studied (Nagua Bazan 2014; UN-Habitat 2009; Curichumbi Yupanqui 2015) but only very little information is yet available in the international scientific literature in English (except for the notable exception of the Cotacachi PB, see Porto de Oliveira 2017).

Figure 2: The location of the two cantonal case studies in Ecuador. The small dark one is the Andean Cantón Colta in Chimborazo Province, and the large dark one the Amazonian Cantón Francisco de Orellana in the Province of Orellana. Dark lines delineate provinces and lighter gray lines cantonal boundaries. Galapagos Islands are omitted in the large map. Regions are not jurisdictions but geographical regions. Source: authors' elaboration based on (Global Administrative Areas Database (2018)).

To study the implementation within a multilevel government we chose two case studies that were among the first pilots to implement PB on the ground and went through a transition once the 2008 constitution was in place. Both Ecuadorian municipalities, Colta in the Ecuadorian Andes, and Coca in the Ecuadorian Amazonas, were among the first of 28 other municipalities and two provinces who had implemented PB since the early 2000's (UN-Habitat 2009). Figure 2 shows the location of the selected case studies within Ecuador. The Andean municipality, Colta, has first

implemented the municipal budgeting in 2003. In the Amazonian municipality, Francisco de Orellana, commonly called El Coca, PB was first implemented in 2004.

For the analysis we make use of a most different systems design (Anckar 2008). The two case studies share conceptual commonalities but differ in concrete implementation. The two municipalities are similar in terms of PB duration. They are, however, quite different in terms of regional location, age of settlement, and other factors (see Table 1 in Data collection). Variations in multiple dimensions such as population, resource endowments, level of basic needs satisfaction, infrastructure and geographical location in the Amazon and in the Andes, respectively, allow to study resulting differences in preferences expressed through PB (see Data collection). Commonalities in public spending decisions can thus be assumed to a general characteristic as they can arguably not be rooted in the different circumstances. Thus, if we can observe similar preferences between cases, the most different systems design assumes that this cannot be due to their differences (Anckar 2008). We nevertheless cross-check such inference with further qualitative information. Local responses to the 2008 constitutional requirements are important as the requirement is literally the same for both municipalities. Hence, if we can observe similar responses this can be assumed to be a consequence of the changing institutional regime. The study thereby exemplifies local PB implementations and their response to higher level reforms. The most different systems design thereby showcases the different forms of locally initiated, by now constitutionally embedded PB cases.

Data collection

The analysis of the institutional design of the PB mechanisms such as legal and administrative requirements is based on a review of laws, codes, the constitution, and secondary publications. Data on the implementation at cantonal level was collected in situ, during several field trips over a period of seven month in 2017-18. After applying for research and data use permissions from the majors of the municipalities, we have conducted several unstructured interviews to deepen our

understanding of the specifics of the local PB implementations. In Colta we conducted 2 interviews with the mayor, 3 interviews with administrative staff, and 4 interviews with community members in Columbe Parroquia. These interviews were around 20-60 minutes. In Coca we conducted 3 interviews with administrative staff of 30-90 minutes each. The imbalance of interviews between Colta and Coca can be explained by better written documentation in Coca and thus a lower need to conduct additional interviews. Furthermore, we collaborated with local administrative staff to collect the annual public spending allocated through PB. We have used the archived yearly PB reports of the municipal assembly in Coca from 2004 to 2013 that give details on the decision-making processes in the corresponding years and allocated budgets. For Colta, we used the yearly internal balance sheets of the municipality from 2004 to 2013. We included those public investments that could be attributed to the parochial districts but no cantonal overhead.

This way, we built a panel data set on yearly municipal PB investments in the boroughs of both Coca and Colta from 2004 to 2013. Since budget functions (investment areas) were not consistent across municipalities or even years, we classified the PB investments into 12 public function investment areas to facilitate comparability: i) water management including drinking and waste water infrastructure, ii) municipal infrastructure such as communal, parochial and cantonal buildings, and cemeteries, iii) road infrastructure, iv) electricity and communication infrastructure, v) educational infrastructure such as schools and capacity building centers, vi) sports infrastructure such as sport grounds, vii) public health infrastructure such as hospitals, viii) tourism development such as information and reception centers, ix) productive sector support such as storage centers and local market infrastructure, x) cultural policies including traditional craft-work support and local churches, xi) environmental protection such as soil conservation and green infrastructure, and xii) security such as local police stations and natural disaster warning systems. Furthermore, we classified the investments according to whether they have been made in rural or urban zones. We compute the shares of PB investments for both the rural and urban zones among the 12 public

functions. The data is a balanced panel with observation over 10 years for the two municipalities with two zones (urban and rural) each and shares for the PB investments among the 12 public function classifications. The underlying dataset of a total of 2509 PB projects (1129 in Coca and 1380 in Colta) can be found in the Supplementary Materials. Table 1 provides an overview of variables we consider in our qualitative comparative analysis.

Table 1: Socio-economic characteristics of the two municipal case studies.

	Colta	El Coca
Area	834 km ²	7.048 km ²
Altitude	3.212 m a.s.l. (mean)	514 m a.s.l (mean)
Establishment	August 01, 1944	April 30, 1969
Parroquias (districts)	2 urban: Cajabamba, and Cicalpa and 4 rural boroughs: Cañi, Columbe Juan de Velasco, Santiago de Quito; there are 11 urban quarters in the cantonal and parochial cities and 236 rural communities (2014).	1 urban: Puerto Francisco de Orellana (cantonal capital) with 7 urban quarters and 11 rural boroughs: El Dorado, Taracoa, Dayuma, Inés Arango, García Moreno, La Belleza, Nuevo Paraíso, San José de Guayusa, San Luis de Armenia, Alejandro Labaka, El Edén with 287 communities (2014)
Population 2010	44,971 (5.14% urban and 94.86% rural), Indigenous population 26%	132,654 (55.95% urban and 44.05% rural), Indigenous population 87%
Population trend	more or less constant (since 2001)	strongly positive (until the oil price shock of late 2014 leading to employment losses)
Population with unsatisfied basic needs	93,2% (slightly decreasing)	85% (decreasing)
Ethnicities	mestizo, Kichwa (Puruhá)	mestizos, Kichwa, Huaorani, Shuar, and afroecuatorian
Gross Value Added 2010	\$ 48,591,000	\$ 3,329,358,000
Main sectors	agriculture, education, transport & ICT	natural resources (crude oil), manufacturing, public administration
Main land use	paramo highland including native shrub and forest remainders (40%), crop and livestock agriculture (34%)	natural rain forest types (75%), cultivations including plantations and grassland (13%)

Sources: UN-Habitat (UN-Habitat 2009), Banco Central del Ecuador (Banco Central del Ecuador 2017), Ministerio Coordinador de Desarrollo Social (Ministerio Coordinador de Desarrollo Social and Ministerio Coordinador de Desarrollo Social 2017), and municipal development plans (GADM Orellana 2014; GADM Colta 2014).

Institutional analysis of participatory budgeting mechanisms in Ecuador

First municipal pilots were implemented from as early 2003. PB became a nation-wide constitutional requirement in Ecuador in 2008. We employ the IAD framework to analyse the general functioning of PB on various government levels. We start the analysis at the constitutional level that formalized and unified PB requirements across the nation. For collective choice and operational level, we focus on two municipal PB mechanisms that i) were among the first pilots and ii) went through the pre- and post-constitutional PB requirement phases (see Case selection).

The *Constitutional level* determines the general frame within which the collective choice rules are crafted (Ostrom 2005). In 2007 the Ecuadorian government initialized the writing of a new constitution through invoking an elected constitutional assembly after a successful referendum on the issue (Ortiz Crespo 2008). The new constitution was approved by the electorate in 2008 through another referendum. Article 100 specifies civic participation on different government levels, and paragraph 3 calls for the elaboration of PB mechanisms at all government levels – constituting a bottom-up institutional learning as this follows the early-stage pilot implementations at municipal and provincial level. In 2010, the Organic Law of Civic Participation establishes that PB mechanisms shall be open to all interested parties and citizens but are subject to development plans of the local planning council (Art. 68). PB are to be implemented immediately at lower government levels and progressively at the national level (ibid.). Accordingly, Article 8 of the 2010 Organic Code for Planning and Public Finance establishes that every government level defines its own PB procedure within their respective competencies. Thus, the 2011 Organic Code of Territorial Organization, Autonomy and Decentralization (COOTAD) establishes a new regional organization and specifies competencies and functioning of the so called autonomous decentral governments – meaning the i) regional, ii) provincial, iii) cantonal or municipal, and iv) parochial or borough governments (from subnational to most decentral). The code, inter alia, specifies that within exclusive municipal respectively cantonal competencies are, among others, land use, urban transport, waste and drinking water management, waste management, environmental remediation, fire management, infrastructure for health, education, culture, and sports, and cultural heritage preservation. Furthermore, it specifies that local assemblies or corresponding participatory organ shall prioritize annual public investment within budgetary limits and according to (local) development plans and territorial statutes (Art. 238).

The local development plans are to be developed participatorily and formulate the indicators against which the performance of municipal administration shall be assessed – with technical

278 assistance by the national planning authorities (Senplades 2014; 2016). Hence, the municipal
279 Development and Territorial Order Plans need to define goals and target indicators for longer
280 planning horizons such that they basically set investment priorities and thereby limit the room for
281 yearly PB decisions. A 2017 proposal for an Organic Code for the Civic Participation System and
282 Social Control aims at establishing a rule that at least 15 per cent of the investment funds at each
283 government level are to be distributed through PB. It furthermore called for a clearly defined
284 methodology of PB at different government levels through the Council of Civic Participation. Yet,
285 this has clearly not been implemented on all government levels and is under ongoing development
286 (Senplades 2009; 2013; 2014; 2016). In particular, the to be established regional governmental
287 level has not yet been formed. There are not yet many operating provincial PB mechanisms. Not
288 all municipalities have established PB. There is not even consistent information how many and
289 what percentage of Ecuadorian municipalities use PB but evidently implementation on the ground
290 is still rather patchy. Institution building is under way and municipalities respond differently to
291 these dual requirements of long-term planning and yearly PB. Civic participation in Ecuador now
292 needs to balance between requirements for more long-term territorial planning and more flexible
293 yearly investment decisions through PB. In fact, the requirement for long-term planning has created
294 challenges for the yearly local PB implementations. It grants decentral authority on specifying PB
295 implementation procedures but requires that the investment decisions must be in line with the local
296 development plan priorities. It is crucial to note that these rules are in clear conflict or at least have
297 been interpreted in different ways such that varying implementations on the ground resulted. We
298 return to this point as its consequences crystalize at the local government level.

299 At the *collective choice level*, rules define who is eligible for participation and how the
300 institutional mechanism functions (Ostrom 2005). The collective choice level rules for the
301 municipal PB were formulated (even though not necessarily explicit as a formal institution) even
302 before the constitutional reform and were changed after the constitutional level rules changed in

2008, partially resulting in substantial changes in local PB once the formal constitutional requirements for long-term planning were officially implemented. In both municipalities, the PB implementation was preceded by a consultative and partly participatory formulation of local development plans which served both as (i) an assessment of the current state and future needs of the investment planning, and (ii) a strategic planning instrument (GADM Colta 2001; GADM Orellana 2002). The PB processes were then institutionalized through municipal ordinances because there was not other legal basis for the PB innovation as a means for prioritizing annual investments. Yet, the amount of funds distributed through PB, the criteria for allocation within the municipality, and the bodies that were involved in the PB processes are different in both municipalities (see also subsequent analysis of the operational level). The most interesting difference at the collective choice level is however the variation in responses to the simultaneous constitutional level requirements for both long-term municipal development planning and PB. The double requirements of long-term planning and somewhat vague PB specifications have led to institutional diversification across both municipalities. Coca rather opted for a participatory long term-planning implementation. This did not entirely stall public participation but substantially decreased the frequency at which participation in local public spending decisions are taken. In Coca the first local development plan has been formulated in 2014 and was valid until 2019 (GADM Orellana 2014). This literally marks the end of a yearly PB implementation in Coca at community and quarter level and allows participation in the longer-term development planning only. Yearly budgets are now decided in the cantonal assembly (which is the official body for civic participation but is constituted by elected representatives). In Colta, however, the municipality continues to implement yearly PB mechanisms. However, in order to comply with the requirement of investing according to the investment priorities specified in the local development plan (GADM Colta 2014), projects identified through the PB mechanism will receive higher priority if they are in line with the local development goals. This is to say the constitutional requirement for longer-term planning

328 stipulated a diversification of collective choice level rules for PB mechanisms across the two
329 municipalities but led to a partial re-centralization in both cases.

330 The *operational level decisions* determine budget allocations in terms of rather specific
331 management rules such as setting locations for the PB meetings, speaking rules, or schedules are
332 defined. While this may determine who is actually participating, especially in remote areas, we
333 could rather observe practices than analyse formally instituted rule systems. In Colta, at first the
334 entire municipal (cantonal) investment fund was distributed among communities (villages) based
335 on the population (UN-Habitat 2009 and interview with the mayor in Colta). Up until 2007, each
336 community could decide upon its own priorities, but it left them with little budget to decide upon
337 (in the range of a few thousand US\$). PB meetings were held at municipal level and communities
338 could send six democratically elected delegates to the municipal PB meetings (although not every
339 community participated). Since 2008, the priorities were assessed in a more decentral way at
340 municipal and quarter meetings instead of a municipal (cantonal) meeting. The number of directly
341 involved participants thus increased significantly (UN-Habitat 2009). After the municipal elections
342 under the new constitution in 2009, the communities within parroquias were grouped into sectors,
343 and PB budgets were distributed among parochial sectors based on population, while a portion of
344 the investment fund was withheld by the municipal government for strategic long-term investments
345 within the canton (interviews with mayor and administrators in Colta). The grouping of
346 municipalities into sectors and the distribution of funds among sectors nevertheless meant that PB
347 projects grew in investment amounts (ibid.). Thus, larger projects could be prioritized but not
348 necessarily every community within a sector benefited every year. This required coordination
349 between municipalities within a sector (ibid.). While this coordination happened informally and in
350 different forms between municipal representatives, PB meetings of sector delegates at parochial
351 level or its urban equivalent of quarters were now the most decentral level for PB meetings
352 (interviews with communal members in Columbe). The municipal government in Colta

353 furthermore solved the requirement of meeting development planning priorities by withholding a
354 share of municipal investment budgets for strategic investments and a simultaneous grouping of
355 municipalities into sectors such that PB projects still grew in size. Nevertheless, in response to the
356 new planning laws, Colta partly re-centralized investment decisions after municipal elections in
357 2014 by giving higher priority to projects that are in line with the development plan priorities but
358 continues participatory budget decisions (interview with mayor in Colta). According to community
359 members, these are rather public events informing the constituency about the investment decisions
360 taken rather than „truely“ deciding upon budgets. This procedure gradually empowered the role of
361 the parochial and cantonal assemblies and thus transformed communal participation with
362 representation in assemblies. The project list, however, that the assemblies use to prioritize
363 investments is based on suggestions from (groups of) communities within the parroquias
364 (interviews with communal members in Columbe).

365 In Coca there was a strategic development plan from 2002 to 2012 (GADM Orellana 2002) but
366 public investment decision were taken through yearly PB. 80 per cent of the municipal investment
367 funds were distributed through PB among the parroquias and urban quarters (UN-Habitat 2009,
368 and yearly PB reports). The PB funds were distributed to 80 per cent territorially (35 per cent to
369 rural areas and 65 per cent for urban quarters) and 20 per cent were allocated to 15 thematic round
370 tables according to management capacity and budgetary needs (interviews with administrators in
371 Coca). The territorially distributed funds were distributed according to population, unsatisfied basic
372 necessities, a priority for those locations that had not benefitted the years before, oil-production
373 impacts, in case of rural area remoteness, and for urban zones the rate of civic participation in PB
374 meetings (yearly PB reports and interviews with administrators). PB meetings were held at
375 parochial and quarter level and consisted of democratically elected delegates from parochial
376 communities and from within the urban quarter (ibid). These PB meetings proposed (a list of)
377 projects to be implemented. The proposed projects were ranked according to points for number of

beneficiaries, priority areas, urgency, inter-communal alliances, necessities, positive relation to cantonal development plan communities, and others (ibid.). The resulting list of projects entered the yearly budget plans until the budgetary limits were reached. The national requirement for 10-year development planning implies that strategic investments need to be prioritized. In Coca, this led to a fully fledged re-centralization of yearly budgetary decisions from PB meetings to the municipal government, as the development plans need be executed and adhered to (interview with administrative staff). Since municipal elections in 2014, municipal investments are determined through the cantonal development planning by the cantonal assembly instead of yearly PB meetings (Gobierno Municipal de Orellana 2014, and interviews with administrative staff). Public participation for budget decisions is now employed through a not yet formally specified participation in strategic development planning instead of through yearly PB meetings.

Both municipalities reacted in similar ways to the national law on development planning by (partly) re-centralising the investment decisions. This indicates that there is a conflict between the planning laws and the constitutional PB requirements that could not be solved without trade-offs. We will return to an interpretation of this in the discussion.

Empirical analysis of collective preference formulation

PB mechanisms have been in place in both case study municipalities for at least 10 years. In this section we inductively analyse how collective preferences shaped the budgetary allocations through PB at an operational level, eliciting the preferences articulated through PB. As such, the analysis is limited to the time of PB operation during the period 2004-2013. We analyse this cases by both descriptive quantitative and qualitative interpretative comparisons (Levy 2008).

We display how the PB budget has developed over time for the two municipalities in order to clarify the budgetary constraints for the collective choice arrangements. We show the investments in both rural and urban zones and how the PB budget was distributed among public functions to map the elicited local collective preferences.

Figure 3: Participatory Budgeting comparisons between municipalities with regard to: A) yearly PB budget development; B) total investments per rural vs urban zones, and C) investment shares per public function. Investment are given in \$US. The boxplots in B) and C) display the median value across years at the bar, 25 and 75 per cent quartiles of the data as the box, and outliers as points. Source: authors' computation based on municipal PB reports.

Panel A in Figure 3 shows that the municipality of Coca always had a larger PB budget which was furthermore growing quicker than over time the PB Colta budget (rising from about 1.6 million US\$ in 2004 to about 4 million in 2013 in Coca, and from almost 1.5 million in 2004 to almost 2,6 million in 2013 in Colta). This is mainly due to high revenues from crude oil production in Coca (see also Table 1). From around 2010 both PB budgets took a slight drop and remained on a constant

level until 2014 which is related to the 2008 economic crisis that hit the municipalities in Ecuador a bit later than the national level. Panel B shows that while in Coca larger yearly amounts have been invested in the urban zone, it is to the contrary in Colta, where comparatively little has been invested in the urban zones. The fact that PB investment sums in urban Colta are lower than anywhere else can be explained by a) the relatively high share of rural population in Colta, and the correspondingly high PB distribution to rural areas (see Table 1), and b) that many of the direct municipal government investments according to strategic development goals were made in urban Colta which substituted the need for infrastructure investment (interview with the mayor in Colta). Panel C display the distribution of yearly investment shares in per cent among 12 public functions within the municipal competence across the analysed 10 years. From the median bars we can see that preferences differ among both municipalities and zones. We can thus observe that different preferences are articulated across both municipalities and urban and rural zones.

There are indications that these investments are in line with local preferences. First, we record several occasions where the local interviewees expressed that needs are met by prioritized investments. This is evidenced by either direct expressions of own interest in the case of community members in Colta for water and road infrastructure, or the explanation of educational needs of rural communities by administrative staff in Colta. As these interviews are small *N*, qualitative sources of information, they are not necessarily representative. They can however provide indications from different type of actors (see Data collection). We can further triangulate through a descriptive comparison based on the most different case study design by comparing the developmental situation in the respective municipalities (see Table 1). There are similarities in terms of multi-ethnic populations but different ethnicities (except for Mestizos). Furthermore, bio-geographically and in terms of land use, Andean Colta and Amazonian Coca largely differ. Comparing the four zones across the two case studies, the urban zone in Coca and the rural zone in Colta appear to have greater commonalities than the two zones within Coca and Colta to each other. This indicates that

437 rural Colta in the Andes and urban Coca in the Amazon may have similar development needs or at
438 least that citizens in both municipal zones value similar types of public goods similarly. This
439 apparent similarity, however, is partly superficial once preferences are cross-checked on the
440 ground. Overall, grey infrastructure has indeed a high priority, but this is also conditional on the
441 institutional design in the case study, where the municipal investment fund is distributed through
442 PB. Investment is typically classified as expenditure into capital (basically infrastructure owned by
443 the municipalities), while wages are running expenditure which do not classify as eligible under
444 PB. This may partly explain the observed high preferences for grey infrastructure across zones and
445 municipalities (Cameron 2009) – when compared to say educational spending for employing
446 teachers (which is not possible through PB). Our interviewees, however, did not voice any
447 objections against the institutional limitations that allowed only a certain type of infrastructure
448 investment. Rather, roads and school buildings seemed to have an important value for the
449 communities in Colta and Coca. Furthermore, the limitation of what type of projects could be
450 prioritized seemed to be taken as a given across participants – at least no concerns were voiced.

451 In terms of prioritized PB investments *urban* Coca and *rural* Colta have in common is that they
452 have a high expressed preference for water infrastructure investments. At the local level, urban
453 Coca has a need for both clean drinking water and adequate wastewater treatment whereas rural
454 Colta faces problems of providing drinking water to remote mountainous communities (both based
455 on an assessment of the PB project data base, see supplementary data, and interview data). Lots of
456 communal efforts go into securing constant and clean water supply. Furthermore, there is relatively
457 good road infrastructure, and thus accessibility in both sites. This may explain the relatively high
458 expenditure in this regard (see Figure 3, Panel C) as an established infrastructure comes with
459 maintenance costs. Field trip observations and interviews confirm that there are in fact not just
460 maintenance works but continuous investments in infrastructure improvements ongoing in both
461 localities. This reflects expressed needs for commuting and desired reductions in travel time

(interview with communal members in Colta). The high municipal infrastructure investments do not differ so much at the local level. It is mainly community buildings that are built with these investments whether rural “casas comunales” or urban communal “casas barriales” (project database). There is, however, a relatively high share of expenditures for cemeteries in rural Colta (project database). Both sites have relatively high spending on environmental protection, mainly dealing with waterbody protection (Coca) and erosion control (Colta). This reflects the two environmental resources most exposed to contamination and overuse (GADM Orellana 2002; GADM Colta 2001). While there are thus seemingly high correlations between developmental needs in both rural Colta and urban Coca, the very nature of expressed investments needs differs to some extent at the local level. The needs in rural Coca, differ greatly, not just in nature but significantly in quantitative terms. There is a very high demand for educational investment – mainly in school buildings for instruction and in some cases teacher housing. According to interview data with local administrative staff in Coca, this is mainly due to difficult school accessibility in the relatively sparsely populated Amazonian rural areas without much road infrastructure. This comes with long boat travels of school children along the Amazonian rivers that parents wish to reduce. Educational infrastructure thus heavily outweighs all other development investments. In second and third, yet far off places, come (drinking) water management and public health (local sanitary and health care buildings), respectively. Urban Colta, in contrast, has high articulated preferences for municipal infrastructure, mainly in the form of a new cantonal town hall. This may partly be due to relatively secure and well-paid jobs for the local administration and its growth therefore provided opportunities, and because construction adds yet more labour demand (both pointed out by some interviewees in Colta). People may thus have voted for corresponding investments for their own employment chances. This is followed by high but varying investments in water management and tourism infrastructure. These articulated developmental needs are partly related as a high share of these investments went into the recovery

of the “Laguna de Colta”, the local waterbody and the construction of adjacent tourism infrastructure to capitalize on scenic beauty (as evidenced by project database and field visits).

The differences within the cantons indicate that the PB mechanism allowed participants to express different needs, for example across urban and rural zones. Interview data seems to corroborate a relatively effective PB functioning in terms of preference satisfaction. Yet, through the institutional and empirical analyses, we can observe an active policy experimentation at the local level during the piloting phase and a less inclusive PB implementation once higher-level requirements are introduced. This has implications for legitimacy and effectiveness of PB.

Discussion of institutional development of PB in Ecuador

Decentral governments are closer to the people and could thus provide public functions in line with the local preferences (Oates 1972; Faguet 2014). Participation can enhance democracy (Fung and Wright 2001) but faces challenges, in particular when ordered from above (McNulty 2019). Participating in budgetary decisions holds many promises but has mainly been experimented with at decentral levels. The Ecuadorian case thus provides opportunities to improve our understanding of decentral PB embedded within multi-level governments. So far, the successful cases have been reported from decentral PB, e.g. in Brazil (Touchton and Wampler 2013; Gonçalves 2014) or the USA (Russon Gilman 2016), see also Nabatchi and Leighninger (2015). When participation is ordered from above, this can create empty mechanisms that may not necessarily involve civil society participation (McNulty 2019). Here, we contribute evidence showing that initial PB pilots in Ecuador prioritized investments projects through very localized PB meetings. Following several municipal pilots, the 2008 constitutional reform in Ecuador required all government levels to implement PB. This constitutes a case of a bottom-up institutional development. The constitutional reform, however, led to a (partial) recentralization of the investment decision making power away from local meetings to cantonal assemblies.

511 The laws clearly state require both municipal planning procedures and PB processes. The
512 municipal development plans serve the purpose of formulating the mid to long-term goals
513 participatorily and the yearly budgets are *subject* to the development plans (Senplades 2010). This
514 means that, by institutional design, the long-term planning trumps yearly PB. This is in line with
515 higher government level coordination of lower government level performance and a general
516 prioritization of planning over participation where development priorities have been formulated by
517 the planning agencies rather than by the citizens (Senplades 2009; 2013). This corroborates the
518 observed tendency for (re-)centralization despite participatory framings of the Ecuadorian
519 government under the 2008 constitution (McNulty 2019, Supplementary Material). It also
520 coincides with a finding from Montambeault (2019) who observes a gradual policy change within
521 local PB practices in Belo Horizonte that delegitimized participatory outcomes. As such, the
522 Ecuadorian case stands for a rise of PB through local experimentation and a subsequent fall through
523 conflictual demands in scaling a local policy up to the national level. Successful PB pilots were
524 stalled by central planning requirements despite a constitutional requirement for their continuation
525 at all government levels. The intention was therefore probably not hampering local implementation.
526 However, requirements for vertical coordination and longer-term development planning imposed
527 severe challenges for the local PB practices. Conflicting requirements from higher level
528 governments regarding long-term planning and PB led to a faulty PB implementation. Here, we
529 argue that this is a consequence of institutional complexity in terms of simultaneous requirements
530 for vertically coordinated development planning *and* PB requirements at all levels (see Figure 4
531 for a graphical representation of our argument). The requirements for concerted efforts in terms of
532 national development impose limits to the devolution of all budgetary decisions to the local level.
533 This requires coordination of development planning and rules and scope for corresponding PB
534 mechanisms across levels. It is a challenge that needs to be solved if municipal PB are to be
535 implemented successfully – as required by the constitution and subsequent legislation.

Figure 4: Stylized institutional development of the Ecuadorian participatory budgeting (PB) mechanism over time. It displays that there were partly conflicting requirements on municipal planning and budgetary processes from higher level government laws that led municipalities to opt for planning rather than PB requirements. Source: own representation.

The literature on institutional complexity can partly help understanding this phenomenon. For the case of South Africa Koelble and Siddle (2014) argue that decentralization failed because local governments were facing complex constitutional and legal requirements they were not equipped to meet. The lack of success in implementing decentral participation in South Africa could thus well be explained by a lack sufficient organizational complexity to face institutionally complex requirements. In case of complex multi-level government requirements, local government staff needs to be prepared to implement decentral. Ewens and van der Voet (2019) show that the number of municipal departments has a positive relation with participatory innovation among German municipal PBs. This measure may in turn be correlated with specialized staff and thus administrative capacities. Functional differentiation and specialized staff can thus increase preparedness and innovation at the local level. For the analysed Ecuadorian PB pilots a ten-year implementation had arguably created corresponding local capacities. Before the constitutional reform both municipalities also had development plans (GADM Colta 2001; GADM Orellana 2002) but these rather served a scoping function to look ahead than defining strategic investment priorities. Yet, the new constitution and subsequent legislation additionally required them to plan and participatorily formulate goal indicators against which their performance is centrally assessed.

There are benefits to plan (public) investments strategically because they create long-lasting infrastructure. An example is the planned waste treatment facility in Colta (interview with the mayor), which shall be financed from the cantonal investment fund but may not have highest priority when deciding on annual budgets. Reserving a portion of funds to participatorily plan strategic investments would allow for long-term perspectives. It is nevertheless not an easy task to formulate long-term performance indicators while allowing the operational budget to be defined by (urgent) needs of the population. In this sense, we argue, it is not *per se* the planning or the PB implementation, but the simultaneous long-term planning and PB requirement that is yet too complex to be solved with current local administrative capacities. However, over the course of the PB implementation in the two municipalities, there were aspects and ideas that could serve for further innovation to align long-term planning and annual PB. Colta, for example, experimented with giving an extra weight to PB projects that fulfill long-term development goals. Local experiences may thus further serve as a learning resource on i) how to facilitate participation in both longer-term planning and PB, and ii) how to design PB mechanisms that allow a prioritization of investments in line with both local preferences and participatorily formulated planning priorities.

Conclusion

We have analysed PB as a participatory decision-making mechanism for public investment decisions in the Ecuadorian multi-level government structure through the analytical lens of the IAD framework. This allowed to disentangle local practices, collective choice outcomes and constitutional requirements. Both case study municipalities in Ecuador had piloted PB mechanisms. We find evidence that during the time of operation the municipal PB mechanisms expressed locally differentiated preferences in yearly decentral investment decisions. These PB pilots were subsequently scaled up to become a requirement for all government levels under the 2008 constitution. The municipal cases thus serve as examples of an embedded decentralized implementation within a multi-level PB governance. To ensure policy coherence, the central

government simultaneously introduced a national law for vertical coordination of development planning. The law requires municipalities to develop long-term development plans. Despite a participatory formulation of these development plans, the requirements of both long-term planning and local PB introduced complications. To ensure to reach long-term development plans both municipalities recentralized investment decision from PB assemblies to municipal planning committees. This had detrimental effects on the frequency of participation and the possibility to prioritize municipal budgets through annual local PB participation. However, as PB mechanisms remain to be constitutionally required and there is a need to properly define the relation of municipal development plans and PB mechanisms. Here, the Ecuadorian multi-level system can build upon the successful municipal experiences in implementing PB, while carving out a place for strategic longer-term planning that does not hamper the implementation of the constitutional requirement for annual local participation in budgetary planning.

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