

ABSTRACT

Title of Dissertation: THE CONTRASTING EFFECTS OF SOCIAL CAPITAL ON NONVIOLENT RESISTANCE: EVIDENCE FROM PERU

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This dissertation develops a model to understand the joint role of social capital and nonviolent resistance campaigns to obtain concessions and changes in public goods provision in new democracies and in democracies with weak party systems. The factors that explain variation in effectiveness among nonviolent campaigns have been understudied. By adding social capital to the analysis, this dissertation contributes to filling this theoretical and empirical void. I use data from Perú to provide empirical support to my theory.

In Chapter 2, a micro-level theory of nonviolent campaigns is developed. This theory argues that by making cooperation easier, social capital increases the levels of participation in nonviolent campaigns, thereby making concessions more likely. A novel result of this theory is that it shows that social capital is a key feature of social life that can help to generate disruptive collective actions but also to prevent the use of such disruptive means. Thus, under some circumstances, social capital can help to reduce the observed disruptive actions.

Chapters 3 and 4 test the theoretical propositions derived in Chapter 2 using Peruvian data. Chapter 3 finds that social capital has a negative statistically significant

effect on some types of nonviolent campaigns but positive effects on other types of nonviolent campaigns. Chapter 3 also provides evidence that peasant communities' organizations in the first half of the 20th century were product of persistence effects of early colonial extractive institutions (i.e. the mining mita) with colonial revolts as important channels of persistence.

Chapter 4 shows that nonviolent campaigns and social capital form a positive interactive relationship to affect the provision of public goods at the local level. Social capital makes more likely nonviolent campaign's success. Chapter 5 summarizes the main conclusions of this dissertation.

THE CONTRASTING EFFECTS OF SOCIAL CAPITAL ON NONVIOLENT
RESISTANCE:
EVIDENCE FROM PERU

by

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Foreword

Robert Solow asserted that once capital and labor have jointly produced a commodity, there is no *technical and impartial* way to distribute its value among the owners of the inputs. As long as capital needs labor, the actual distribution of what they jointly produce will depend on the amount of political power that each factor has. Realizing this fact in my undergrad years kindled my interest in politics and in political economy. This interest led me to pursue graduate studies in economics and politics. During my graduate studies, I learned that economic and political institutions matter for economic development. However, not all countries chose to establish institutions that are most favorable for economic development. According to a recent literature, this occurs because the institutions that prevail in a given country are determined by societal groups that have the political power to establish the institutions that preferentially benefit them. Thus, political power is of paramount importance to understand actual institutional settings. The *de jure* political power is determined by political institutions, but the *de facto* political power comes from the distribution of resources in a country. In other words, those that have significant wealth will likely be able to exert power to shape outcomes in a society. This conclusion seems to be challenged by observation of nonviolent campaigns against mining firms at the local level. In these conflicts, groups of citizens without much economic power were able to stop multinational mining firms' projects. These groups of citizens were normally labeled by the national media as prone to violence, irrational groups that are simply against development. Are these groups actually irrational? How can these groups stop large corporations' plans? These

questions made me focus on the study of conflicts at the local level, which are the core of this dissertation. From studying nonviolent campaigns in Perú, I conclude that peasant communities matter for shaping conflicts at the local level, moreover I also conclude that citizens' decisions to engage in nonviolent campaigns are perfectly rational considering that at the local level there exist a set of historical determined informal institutions. Finally, the theory and the empirical results of this study led me to conclude that among the groups that engage in local conflicts, peasant communities can help to generate disruptive collective actions but also to prevent the use of such disruptive means: peasant communities can also help to reduce conflicts.

The development of the theoretical framework of this dissertation would not have been possible without professor Johanna Birnir. Johanna Birnir's keen understanding of contentious politics have helped me in several ways, from helping me to notice patterns in my data which I otherwise would not have perceived easily, to pointing me in the direction of relevant literature. Professor Birnir was always supportive and understanding, for all that, I will be eternally grateful. I want to extend also my gratitude to Ernesto Calvo, for always having a key suggestion to improve the quality of my work, time to read my manuscripts, and responding to my emails. I want to also extend my gratitude to professors William Reed, Margaret Pearson, and Sebastian Galiani. Their comments on my manuscript have certainly improved its quality.

I want to thank to all my fellow grad students who, despite difficult times, have always provided me with their support and friendship. A special thanks to professor Michael Hanmer, Ann Marie Clark, and Elaine Rudder for always providing guidance on the steps to fulfill all the requirements of my graduate studies.

At a personal level, I want to extend my gratitude to my mother, Sara Castellanos, for her unconditional support during my graduate studies and almost all my life. Sara, all I am, I owe to you.

Dedication

Kay qhillqaca Saturnino Huillca Quispepaq yuyayñinpi

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List of Abbreviations

CCESC	Contrasting Coordination Effects of Social Capital
CENAGRO	Censo Nacional Agropecuario
FONCOMUN	Fondo de Compensación Municipal
MEF	Ministerio de Economía y Finanzas
NVR	Non Violent Resistance
OA	Ombudsman Agency
PIA	Presupuesto Institucional de Apertura
PIM	Presupuesto Institucional Modificado
RC	Receiver of Claims
RENAMU	Registro Nacional de Municipalidades

Chapter 1: Introduction

Can social capital¹ make nonviolent resistance² (henceforth NVR) campaigns more effective in obtaining concessions? Does social capital only help to coordinate and execute disruptive collective actions within NVR campaigns, or can it also reduce the need for disruptive collective actions to obtain concessions? These are unanswered questions in the NVR literature because the focus of this literature so far has been on comparing the effectiveness of NVR campaigns with violent means to obtain regime changes or other political concessions (Chenoweth and Stephan, 2011; Nepstad, 2011)

According to the NVR literature, NVR campaigns are more likely to succeed than violent campaigns because more people participates in NVR campaigns. High levels of participation occur because the moral, physical, informational, and commitment barriers to participation are much lower in NVR campaigns than in violent insurgencies (Chenoweth and Stephan, 2011:24). But, within NVR campaigns, how can we explain differences in participation and effectiveness if all these campaigns are using the same nonviolent low-cost means? This dissertation argues that social capital can explain these differences among NVR campaigns. By making cooperation easier, social capital helps to increase the levels

¹ Social capital refers to features of social organizations, such as trust, norms, and networks, that can improve the efficiency of the society by facilitating coordinated actions. Communities that have inherited a substantial stock of social capital find voluntary cooperation easier often due to shared norms of reciprocity and networks of civic engagement (Putnam, 1993:167).

² Nonviolent resistance is defined as nonstate unarmed opposition campaigns, including boycotts, strikes, protest, and organized noncooperation to exact political concessions and challenge entrenched power.

of participation, thereby making concessions more likely. Furthermore, this dissertation also shows that depending on whether the receiver of claims (henceforth RC) is *external*³ or *internal*, social capital can have *opposite effects* in the number of disruptive events (e.g. boycotts, strikes, protest, and organized noncooperation) necessary to obtain concessions.

The mechanism underlying these contrasting effects is explained in detail in Chapter 2. However, below I explain these mechanisms briefly. I start by explaining how the contrasting effects work with high levels of social capital for both the external and internal actors respectively, then I explain the contrasting effects with low levels of social capital.

In the context of *high levels of social capital*, if the RC is an *external actor*, then the number of disruptive events that the claimants must execute to obtain concessions will be large. This will occur for two reasons. First, the receiver of the claims will only concede if it is in his best interest, which will happen if the cost of conceding is less than the costs⁴ generated by the disruptive actions. In turn, disruptive actions will be more costly if they are sustained for a longer time. Second, the only way claimants can inform the RC of their high capacity to engage in sustained disruptive collective actions (that comes from high levels of social capital) is by actually engaging in sustained disruptive actions. This claim is in line with Chenoweth and Olsen (2016) who show that multiple coordinated events are crucial to obtain concessions. They found that multiple coordinated events over time are more effective than a single, one-off event: 21% of civil resistance efforts that included

³ An external RC is defined as an actor that does not know or does not attribute legitimacy to the levels of social capital shared among the claimants and does not have access to the networks included in the social capital. The internal RC does know the levels of social capital shared among the claimants and has access to the networks included in the social capital.

⁴ In the case of the corporate mining firms, in addition to stopping their normal functioning for some days, protests might have a negative effect on corporate share value (King and Soule 2007). Boycotts can also have undesirable effects on corporate finances (Koku, Akhigbe, and Springer 1997; Pruitt and Friedman 1986) or negative effects on corporate reputation (McDonnell and King 2013).

only one event were successful in achieving partial or full accommodation of their requests, but 49% of efforts that included at least two events were successful. The greater the number of events, the more likely it was that the corporation made concessions.

An example where a local population has claims over an external RC is when a multinational mineral extraction firm operates in a small district with high levels of social capital. Due to grievances, the local population will have claims over the resources available to the mining firm, but the firm's focus is on obtaining all legal permits and abiding by all central government regulations. Initially, the firm does not know or does not attribute legitimacy to local organizations nor to their rules of civic engagement and networks of reciprocity. Furthermore, the mining firm ignores the local organizations' capacity to engage in boycotts, strikes, and protests that could increase its costs. For this reason, the firm will not concede to the local organizations' claims immediately. Thus, in order to obtain concessions, the local claimants will *have to* engage in boycotts, strikes, protests, and other disruptive actions to demonstrate their high capacity to organize collective actions not once but on many occasions. In turn, executing multiple events demonstrates that they can impose sustained costs to the RC. By doing this, the claimants are showing their high capacity to fight and resist. Given the lack of other communication channels, disruptive actions are the only way to transfer information to the firm about the costs of not conceding. Only after internalizing the information of claimants' high capacity for resistance will the firm concede to the claims.

On the other hand, if the RC is an *internal actor* that understands the *high levels of social capital* among the claimants and has access to the networks included in the social capital, the number of disruptive events that the claimants have to execute to obtain

concessions will be low. This will occur because the RC knows beforehand that the claimants have the capacity to make him comply (because of their high social capital), and for this reason he decides to concede and avoid the cost of many disruptive events. Networks that are included in social capital can also transfer information to the RC of claims about their demands and the disruptive actions to be taken if he decides not to concede; this information will make him concede faster. An example of this type of situation occurs when a local population has claims over a local political authority (e.g., the local mayor) in a district with high social capital. The local mayor is clearly an *internal* RC since he is most likely informed about the organization and networks that constitute the high levels of social capital at the local level (he most likely belongs to one of the organizations or he has seen them executing collective actions before). Through the existent networks, these organizations will easily transfer information to the local mayor about both their demands and the actions to be taken if the mayor does not concede. The mayor knows that the organizations can make him comply and decides to concede without much need for disruptive collective actions.

Finally, if there are *low levels of social capital* among the claimants with an *internal* RC, the claimants might still engage in uncoordinated weak disruptive actions for some periods due to the existent grievances. The RC will not concede because he knows that these disruptive events will not have significant levels of participation (the internal RC knows the meager levels of social capital at the local level). Similarly, if there are *low levels of social capital* among the claimants with an *external* RC, the initial decision of the RC will be not to concede because he ignores the levels of social capital. He will not concede

later as well, because he will realize that there is no strength among the claimants to engage in sustained strong disruptive actions.

The contrasting effects of social capital explained so far are summarized in Table 1 below. By making cooperation easier, social capital helps to solve the collective action problem which, in turn, increases the levels of participation, thereby making concessions more likely regardless of the type of RC.

	Low Social Capital	High Social Capital
Internal Receiver of Claims	High conflict. Low concessions.	Low conflict, High Concessions.
External Receiver of Claims	Low conflict. Low concessions.	High conflict. High Concessions.

Table 1. Summarizing the Contrasting Coordination Effects of Social Capital

In chapter 2 of this dissertation, I develop a theoretical framework that explains in detail the contrasting effects of social capital. I refer to this theory as the *Contrasting Coordination Effects of Social Capital Model* (henceforth *CCESC Model*). The CCESC model mainly analyzes the strategic interactions between claimants and the RC; the model is not suitable for analyzing contention with additional actors (such as political parties, central states, etc.) having relevant strategic roles. Thus, the CCESC model represents

strategic interactions at the subnational level in which: i) political parties do not have strong presence at the local level, and ii) the central state and judiciary power have aligned their interest with the extraction firms' interest but are unable to use lethal force against the claimants. These two situations are likely to be observed in countries with weak party systems and weak states, as occurs in some Latin American countries, or in new democracies, as occurs in some countries in Africa.

To evaluate the CCESC model empirical predictions, I use data from the Peruvian ombudsman agency about NVR campaigns. In this country, there is a weak party system and the central government's role in nonviolent campaigns at the subnational level is either nonexistent or biased towards the interests of one type of RC. I analyze the two main types of conflicts that have occurred in the Peruvian context: local and mining conflicts⁵. In a local conflict, citizens or organizations of citizens have claims over the resources available to the local government. In a mining conflict, citizens or organizations of citizens have claims over the resources available to a mining firm. These two types of conflict account for approximately 53% of the total number of conflicts reported in Peru.

The Peruvian mining conflicts fit the definition of NVR campaigns against a corporate firm as provided in Chenoweth and Olsen (2016), but most importantly, they are NVR campaigns with an external RC. The local conflicts instead fit the definition of NVR campaigns with an internal RC. These two types of conflicts are NVR campaigns because the means used by the claimants to obtain concessions are nonviolent such as blockades, boycotts, strikes, and protests. The variables that represent social capital in this dissertation are indicators of the quantity and geographical spread of communal organizations with

⁵ I use the "monthly conflict reports" elaborated by the Peruvian Ombudsman Agency (Defensoría del Pueblo), in which the NVR campaigns are called conflicts.

historical roots that can be traced as far back as the 18th century. These communal organizations are known in Peru as peasant communities and are the main form of organizations in the rural space (Diez, 2010). Peasant communities have three main characteristics: i) they hold communal property rights and shared use of land, ii) there are bonds of reciprocity and kinship among the members, and iii) they have an internal organization to choose their leadership (Diez, 1999).

In Chapter 3, I exploit the variation produced by a natural experiment that generated revenue windfalls for both mining firms and local governments in Perú⁶ to empirically evaluate the opposite effects suggested by the CCESC model. The results show that after a revenue windfall, communities with higher social capital *increased* the number of months with active nonviolent campaigns against *mining* companies but *reduced* the number of months with active nonviolent campaigns against *local* governments. Overall, these results highlight that social capital serves not only to organize disruptive collective actions but also to reduce the use of such disruptive means.

In Chapter 4, I turn to the empirical evaluation of the effectiveness of both local and mining conflicts in obtaining concessions. The concessions are measured as changes in the local government budget assigned to discretionary investments. Budget assigned to investments are resources destined to build some type of infrastructure at the local level. Thus, this type of expenditure provides public goods at the local level. The results support the predictions of the CCESC model for each of the two types of conflicts analyzed in Chapter 3.

⁶ These revenue windfalls are the consequence of an unexpected increase in the international prices of mineral commodities.

First, I found that *local NVR campaigns* led to substitution effects in local government's budgets from regular expenditures (e.g. expenditures assigned to salaries, goods, etc.) to public goods expenditures. The decision to make this type of reallocation can only be made by the local authorities (the local mayor). In other words, local conflicts caused the local political authorities to reallocate budget towards the provision of public goods. The higher the levels of social capital, the higher the levels of reallocation of the budget towards public goods provision.

Second, according to the CCESC model, successful *mining NVR campaigns* should generate transfers from the mining firm to the local population for the provision of public goods. Unfortunately, detailed data about transfers from mining firms to local populations is not available. Instead, I have analyzed the impact of mining NVR campaigns on discretionary transfers for public goods provision coming from the central government. This is a valid proxy measure because the central government normally promotes investments in the mining sector, meaning it will act mostly in favor of the mining firm (Revesz and Diez, 2006). Based on this assumption, I argue that mining NVR campaigns will generate more discretionary transfers for public goods provision from the central to the local government aiming to persuade local populations to allow the mining activities without disruptions. This is precisely the effect found in Chapter 4; the mining NVR campaigns generated more discretionary transfers for public goods provision from the central government. Furthermore, the higher the levels of social capital, the greater the transfers of discretionary provision for public goods from the central government.

The four chapters of this dissertation provide both theoretical and empirical contributions to the study of NVR campaigns. The theoretical contribution is to add social capital as a crucial element to obtain concessions and as a key feature of social life that can help to generate disruptive collective actions but also to prevent the use of such disruptive actions.

The empirical contribution is to provide large sample evidence of the contrasting effects of social capital on NVR campaigns at the subnational level, previous studies relied mostly on case studies.

Chapter 2: The Contrasting Coordination Effects of Social Capital Model

This chapter develops a theory of NVR campaigns in which social capital explains differences in effectiveness to obtain concessions. Furthermore, this theory focuses on the differences that arise from having two types of receiver of claims (henceforth RC): external and internal. An *external* RC does not know or does not attribute legitimacy to the levels of social capital shared among the claimants and does not have access to the networks included in social capital.⁷ An *internal* RC does know and does give legitimacy to the social capital existent among the claimants.

A central claim of the theory developed in this chapter is that depending on whether the receiver of claims is *external* or *internal*, social capital can have *opposite effects* on the number of disruptive events (e.g. boycotts, strikes, protest, and organized noncooperation) necessary to obtain concessions. I call this model *The Contrasting Coordination Effects of Social Capital model (CCESC)*.

Moving the analysis to the strategic interactions at a micro level, the CCESC model argues that informal institutions that imply agreements containing punishments in case of defection can be represented by temporal punishments equilibria (trigger strategies) in infinitely repeated games. Thus, the CCESC model use as baseline the equilibria of an infinitively repeated game which I have labeled as the infinitely repeated protester dilemma (presented in section 2.2). In section 2.3, the CCESC model develops a theory to explain the process of moving from one equilibrium to another after an exogenous shock (e.g. a revenue windfall) create grievances within the original equilibrium. The CCESC model

⁷ An external RC is normally of this type because is not originally from the same geographic space as the claimants

argues that NVR disruptive actions *are necessary* to move to the new equilibrium. Roughly described, the process begins with the exogenous shock, then generates NVR campaigns that include disruptive events and finishes with changes in transfers and public policies at the local level.

The rest of chapter 2 proceeds as follows: In section 2.1., I present a literature review that summarizes four bodies of theory relevant to the *CCESC* model and describe how the *CCESC* model develops from them. In section 2.2, I describe a generic infinitely repeated protester dilemma: the stage game and its equilibria, the infinitely repeated game and all the relevant SPNE. In section 2.3, I discuss the dynamics that occurs when moving from one equilibrium to another after an exogenous wealth-increasing change in the infinitely repeated game. Most importantly, I analyze the differentiated role of social capital on each of the two types of conflicts studied in this dissertation. Finally, I present a set of testable propositions for each type of conflict.

2.1 Literature Review

The *CCESC* model borrows many components from important approaches in political science and economic theory. I summarize four bodies of theory relevant to the *CCESC* model and describe how the *CCESC* model develops from them. These approaches are the social movements literature, the non-violent resistance literature, the social capital literature, and the collective action approach to social dilemmas.

Social Movements Literature

The social movements literature aims to explain why social actors use disruptive means such as protest and rebellion to achieve their political goals. Early approaches focused on the underlying psychological conditions that motivate individuals to participate in collective actions. Important among these conditions were social alienation, and relative deprivation (Davies, 1962; Gurr, 1970). According to this literature, protest and rebellion are triggered when certain grievances reach a threshold or boiling point. This approach is known as the grievance-based conception of social movements.

In contrast, the resource mobilization approach focuses on the amount of resources available to the aggrieved sector and on mobilization structures such as social groups, organizations and networks as the main determinant factors explaining social movements (Ganson, 1975; McCarty and Zald, 1977).

A third approach argued that movements will succeed or fail based on the political opportunity structures, which are consistent dimensions of political environment that either encourage or discourage people from using collective action. This approach is known as the political opportunity approach (Tarrow, 1998:18).

Among the three approaches to social movements summarized above, relative deprivation is particularly relevant to the *CCESC* model since it explains that individuals can feel aggrieved even if they are not worse off. This occurs because relative deprivation is defined as the discrepancy between an individual's expectations of rightful entitlements and her capacity to attain them. For instance, if a wealth increasing social change occurs at the local level, individuals will feel aggrieved if they do not obtain their fair share even though they are not worse off. The *CCESC* model argues that this kind of grievance underlies the conflicts processes.

The Non-violent Resistance Literature (NVR)

Non-violent resistance campaigns are defined as nonstate unarmed opposition campaigns, including boycotts, strikes, protest, and organized noncooperation to exact political concessions and challenge entrenched power. Thus, civil resistance is a technique of conflict in which unarmed civilians confront an opponent using a variety of tactics that do not physically harm or threaten to physically harm the opponent. Among the first studies within the NVR literature is the study by Chenoweth and Stephan (2011). The main objective of this study was to compare the effectiveness of NVR campaigns with the effectiveness of violent campaigns to obtain regime change. The authors documented a higher rate of success of NVR campaigns in a set of regime change campaigns. This pattern is explained by the fact that nonviolent campaigns facilitate the active participation of more people than violent campaigns, thereby broadening the base of resistance and raising the opponent's costs to maintain the status quo. The mass civilian participation in a nonviolent campaign is more likely to backfire in the face of repression, encourage loyalty shifts among regime supporters, and provide resistance leaders with a more diverse menu of tactical and strategic choices (Chenoweth and Stephan, 2011:25).

Although, the concept of non-violent resistance was originally used to describe resistance against a political authority, Chenoweth and Olsen (2016) have studied non-violent resistance against corporate firms. In this study they also highlight that a high degree of participation is fundamental to obtain concessions. They found that multiple coordinated events over time are more effective than a single, one-off event. 21% of civil resistance efforts that included only one event were successful in achieving partial or full

accommodation of their requests, but 49% of efforts that included at least two events were successful. The greater the number of events, the more likely it was that the corporation made concessions.

The NVR approach is of particular relevance to the *CCESC* model for two reasons. First, the types of conflicts that my theoretical framework aims to explain are also low intensity conflicts “in which unarmed civilians confront an opponent using a variety of tactics that do not physically harm or threaten to physically harm the opponent” Chenoweth and Stephan (2011). Additionally, in the conflicts that the *CCESC* model explains, the RC also bears more disproportionately resource or political power compared to the claimants. Second, NVR requires broad participation and persistence to succeed. Persistence in NVR campaigns against corporate power implies that multiple disruptive events were necessary to obtain concessions. This highlights the multistage or dynamic nature of NVR episodes. The *CCESC* model also focuses on these crucial characteristics (broad participation and persistence) but from a different perspective. The *CCESC* model approaches conflict as repeated games in which high level of participation is explained not because the absence of violent means reduces the cost of participation but by the existence of social capital that helps to coordinate actions and beliefs.

Social Capital Literature

Social capital has been given several definitions. Bourdieu (1986) defined it “as the aggregate of the actual or potential resources which are linked to a possession of a durable network of more or less institutionalized relationships of mutual acquaintance and

recognition.” Two important elements of this definition are network of social relations, and the resources provided by this network.

Elinor Ostrom defines social capital as “The shared knowledge, understandings, norms, rules, and expectations about patterns of interactions that groups of individuals bring to a recurrent activity.” (Ostrom, 2000:176). Ostrom’s definition focuses on shared knowledge, but most importantly, *this knowledge is used for a certain activity*. Robert Putnam adds a crucial element to this definition by highlighting that social capital is *particularly relevant for activities that require cooperation*. Social capital refers to features of social organizations, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions. Communities that inherited a substantial stock of social capital find voluntary cooperation easier often due to shared norms of reciprocity and networks of civic engagement (Putnam, 1993:167). Thus, although social capital *is a set of shared knowledge* in the minds of the individuals that possess it, it also *brings resources* to these individuals. The most important of these resources is the coordination capacity which allows to solve the collective action problem. This characteristic is the most relevant for my theoretical framework.

The *CCESC* model explains the whole contentious process that begins with the exogenous wealth increasing shock, then generates conflicts that include disruptive events and finishes with changes in transfers and public policies at the local level. At early stages of this process, social capital has a key role in determining the intensity of the conflict. Hence, in these early stages, social capital is an *independent* variable and conflict is the main *dependent* variable. Recent scholarship has focused on the opposite effect: the effect of conflict on social capital. By focusing on the effect that conflict has over social capital

(mostly the effect of civil wars on social capital), the recent literature has treated social capital as the main dependent variable to be explained. From these studies, the main conclusion is that conflict has a robust positive and persistent effect over social capital, Bauer et al. (2016).

Since social capital makes cooperation and collective action easier, it might be logical to conclude that social capital will have a positive effect on NVR campaigns. However, the *CCESC* model argues that social capital can have *opposite* effects on conflict depending on the type of RC (external or internal to a set of citizens and communities that share networks of social engagement and reciprocity). The theoretical and empirical evidence provided in this dissertation is that social capital has *contrasting* effects on conflict is novel in the social capital literature.

In a recent study, Alcorta et al. (2020) found contrasting effects of social capital on self-reported support and participation in political violence. The effects depended *on the type* of social capital measured. The authors measured two types of social capital: cognitive and structural. Cognitive social capital refers to “shared norms, values, attitudes, and beliefs” (Dasgupta and Serageldin, 2000) and structural social capital consists of a variety of forms of social organization, including networks, roles, rules, and procedures (Uphoff, 2000). Accordingly, the study found that higher levels of cognitive social capital were associated with less support for and participation in political violence whereas higher levels of structural social capital were associated with more support for and participation in political violence. Alcorta et al. (2020), nevertheless, does not study actual contention but self-reported support and participation in political violence. This dissertation does analyze the contrasting effects of social capital in *actual* conflictive episodes keeping constant the type

of social capital. Furthermore, the measurements of social capital used in this dissertation are objective measures that, I argue, measure the quantity and geographical spread of communal organizations with historical roots that can be traced as far as the 18th century. These communal organizations are known in Peru as peasant communities which are the main form of organizations in the rural space (Diez, 2010). These organizations have three main characteristics: i) they hold communal property rights and shared use over land, ii) there are bonds of reciprocity and kinship among the members, and iii) they have an internal organization to choose their leadership (Diez, 1999).

Social Dilemmas and Collective Action

One of the fundamental problems in political science and economics is the problem of social dilemmas. Social dilemmas occur whenever individuals in interdependent situations face choices in which the maximization of short-term self-interest yields outcomes leaving all participants worse off than feasible alternatives. The tragedy of the commons and the provision of public goods are two known examples of social dilemmas. In all models of social dilemma, a group of players are involved in a game in which the strategy profile leading to a Nash equilibrium *for a single iteration* of the game yields a less than optimal outcome for all involved. Hence, the equilibrium is Pareto inferior. The optimal outcome could be achieved if those involved cooperated by selecting strategies different from those prescribed by the equilibrium solution and their dominant strategies (Ostrom, 1998:4). As I will argue in the next section of this chapter, the decision to engage in protest or use disruptive means to obtain concessions is also a social dilemma.

The prediction of a suboptimal outcome for the single iteration of the game is not supported by many observed situations in which people actually cooperate (Lichbach, 1995). One way in which this puzzle was solved theoretically was by moving from analyzing a single iteration of the social dilemma to analyzing repeated iterations in which the dilemma is played repeatedly. In the context of multiple iterations of a social dilemma, two types of uncertainties were introduced to explain why people cooperate instead of following the actions prescribed by the Nash equilibrium. The first is the uncertainty about the types of players participating in a social dilemma. Uncertainty about the presence of an irrational player that reciprocates with cooperation explains that a rational player will choose to cooperate at early stages and switch to no cooperation at the end of a finitely repeated game (Kreps et al. (1982)). The second uncertainty is about the number of repetitions that the game will have. If players have a sufficient degree of uncertainty about when the repetition will cease, then the interaction can be treated as an infinitely repeated game (Fudenberg and Maskin, 1986). Furthermore, in a finitely repeated game any feasible outcome of the stage game with higher payoffs than the Nash equilibrium payoffs can be approximated by the average payoff in a perfect equilibrium of a repeated game with a sufficiently long horizon. This result and similar are known as the Folk Theorem (Benoit and Krishna, 1985; Fudenberg and Maskin, 1986). This means that the Folk Theorem asserts that an infinite number of subgame perfect Nash equilibria (SPNE) exist. This assertion solves the social dilemma in the sense that it shows how cooperation can be achieved in a fully rational way, but does not say anything about which equilibrium will be chosen among the many possible equilibria.

My theoretical framework builds upon this result. First, in the Folk Theorem at least two types of strategies can be part of a cooperation SPNE: a grim trigger strategy and a trigger strategy. A grim trigger strategy is a strategy that implies a continuous and permanent punishment if the cooperation path is not followed. A trigger strategy implies only a temporary punishment. My theory argues that, regarding conflict, the type of informal institutional arrangements that can exist at the local level have a form that resembles a trigger strategy.⁸ Second, my theory argues that social capital is of utter importance in determining the specific SPNE that will be chosen among the infinite equilibria available. To the best of my knowledge, no previous study has used the equilibrium concept that contains trigger strategies (temporary punishments) to model low intensity NVR conflicts. Also, no previous study has used social capital as the main coordination device in an infinitely repeated game. For instance, Weingast (1995) used an infinitely repeated game to model the incentives that make governments abide to the rule of law under a constitutional system. However, for Weingast the main coordination device is the constitution. According to Weingast, a constitutional government won't expropriate against any group of citizens because if it does it, all members of the society will rebel and will take that ruler out of power. This is equivalent to a punishment forever or a grim trigger strategy. According to Weingast, a constitution is the main coordination device to select an equilibrium among the many possible equilibria since it establishes the type of transgressions (actions) that are "tolerable" or legitimate.

⁸ A temporary punishment equilibrium can be understood as an agreement to which agents will abide and that have clearly specified temporary punishments in case of defection.

Temporary punishment strategies as parts of an equilibrium make much more sense since it is hard to observe actual situations in which groups of citizens engage in disruptive actions forever (as would be with a grim trigger strategy). What we do observe are groups of citizens engaging in disruptive collective actions temporarily.

As will be developed in detail later in this chapter, my theoretical framework consists in an infinitely repeated game⁹ in which the stage game¹⁰ is a social dilemma for the decision to engage in protest or not. Furthermore, I argue that in this infinitely repeated game the type of equilibria that is relevant to CCESC model are the temporary punishment equilibria. I argue that these types of equilibria resemble better what is actually observed.

The CCESC explains how the movement from one equilibrium to another occurs after an exogenous wealth increasing shock. Furthermore, my theory argues that disruptive or transgressive events are *necessary* to move from one equilibrium to another.

2.2 The Infinitely Repeated Protester's Dilemma

2.2.1 Stage Game

Players, actions and Payoffs

The stage game has a unique receiver of claims (which would be either the mining firm or the local government) and potentially many groups of citizens which are the claimants¹¹.

The Receiver of claims is denoted by RC, and the two groups of citizens are denoted by A

⁹ When the game advances from one period to the next, all previous actions are known publicly, thus the game is a dynamic game with complete information.

¹⁰ The static game that will be played repeatedly is also called the “stage game”.

¹¹ I do not include the national government because the central government always aligns its preferences with either the resource extraction firm or with the local government.

and B. In this game, the RC decides between two types of actions: one that is generous in the provision of transfers, and/or public goods, that directly benefit the population (G) and another type of actions that is meager in transfers, public good and services ($\sim G$). The two citizen groups can observe the decision made by the RC and they decide simultaneously whether or not to engage in some sort of disruptive or transgressive action intended to block or limit the functioning of the RC government (F or $\sim F$). This sequence of actions is depicted in Figure 1 below.

When the RC chooses to implement generous policies (G), the citizens receive a benefit $P(\tau)$, which represents the transfers or public goods provided by the RC, where τ represent the amount of money that the RC spends in the transfers or public goods.

If the RC chooses $\sim G$, then the citizens do not receive benefits from the public good $P(\tau)$ unless both groups choose to protest. In this case, they have enough power to force the RC to provide the transfers and/or public goods anyway. If no group or only one group protests, then public goods are not provided, $P(\tau) = 0$.

Avoiding these disruptive events is valuable for the RC.¹² In a given period, if both groups of citizens engage in protests, then the level of disturbance is too high such that the payoff for the RC in that period is 0 and the RC will have to provide the transfers (τ) anyway. If

¹² As mentioned before, mining corporate firms, additionally to stop their normal functioning for some days, protest might have a negative effect on corporate share value (King and Soule 2007), also boycotts can have undesirable effects on corporate finances (Koku, Akhigbe, and Springer 1997; Pruitt and Friedman 1986), or a negative effect on corporate reputation (McDonnell and King 2013). In the case of the local government, protest or boycotts might also interrupt their normal functioning regarding the provision of services and the investment processes.

only one group of citizens engage in protests, then the payoff for the RC is M_L . If neither of the groups engage in collective action, then the payoffs of this outcome for the RC is denoted by R_L . Thus, $R_L > M_L > 0$. The transfers (τ) are discounted from the RC's payoff.

Engaging in collective action is costly for the citizens. In order to engage in protests and collective actions they have to halt their regular activities to participate in road blockades, demonstrations, boycotts, etc. This cost, C_F , is the same for both groups and we assume that $P(\tau) \geq C_F$.

Two characteristics of the static model are worth to be explained. First, when all the groups of citizens engage in protest (F), they obtain their objective ($P(\tau)$); regardless of the willingness of the RC to provide these benefits. This feature of the game is similar to Chenoweth and Stephan's main claim that NVR episodes are effective because they obtain higher levels of participation and mobilization. Thus, this feature of my static game resembles Chenoweth and Stephan's claim about the effectiveness of greater levels of participation on NVR success.

Second, the static game assumes that when the groups of citizens chose to participate in a disruptive action (they chose F) they generate a reduction in O.C's payoff from R_L (when the RC chooses $\sim G$ and both citizens chose $\sim F$) to levels as low as $0 - \tau$ (when the RC chose either $\sim G$ or G , and both citizens chose F). This feature of the game resembles Chenoweth and Stephan's claim that NVR campaigns indeed impose costly sanctions on their opponents (Chenoweth and Stephan, 2011:19).

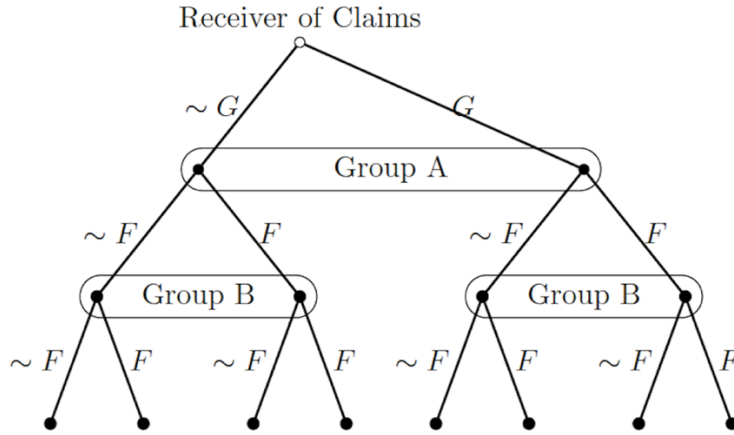


Figure 1. The Protesters' Dilemma. Stage Game

		Payoffs:(Receiver of Claims., Group A, Group B)		
Local Government move		B		
		F	~F	
Transfers & Public Goods (G)	A	F	$0 - \tau, P(\tau) - C_F,$ $P(\tau) - C_F$	$M_L - \tau, P(\tau) -$ $C_F, P(\tau)$
		~F	$M_L - \tau,$ $P(\tau), P(\tau) - C_F$	$R_L - \tau, P(\tau),$ $P(\tau)$
		B		
		F	~F	
Not Transfers & Public Goods (~G)	A	F	$0 - \tau, P(\tau) - C_F,$ $P(\tau) - C_F$	$M_L, -C_F, 0$
		~F	$M_L, 0, -C_F$	$R_L, 0, 0$

Table 2. The Protester's Dilemma Payoffs Table

Stage Game Nash Equilibria

Table 1 above shows the payoff matrix of the stage game. There are two Nash Equilibria in this game $(\sim G, \sim F, \sim F)$ and $(\sim G, F, F)$. The first NE occurs when the RC chooses not to be generous in the provision of transfers, and/or public goods, $\sim G$, and neither of the citizen groups engage in protests since it is costly. The second NE implies that the RC will try to be meager in the provision of transfers, and/or public goods, but both players decide jointly to engage in protests obtaining transfers anyway. The payoffs of this equilibrium are $(0 - \tau, P(\tau) - C_F, P(\tau) - C_F)$ where the first element of the triple corresponds to the payoff of the RC., and the second and third elements correspond to the payoffs of group A and B respectively.

There is another profile of strategies that generates payoffs that are pareto superior to the payoffs of the second Nash Equilibrium. This profile is $(G, \sim F, \sim F)$ with payoffs $(R_L - \tau, P(\tau), P(\tau))$. This profile is what would be normally regarded as a “*socially desirable*” outcome, since this is the outcome in which the RC implements policies generous in the provision of transfers, and/or public goods, and there is no social cost due to social unrest $(G, \sim F, \sim F)$. Nevertheless, this socially desirable and pareto superior outcome is not a Nash Equilibrium. In the next section, based on the folk theorem, I argue that in the infinitely repeated version of this static game, there exists a Sub Game Perfect Nash Equilibrium (SPNE) such that the Pareto Superior payoffs of the static game can be achieved as an average payoff.

2.2.2 The Infinitely Repeated Protesters' Dilemma

In general, an infinitely repeated game is useful to model strategic interactions whenever it is reasonable to assume that the players have a 'sufficient' degree of uncertainty about when the repetition (or the interactions) will cease. I argue that this is the case in the Peruvian context for the two types of conflicts studied. First, in the case of local conflicts, the underlying relationship can be understood as a permanent relationship among group of citizens and the local authority. Second, in the case of mining firms, some authors have argued that citizens that live within the same geographical area of the mining firm perceive the relationship among the citizens and the mining firm as a long-term relationship (Perla, 2016; Salas, 2004)

A strategy in the static or stage game is only an action. However, a strategy in the infinitely repeated game specifies an action for every contingency and for every time in which a player is called to play. Hence, and strategy specifies all actions that will be taken from today and in the future. Consequently, the payoffs of the infinitely repeated game are the sum of the discounted payoffs of each stage played today and in the future. For instance, if the payoffs of the infinitely repeated game are the same value k on each period, the total payoff of that infinitely repeated game will be the following sum: $k + k\delta^2 + k\delta^3 + \dots = \frac{k}{1-\delta}$. Here δ is the time discount factor that indicates that players are impatient, or that they value their present payoffs more than their future payoffs. The average payoff of the infinitely repeated game is the average payoff obtained in all periods. For instance, if the payoff is the same value k in every period of the game, the average payoff of the infinitely repeated game will be also k .

A SPNE for the infinitely repeated game can be one in which each player chooses the action that corresponds to the Nash Equilibrium *of the stage game* on each period. This SPNE would imply an average payoff equal to the payoff of the NE of the stage game for each player. For instance, when the strategies of the Nash equilibrium $(\sim G, F, F)$ of the stage game are played on each repetition of the game, the average payoffs of the infinitely repeated game are the same of the stage game, $(0 - \tau, P(\tau) - C_F, P(\tau) - C_F)$. It is possible, however, to obtain a higher average payoff than the NE payoff for each player in the infinitely repeated game.

The Folk theorem (Fudenberg and Maskin, 1986) establishes that any feasible¹³ payoff of the stage game with higher payoffs than the payoffs of the NE can be sustained as the average payoff of a SPNE of the infinitely repeated game. I use this result to argue that in the infinitely repeated game we can obtain average payoffs $(R_L - \tau, P(\tau), P(\tau))$. These payoffs, are pareto superior to $(0 - \tau, P(\tau) - C_F, P(\tau) - C_F)$.

One way in which this can be achieved is by using a trigger strategy. A trigger strategy specifies a cooperation action and a punishment action. The punishment can be a punishment forever in which case the strategy is called a grim trigger strategy, or the punishment can be temporary. As mentioned before, a temporary punishment is more realistic. Therefore, instead focus on a trigger strategy, I focus on a strategy as follows:

$$\sigma^*_{RC} = \left\{ \begin{array}{ll} G & \text{if Groups A and B choose } \sim F \\ \sim G \text{ for } T \text{ periods} & \text{Otherwise} \end{array} \right\} \text{ for the RC } \dots (1)$$

¹³ The set of feasible payoffs of the static game are any vector of payoffs observed in Table 1 and the convex combination of them.

$$\sigma_i^* = \left\{ \begin{array}{ll} \sim F & \text{if } O.C. \text{ chose } G \\ F \text{ for } T \text{ periods} & \text{Otherwise} \end{array} \right\} \text{ for groups } i = \{A, B\}. \dots\dots\dots (2)$$

I call this strategy as the “Temporary Punishment” strategy. With T sufficiently large and a discount factor (δ) sufficiently close to one, the discounted payoff of deviating is smaller than the discounted payoff of cooperating. Intuitively, a temporary punishment strategy is equivalent to an agreement that establishes the cooperation conditions and a period of punishment in case the agreement is violated. Furthermore, since this agreement is a SPNE, the players do not have incentives to deviate unilaterally, it is a self-enforced agreement.

In the following section of this chapter I introduce *The Contrasting Coordination Effects of Social Capital model (CCESC)*. The CCESC makes use of the infinitely repeated protester’s dilemma to advance further in the analysis of conflicts at the local level. I will use the equilibrium concepts that include “Temporary Punishment” strategies in the infinitely repeated protester’s dilemma to analyze what occurs when players move from one equilibrium to another as a consequence of a wealth increasing exogenous shock. I argue that conflict occurs in moving from one equilibrium to another.

2.3 The Contrasting Coordination Effects of Social Capital Model

The CCESC model uses as baseline the infinitely repeated protester’s dilemma. Briefly summarized, the CCESC model describes the movement from an old temporary punishment equilibrium to a new one after an exogenous wealth increasing shock. After the wealth increasing shock, the Folk theorem establishes that an infinite number of

temporary punishment subgame perfect Nash equilibria exists, but it does not indicate which one will be chosen among the myriad of possible equilibria.

Ferejhon (1990) argues that in the context of multiple equilibria, it is possible to suggest the equilibrium that will result if we know the pattern of beliefs in a society. This is possible because a common set of beliefs helps to coordinate actions towards an equilibrium that is consistent with those beliefs. Thus, choosing among many kinds of equilibria is basically a coordination problem. In the CCESC model, conflict and social capital are both of crucial importance to coordinate and determine the new resulting equilibrium.

As defined previously, social capital refers to features of social organizations, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions. Communities that inherited a substantial stock of social capital find voluntary cooperation easier often due to shared norms of reciprocity and networks of civic engagement (Putnam, 1993:167). Based on this definition, I argue that social capital helps to coordinate both common beliefs about legitimate claims and the collective actions to obtain those claims. Coordinated actions are particularly possible if the beliefs entail that the benefits obtained from the powerful actor will be redistributed evenly among all members at the local level because no member will feel aggrieved by how the payoffs are assigned.

In the following subsection, I theorize the process when an exogenous wealth-increasing shock occurs, how it generates conflict, the contrasting role of social capital, and its effects in transfers and public policy. Finally, I infer some testable propositions from the theory.

Dynamics after an Exogenous Wealth-Increasing Shock in the CCESC model

In this section I analyze the different dynamic paths that can occur after an exogenous wealth-increasing shock using as baseline the infinitely repeated protester's dilemma. I focus on a type of social change that increases the wealth available to the receiver of claims at the local level.¹⁴ First, I summarize the assumptions underlying the analysis.

Assumptions

1. At the local level, a set of informal institutions operate in the form of informal agreements. These informal agreements can be described as containing temporary punishment strategies among the receiver of claims and the claimants.

2. When an exogenous wealth increasing social change occurs within a geographical area, the new resources available are always under the control of the receiver of claims. However, the other inhabitants of the area will feel entitled to benefit from the new resources.

3. There are two types of receivers of claims. The first type is an *internal* receiver of claims that belongs to the same geographic space as the claimants and has knowledge about the type of informal rules at the local level, the shared norms of reciprocity, and networks of civic engagement at the local level. The second type is an *external* receiver of claims that is relatively new to the same geographic space than the claimants. The external receiver does not know much about the type of informal rules that operate at the local level nor about the shared norms of reciprocity and networks of civic engagement that also operate at the local level.

The claimants are always internal to the geographic space.

¹⁴ Examples of this type of social change are increments in the prices of natural resources or increments in the revenues available to the local governments.

4. Social capital is useful to transfer information from internal claimants to internal receiver of claims. It is not useful to transfer information to external receiver of claims.

The dynamic categories developed by (MacAdam, Tarrow, and Tilly, 2003) are suitable to analyze the movement from one equilibrium to another in the CCESC model. The authors suggest to divide the dynamics of conflicts in three categories: mechanisms, processes, and episodes. Broadly defined, mechanisms are a delimited class of events that alter relations among a specified set of elements in an identical or closely similar way over a variety of situations. Processes are regular sequences of such mechanisms that also produce transformations of those elements. Finally, episodes of contention are sets of concatenated processes that can be combined in many different ways and sequences to produce many different results (MacAdam, Tarrow and Tilly; 2003:24). Following these authors, I focus on processes that are worth being singled out either because they can be measured or because they are recurrent processes. A recurrent process means that this process operates with great similarity across a myriad of situations. In this section, I discuss processes that take place when the actors at a local level are moving from one temporary punishment equilibrium to another. Importantly, I focus on processes that will allow for empirical validation. In what follows, I describe the two types of processes that, I argue, are recurrent processes used to move from one equilibrium to another as consequence of a wealth-increasing social change. For each process I will summarize the analysis in testable propositions.

First Process: The Rise of Conflict

This type of process starts with an exogenous wealth-increasing shock and ends with the rise of disruptive events such as protests, boycotts, and strikes at the local level when they occur.¹⁵

When the exogenous wealth increasing shock occurs, the set of feasible allocations expands. This expansion occurs regardless of the type of the previous equilibrium. The exogenous wealth-increasing shock does not make the citizen groups necessarily worse off than before. However, I argue that when there is more wealth at the local level, citizen groups feel entitled to better public goods from the local government or the resource-extraction firm. Given that all groups have unfulfilled higher distributional expectations, they wish to move to a new equilibrium according to their new expectations (with better or more public goods). With complete information, the movement from one equilibrium to another should be smooth and fast. With incomplete information, however, reaching a new equilibrium will require in many cases engaging in NVR campaigns with disruptive actions¹⁶ (protest, boycotts, strikes, etc.)

Reaching a new temporary punishment equilibrium generates both a coordination problem and an ascertaining problem. First, trying to reach a new equilibrium creates a coordination problem because, although the set of legitimate beliefs has increased for all players, this set is not necessarily the same for all individuals. Thus, they need to coordinate the new levels of transfers and public goods that all agents find legitimate. Second, this process

¹⁵ As I will explain later, in some cases with very high levels of social capital and an internal receiver of claims, it is possible that no disruptive events are not observed. Nevertheless, the aggrieved groups will make their claims to the receiver of claims.

¹⁶ Until this point my analysis is similar to the relative deprivation argument (Gurr, 1970). Relative deprivation is defined as the discrepancy between actor's *expectations* of rightful entitlements and their capacity to attain them.

creates an ascertaining problem because it is necessary to calculate an optimal punishment period, T , such that all agents, particularly the receiver of claims, will choose to cooperate instead of defect. Information to solve the coordination and ascertaining problems can be transmitted in two ways: by engaging in conflict and through social capital.

Engaging in conflict or disruptive events helps to transfer information about the capacity of the claimants to punish the receiver of claims by showing their capacity to “fight” or “resist”. For instance, prolonged initial blockades, boycotts, or strikes indicate that the punishment period for not following a new agreement will also be long. Hence, episodes of contention help to ascertain the size of the punishment (the number T of periods in the temporary punishment strategy in equation 2) and make future sanctions credible for the receiver of claims. Without contention, ascertaining a temporary punishment strategy that is a credible commitment will be less likely.

Social capital not only helps to coordinate collective actions, but also helps to directly transfer information about the claimants’ capacity to fight and resist without engaging in actual conflict. I argue that social capital helps to transfer this type of information only *to an internal receiver of claims*. One way this could happen is through regular meetings or assemblies that are normal in organizations at the local level. These meetings can serve as means to make decisions and transfer information to the local political authority. Social capital can also help to transfer information to the local political authority if the local political authority has previously observed the capacity of the social organizations to engage in collective actions.

Social capital will not be helpful to directly transfer information (without engaging in actual conflict) to an *external* receiver of claims. This might occur because there are not

pre-existing networks that link claimants with the external receiver of claims or because the external receiver of claims does not initially attribute legitimacy to the organizations and informal rules that operate at the local level.

Thus, to summarize, social capital can help in the process of moving towards a new equilibrium in two ways: directly, by using the existing social networks that are part of social capital to transfer direct information to the receiver of claims (internal only) or indirectly by improving the claimant's capacity to generate actual collective disruptive actions which in turn will inform the receiver of claims (internal or external) about the capacity of the claimants to fight and resist.

These two ways in which social capital helps to transfer information and move towards a new equilibrium have important implications for the relationship of social capital with conflict.

Social capital and conflict with an internal receiver of claims.

If at the local level there are *higher levels of social capital*, two things happen. First, since the receiver of claims is internal, he will have information about levels of social capital and consequently will know that the claimants have an elevated capacity to make him comply with a new agreement due to their high capacity to organize collective actions. Second, the networks included in the social capital will transfer information to the receiver of claims about the new desired legitimate equilibrium (which includes the new levels of transfers or public goods, and punishment in case of defection). These two characteristics will decrease the number of iterations with disruptive events required to reach an agreement. The following proposition summarizes this analysis:

Proposition 1. In locations affected by an exogenous wealth-increasing shock where the receiver of claims is internal, the effect of the shock on the number and intensity of the episodes of disruptive contention (boycotts, protest, organized noncooperation, etc.) will depend negatively¹⁷ on the existent levels of social capital in that location.

Social capital and conflict with an external receiver of claims.

When there is an external receiver of claims, he might not have information about the existence of the networks and organizations that are part of social capital. Even when the RC learns about the existence of these organizations, it is hard for the RC to know the actual capacity of these organizations and networks to coordinate actions to engage in collective actions. Furthermore, it is unlikely that the networks and organizations can transfer information to the receiver of claims but if they manage to do so, it is also unlikely that the RC will give legitimacy to these organizations. Therefore, if at the local level there are higher levels of social capital, the only way the citizens of these organizations can transfer information about their capacity to engage in collective actions is by actually engaging in disruptive events. The higher the levels of social capital, the higher the numbers of iterations in which the organizations can and will perform disruptive events to show their capacity to “fight and resist.” On the contrary, if at the local level there are lower levels of social capital it would be harder for local organizations and networks to sustain disruptive events in many iterations. The following proposition summarizes this analysis:

¹⁷ Here I am referring to a negative interaction relationship: the higher the level of social capital, the smaller the effect of the shock on the episodes of disruptive contention.

Proposition 2. In locations affected by an exogenous wealth-increasing shock, the effect of the shock on the number and intensity of the episodes of disruptive contention (boycotts, protest, organized noncooperation, etc.) will depend positively¹⁸ on the existent levels of social capital in that location.

Second Process: The effects of Conflict

The analysis made in this subsection applies for conflicts in which the receiver of claim can be either internal or external. Here I focus on the recurrent process that occurs after the disruptive contentious episodes (blockades, boycotts, protest, organized noncooperation, etc.). This process starts with the rise of disruptive events and continues until a new equilibrium is reached. As mentioned before, a new equilibrium is a new agreement which includes both cooperation actions and a temporary punishment in case of defection. The cooperation actions, assuming an equilibrium as the one described in equations (1) and (2), include **more** and better public goods than before. Furthermore, this new equilibrium often entails equal benefits to all citizen groups. In terms of the stage game in section 2.2, a profile of strategies like what I call the “*socially desirable profile*” ($G, \sim F, \sim F$) fits our description of a legitimate profile since the receiver of claims is redistributing the resources evenly among citizens groups and there is no social cost due to social unrest.

In more or less intensity, engaging in actual conflicts was *necessary* to move to a new equilibrium. For this reason, it can be argued that conflict can “cause” pareto superior agreements¹⁹ or concessions from the receiver of claims. Furthermore, if it is used in a

¹⁸ ¹⁸ Here I am referring to a positive interaction relationship: the higher the level of social capital, the greater the effect of the shock on the episodes of disruptive contention.

¹⁹ To achieve a pareto superior agreement means that at least one player is better off and the others are the same as before. In the context of the stage game, this means an equilibrium in which all citizen groups

context with sufficiently high levels of social capital, obtaining more transfers and better public goods is more likely. The following proposition summarizes this analysis:

Proposition 3. In locations affected by an exogenous wealth increasing shock, regardless of whether the receiver of claims is internal or external, the effect of disruptive contentions on transfers and/or better provision of public goods will depend positively on the existent levels of social capital in that location.

Not all observed contention will necessarily lead to a pareto superior equilibrium. In localities where social capital is scarce, contentious events might not be coordinated even if they individually point to similar distributional arrangements that would otherwise represent legitimate levels of redistribution. It can also be the case that some observed contentious events are caused by narrow interest groups looking for group benefits that are not general and consequently will be unable to achieve legitimacy. In these cases, contention will not generate a pareto superior outcome.

are better off or receive more and better policies which include better provision of public goods. In other words, the welfare of the citizen groups increases as consequence of the resistance events.

Chapter 3: The Dual Role of Social Capital on Conflict: Evidence from Peasant Communities in Perú

In this chapter, I use the CCESC model to analyze contentious episodes that occurred in Peru from 2006 to 2011. Contentious events for the whole country are summarized in monthly reports by the Peruvian Ombudsman Agency (OA). From these reports, I created a dataset that includes more than 736 episodes of contention for the period 2006-2011. The Ombudsman Agency refers to its monthly reports as “Social Conflict Reports.” Thus, the contentious cases are called “social conflicts.”²⁰ Although it is possible to observe some violence in these conflicts, these conflicts are of low intensity. Moreover, many of the disruptive events that take place in these conflicts fit with the concepts of boycotts, strikes, and protest which are included in the definition of nonviolent resistance.

During the period of study of this chapter, the Peruvian economy enjoyed high levels of economic growth importantly fueled by the resource extraction sector. This period of growth allowed the central government to transfer important amounts of resources to subnational local governments (these transfers are called “Canon Revenues”). However, despite of these windfalls, the number of episodes of contention with disruptive events also increased (see Figure 2).

²⁰ The official definition of a conflict according to the “Defensoria” establishes the following conditions: i) Incidents that threaten health, or life of individuals, ii) Damage public or private property, iii) Obstruct movement of people, iv) Obstruct public or local governments activities.

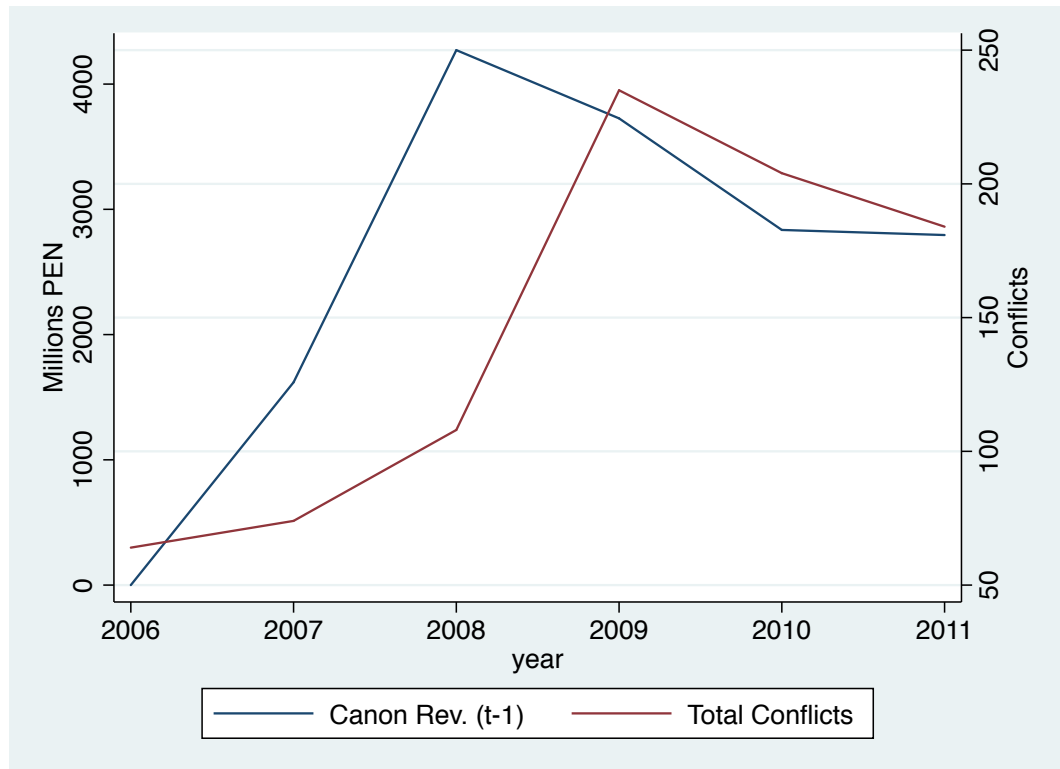


Figure 2. Total Number of Conflicts and Canon Revenues, 2006-2011. Source: Ombudsman Agency and MEF.

The OA classifies social conflicts in eleven types. In this chapter, I focus on the two main types. These two types are named *local conflicts* and *mining conflicts*. A local conflict is defined by the OA as one in which citizens or organizations of citizens have claims over the resources available to the local government, whereas a mining conflict is defined as a conflict in which citizens or organizations of citizens have claims over the resources available to the resource-extraction firm. These two types of conflicts account for around 53% of the total number of conflicts. I focus on these two types of conflicts because they fit conceptually with the two types of conflicts that the CCESC model analyses. The RC in a mining conflict is precisely the mining company which can be easily considered as an

external agent, given that almost all the big mining projects are developed by multinational companies. The claimants in a mining conflict are always internal as in the CCESC. On the other hand, the RC in a local conflict is always *internal* since local authorities have to be elected among the people that live in the district.

In these two types of conflicts, the RC was affected by an exogenous wealth-increasing social change during the period of this study. In this period, the international prices of the main mineral commodities exported by the Peruvian economy increased. These favorable increments translated directly or indirectly to both the mining companies and the local political authorities. The mining companies experienced an increase on their wealth either because what they produced was worth more or because, taking advantage of the high prices, they elevated their extraction quantities, as well. The local governments had more resources due to higher canon transfers. The canon transfer's law established that 50% of the profit taxes paid by the mining companies should be transferred to the regional and local governments in the province (a province is composed of many local governments). Therefore, not only the local government in which the mine is located benefited from canon transfers but all the local governments of the province in which the resource was extracted. For this reason, the number of districts prone to the occurrence of a mining conflict is smaller than the number of districts prone to the occurrence of a local conflict. However, the number of local conflicts is considerable smaller than the number of mining conflicts (see. Figure 3 below)

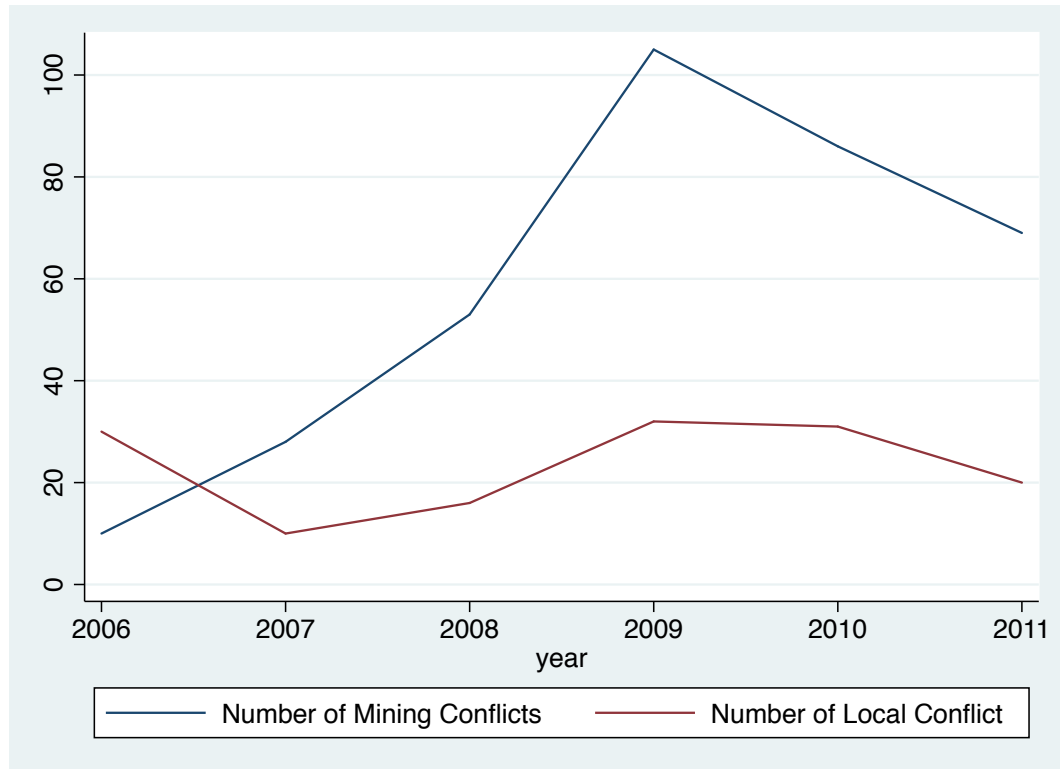


Figure 3. Two Main types of Conflicts, 2006-2011. Source: Ombudsman Agency.

How can we explain this pattern? The CCESC model provides, in part, an answer to this question. The CCESC model predicts that social capital can have contrasting effects on conflicts, increasing the necessity of disruptive episodes in one type of conflict but also decreasing the necessity of disruptive episodes in other types of conflicts.

Although social capital is hard to observe and measure (Ostrom, 2002), I argue the Peruvian context allows us to study the role of social capital on contentious politics by focusing on the role that peasant communities play in conflicts at the local level. Peasant communities are the main form of organizations in the rural space (Diez, 2010). According to the 2012 agrarian census (CENAGRO) there are 6,115 peasant communities in Perú which have a territorial extension of around 19,888,192.22 ha. The peasant communities

have a diversity of origins. In some regions of the country, the existence of peasant or indigenous communities, as they were called before, can be traced back to the colonial era. Peasant communities have three main characteristics: i) they hold communal property rights and shared use over land, ii) there are bonds of reciprocity and kinship among the members, and iii) they have an internal organization to take decisions and choose their leadership (Diez, 1999). Furthermore, peasant communities have a typical form of organization to take decisions and to defend communal interests that has been formally institutionalized in the Peasant Communities Law N° 24656. This law also institutionalizes the main principles underlying the life of peasant communities. Among these principles, the reciprocity, the solidarity, and the defense of common interests are relevant to understand peasant communities as social organizations that use and reproduce social capital. In section 3.1.3 I will explain in detail my reasons to argue that peasant communities are valid measures of social capital. In addition to the Peruvian peasant communities, there are also around six more types of social organizations that entail networks of reciprocity and rules of civil engagement, I will present this organizations in detail in section 3.1.3.

The Peruvian political context has two additional characteristics that are compatible with the setup of the CCESC model. First, since the early 90s, the Peruvian political context lacks a consolidated party system. The economic crises of the 80s hindered the trust of the population in the ability of traditional parties to provide answers to the myriad of economic and political problems of Peruvian society. Later, the consolidation of Fujimori's regime after the 1992 self-coup signaled that parties were not necessary for political success (Levitsky and Cameron, 2003). In consequence, political parties in Peru are almost non-

existent. Parties are created in election years and disappear after elections. The lack of parties implies that aggrieved groups cannot use parties to channel their claims, which make disruptive collective actions (such as those included in the CCESC model) an important option to obtain concessions.

The second characteristic of the Peruvian context that makes it suitable to be analyzed with the CCESC model is the period of study of this dissertation (2006-2011). This period occurs after the collapse of President Fujimori's regime. This is a period that has been characterized as a more democratic period compared with Fujimori's period. It is more democratic in the sense that less repression from central government is expected (Dargent et. Al. 2017; Arce, 2014). Protests like those described by the CCESC model are more likely in democracy than in a dictatorship or in a competitive authoritarian regime as the Fujimori's government has been categorized.

Given these favorable characteristics of the Peruvian context, the rest of the chapter evaluates empirically the first two predictions of the CCESC model. In section 3.1, I describe the data and the operationalizations of the variables that will be used in sections 3.2 and 3.3. In section 3.2, I present my empirical strategy and the results obtained of evaluating Proposition 1 of the CCESC model. In section 3.3, I test Proposition 2 of the CCESC model. Finally, in section 3.4, I discuss with some detail the Peasant Communities in Peru, their evolution in time, and present some suggestive evidence of their colonial origins.

3.1 Data and Sources

The Peruvian Polity is organized at four geographical levels: i) The national level which refers to the whole country, ii) the department level that has 24 departments, iii) the province level which includes 195 provinces, and iv) the district level which includes around 1800 districts. The unit of observation in the empirical analysis of section 3.2. is the year-district. In the rest of this subsection I will describe the data sources used in the empirical analysis and the variables that will be constructed at the level of the unit of observation (year- district).

3.1.1 Conflict Data

The Peruvian Ombudsman Agency (OA) collects data about contention episodes. This agency refers to the contentious episodes as social conflicts. A social conflict is defined **as a public confrontation among actors that look to influence the organization of social life.**²¹

The OA publishes monthly reports on social conflicts (Reporte de Conflictos Sociales). These reports cover the period from 2004 to 2011. Information is collected by local offices (38 in total) distributed across all of Peru. Each report identifies the list of on-going cases of social conflict and provides a brief description of events as well as the location of the conflict up to district level²².

²¹ Defensoria del Pueblo. Ante todo, el Diálogo. Defensoria del Pueblo y Conflictos sociales y Políticos (2005)

²² See appendix 1 for examples of the summaries presented for two conflicts.

The reports define social conflict in a broad sense. The definition includes any public confrontation that

- Involve incidents that threaten health, or life of individuals, or
- Damage public or private property, or
- Obstruct the movement of people, or
- Obstruct public activities or provision of public goods.

The OA classifies conflicts as “active” from the moment in which it gathers the information that an event has occurred until the parties in conflict reach an agreement, or until the OA considers a conflict inactive. Using this classification, I constructed what I call the “Active Conflict” indicator. This indicator is measured monthly for each conflict. The reports may indicate that there is an active social conflict in a given period, even though there were no “disruptive” or “collective action” events in that month. For this reason, in addition to the classification provided by OA about *active* conflicts, I used the summaries of all events that occurred in a conflict during a given month to construct an indicator of actual disruptive events (See Appendix 1 for examples of these summaries). I call this indicator the “Disruptive event” indicator. To create the “Disruptive event” indicator, I search for specific keywords in the description of each event in a given month. The keywords are:

- Events that involved demonstration of discontent or stopping of normal activities.
 - Keywords: movilizacion, protesta, marcha, mitin, paro, huelga
- Events that limited or restricted the use of private/public property

- Keywords: toma de local, bloque de carretera, desalojo, invasion, cierre de local, impedimento, lacradao, cerrado
- Events that damaged private/public property
 - Keywords: quema, vandalism, daño
- Events that involved attacks to individual freedom or physical aggression
 - Keywords: aggression, enfrentamiento, secuestro, asesinato herido, apedreamineto, fallecido, muerto, homicidio

Table 3 summarizes the descriptive statistics of the two indicators described above for the main six types of conflicts as defined by the OA. The most common type is environmental conflicts. This chapter analyzes the mining conflicts and the local conflicts. As explained earlier, I created the mining conflict type, which is defined as a conflict in which citizens or organizations of citizens have claims over the resources available to the resource-extraction firm. The OA included all the conflicts that I have classified as mining conflicts within the environmental type. A local conflict is defined by the OA as one in which citizens or organization of citizens have claims over the resources available to the local government.

Interestingly, local conflicts are normally active for less time than mining conflicts. On average, a local conflict is active 8.5 months whereas mining conflicts are active 15.49 months (see values in the “Mean” column and rows 2 and 3 of Panel A in Table 3). In the same line, for the number of months in which a collective action or a disruptive event was registered, local conflicts have, on average, 1.32 months whereas mining conflicts have 1.73 months (see values in the “Mean” column and rows 2 and 3 of Panel B in Table 3). Thus, mining conflicts have 31% more months with disruptive events or collective actions

than local conflicts. Jointly, these two factors suggest that mining conflicts are longer and more violent than local conflicts.

Panel A. Descriptive Statistics of the Number of Months a Conflict was Active by Type of Conflict (2006-2011)

	Obs.	Mean	SD	Min.	Max.
Environmental	255	16.81	14.28	1	82
Mining*	215	15.49	14.27	1	82
Local	177	8.50	6.87	1	38
Labor	87	9.83	10.51	1	46
Region	42	7.23	6.77	1	26
National	39	18.1	13.24	1	47
Others	136	6.9	5.57	1	28

Panel B. Descriptive Statistics of the Number of Months a Conflict had a Collective Action or Disruptive Event by Type of Conflict

	Obs.	Mean	SD	Min.	Max.
Environmental	255	1.54	2.16	0	18
Mining*	215	1.73	2.38	0	18
Local	177	1.32	1.58	0	12
Labor	87	2.05	2.45	0	11
Region	42	1.38	0.94	0	4
National	39	2.28	2.97	0	12
Others	136	1.59	1.13	0	7

*The mining conflict type is my own classification; all these conflicts are included in the Environmental conflicts.

Table 3. Descriptive Statistics of the Number of Months a Conflict was Active by Type of Conflict (2006-2011)

Using these two raw measures from Table 3, I will construct the variables used in the empirical analysis of section 3.2. Two variables will be constructed for each type of conflict (Mining and local). The first variable is the number of months that conflicts were *active* in a district during a year. For instance, if district i had two active conflicts during year t in which one of them was active for seven months but the other was active for only three months, the conflict variable for district i in year t will be 10. I call this variable

“conflict indicator 1,” $C1_{i,t}$. In the analysis of section 3.2., $C1_{i,t}$ will be either $C1LOC_{i,t}$ for local conflicts or $C1MIN_{i,t}$ for mining conflicts. The second variable is constructed to also take into account actual *disruptive* episodes that occurred in a district. This second variable is obtained in two steps. The first step calculates, similar to the first variable, the number of months that conflicts have *disruptive events* in a district during a year. The second step takes the average of the number calculated in the first step and the first variable ($C1_{i,t}$). Thus, the second variable considers both how active the conflicts in a district were and how disruptive these conflicts were. I call this second variable as “conflict indicator 2,” $C2_{i,t}$. The two variables described are, I argue, good indicators of how many iterations the conflicts had in a district and how many of these iterations were disruptive.

3.1.2 Windfall Revenue Data

I use data from the Ministry of Economics and Finance (MEF) on transfers to local governments from years 2003-2011. As a measure of the revenue windfall, I use the log of the per-capita “canon minero” received by a district i in year t , $CANONPC_{i,t}$. The “canon minero” is a tax-sharing scheme that transfers 50% of mines’ corporate taxes to local governments. These transfers benefit all districts in the province and the department in which the mine is located. The amount each district receives is based on an exogenous pre-established formula. The preestablished formula divides the corporate tax as follows: 10% to the local government in which the mine is located; 25% for local governments within the same province in which the mine is located; 40% to local governments within the same department in which the mine is located; 25% to the department’s governorship. In principle, canon revenues should mainly affect to local conflicts since canon revenues are

transfers to local governments. However, I will argue that canon revenues also inform citizens and organizations of citizens at the local level if the wealth of the mining firms at the local level has increased. As a robustness check, I also constructed a variable that measures directly the resources available to the mining firm. This variable is the log of the per-capita value of the minerals produced in district i in year t , $VP_{i,t}$. The Ministry of Energy and Mines publishes monthly reports which include the production of each mine, the location of the mine, and the type of mineral extracted (Gold, Copper, Silver, etc.) Multiplying each type of mineral produced by its corresponding international price will provide the value produced of that mineral. Finally, if more than one mineral is produced in a district, the value of all the minerals is added.

3.1.3 Social Capital Data

In the Peruvian context, two sources are used to build indicators of social capital at the district level. The main source is CEPES' 2016 peasant communities' yearbook from which I obtained information about the number and geographical spread of peasant communities in each district. The second source is the National Municipal Registry (RENAMU) from which I obtained information about six additional social organizations at the district level. The main analysis focuses in peasant communities in section 3.2. Section 3.3 adds to the analysis the social capital indicators obtained from the RENAMU survey. The effects of peasant communities found in section 3.2 do not change after the inclusion of the variables obtained from the RENAMU survey. Doubtless, there can be other sources of social capital but information about these sources do not exists.

Peasant Communities

Peasant communities are the main form of organizations in the rural space (Diez, 2010). According to the 2012 agrarian census (CENAGRO) there are 6,115 peasant communities in Perú which have a territorial extension of around 19,888,192.22 ha. The peasant communities have a diversity of origins. In some regions of the country, the existence of peasant or indigenous communities, as they were previously known, can be traced back to colonial times. Peasant communities have three main characteristics: i) they hold communal property rights and shared use over land, ii) there are bonds of reciprocity and kinship among the members, and iii) they have an internal organization to take decisions and choose their leadership (Diez, 1999). Peasant communities have a typical form of organization to take decisions and to defend their interests. This organizational structure has been formally institutionalized in the Peasant Communities Law N° 24656. This law, establishes, in its 17th article, that the general assembly is the supreme deliberation authority within the community. The assembly also appoints the members of the directory (president, vice president, secretary, etc.) The general assembly meets periodically to discuss communal issues. Also, the third article of the peasant communities' law establishes that peasant communities abide principles of reciprocity, solidarity, and the defense of common interests. In line with these principles, a recent study that analyses peasant communities located in the Ocongate district in Cuzco, argues that the main observed objectives of peasant communities are administration and defense of communal resources (which include the land, the local government transfers, and NGO's transfers); the representation of the community before state and private institutions; and the solution of conflicts within the communities, Rosas (2016: 436). Given all these characteristics of

peasant communities, I argue that they are social organizations that represent the existence of social capital at the local level.

Organized peasant communities have been registering in the national agency for registering property (SUNARP) during the last 100 years. Moreover, peasant communities register their rights to the use of lands measure in hectares.

Based on this, I construct two variables that measure the extent and importance of peasant communities within a district. The first variable is the number of registered peasant communities within district i , $NComun_i$. Under the assumption that the number of communities is not too large, I argue that more peasant communities imply more social capital within a district. The second variable is the total number of hectares that peasant communities managed to register in the official records in millions of hectares, Ha_i . Under the assumption that bigger peasant communities will register higher extensions of land, more hectares are also an indicator of more social capital. In the empirical analysis of section 3.2, I consider only peasant communities that registered until 2005, previous to the period of study of this dissertation (2006-2011).

Other Social Organizations from RENAMU's Survey

In the RENAMU survey, municipal authorities answer pre-determined questions about the number of at least six types of social organizations. The survey also includes information about the number of members that obtain benefits from each type of these organizations. I used the 2005 survey to obtain indicators that are not affected by variables in the period of study (2006-2011):

- Mother's Clubs. These are organizations composed of women that have common interests to obtain benefits for their children.
- Glass of Milk. These are organizations that prepare breakfasts that include a glass of milk for their members.
- Communal Kitchens. These are organizations that prepare lunch for free or a very low prices for their members.
- Wawa Wasi. These are organizations that provide care for children of their female working members.
- Elderly Clubs. These are organizations composed of elderly people.
- Young. Clubs. These are organizations formed by young people.
- Other types. Any other types of social organizations.

Similar to Putnam's (1993) use of chorus rehearsal and soccer organizations as indicators of social capital in Italy, the organizations described in the RENAMU's survey can also be considered as indicators of social capital at the district level. Therefore, for each district I created two variables related to these organizations. The first variable is the aggregation of the seven categories described above, the total number of social organizations in the districts. The second variable is the total number of people that obtain benefits from the organizations mentioned above.

The social organizations in the list above have very specific objectives, they mainly focus on addressing nutritional problems or providing child care to disadvantaged groups of the population, it is unlikely that once these organization have fulfilled their specific concerns they will focus on other matters at the local level.

Instead, peasant communities focus on a wider set of issues that include many political issues at the local level that involve dealing with private (i.e. mining firms) and public institutions (i.e. local governments). For this reason, in section 3.2 the main analysis uses only peasant communities as the most relevant measure of social capital to the analysis of mining and local conflicts. Nevertheless, in section 3.3.1 the empirical analysis includes both measures of social capital (peasant communities and the other social organizations) as a robustness check. In this analysis the contrasting effects of peasant communities' social capital on conflict holds.

3.1.4 Other Control Variables

Non-parametric trend indicators of above the mean value for a set of socioeconomic characteristics are also added to the analysis. These variables include the size of poor, rural, and total population, population density, access to drinking water, access to sanitation, and share of the population which completed elementary and high school. All of this information was obtained from the 2007 Census. For the local conflict's estimation, I added the share of votes obtained by the winner in the most recent election. This variable will serve as a measure of the support that the local mayor has within a district. Below, in Table 4, I present the summary statistics of the main variables used in section 3.2

	Mean	SD	Obs.	Min	Max.
Conflict Ind.1 Local, <i>C1LOC</i>	0.11	1.01	11163	0	24
Conflict Ind.2 Local, <i>C2LOC</i>	0.06	0.55	11163	0	14.5
Conflict Ind.1 Mining, <i>C1MIN</i>	0.39	2.10	11163	0	35
Conflict Ind. 2 Mining, <i>C2MIN</i>	0.21	1.13	11163	0	18
Log-Mining canon per capita (PEN)	3.78	2.34	9702	0	10.20
Log-Min. Output Value per capita (PEN)	0.37	1.83	9738	0	14.8
Number of Registered Peasant Communities until 2005	2.73	5.1	11163	0	83
Peasant Communities' Hectares with Prop. Rights (Millions)	0.13	0.024	11163	0	0.28
Number of Social Organizations in the RENAMU Survey (2005)	52.73	145.66	11163	0	3502
Number of Beneficiaries of Social Organizations in the RENAMU Survey (2005)	3446	10002	11163	34	191993
Share of the Population with a Non-Spanish native language (2007)	0.30	0.35	11163	0	0.99
% Rural Poverty (2007)	51.7	30.6	11004	0	99
% Poverty headcount (2007)	51.3	23.8	11004	0	98
% has piped water (2007)	42.5	32.01	10992	0	99
% has indoor sewage (2007)	22.6	24.52	10992	0	100
% of the population which completed elementary School	81.53	7.1	10992	36.7	97.7
% of the population which completed High School	39.2	15.5	10992	3.7	87.1
% votes winner local government in recent elections	33.6	10.6	10811	12.7	100
Recall Process (Dummy)	0.0271	0.1625	11302	0	1
Successful Recall Process (Dummy)	0.0134	0.1152	11302	0	1

Table 4. Summary Statistics. Main Variables, 2006-2011

3.2 Testing the Contrasting Effects of Social Capital on Conflict, The CCESC Model

3.2.1 The Effects of Social Capital on Local Conflicts

In this subsection I test Proposition 1 of the CCESC model. Proposition 1 establishes a negative interactive relationship between the exogenous wealth indicator and social capital when affecting local conflicts. A negative interactive relationship between two independent variables means that the effect of one independent variable on the dependent variable

decreases with the values of the other independent variable (SC_i). In terms of the variables that will be used to test Proposition 1, a negative interactive relationship means that the effect of the log of canon per-capita will be smaller the higher the number of peasant communities in a district (or the extent of the hectares that belong to peasant communities in the district). This effect can be tested by estimating the following linear equation:

$$CLOC_{it} = \beta_0 + \beta_1 CANPC_{it-1} + \beta_2 CANPC_{it-1} \cdot SC_i + \delta X_{it} + \alpha_i + \theta_{it} + \gamma_t + v_{it} \dots \dots \dots (3)$$

In equation (3) above, $CLOC_{it}$ is one of the two local conflict indicators discussed in section 3.1.1., $CANPC_{it-1}$ is the log of the canon per-capita in the previous year, SC_i is one of the two social capital indicators discussed in section 3.1.3, X_{it} is a set of controls, α_i and γ_t are district and year fixed effects. If Proposition 1 is supported by the data, the estimated value of the parameter β_2 should be negative and statistically significant. As mentioned earlier, the Canon is mainly driven by international prices of mineral commodities and by an exogenous tax-sharing scheme. For this reason, I argue that the canon revenues are not correlated with other non-observable characteristics of the districts. During the period of study, canon revenues were transferred to the local governments in June of each year after the mining firms payed their taxes in April. These transfers could be affected by conflicts occurring in the first four months of the year²³ if for some reason mining firms change their reported profits as consequence of conflictive situations. This

²³ Keep in mind that $CLOC_{it}$ measures the number of months that a local conflict was active during the year t but it does not specify in which quarter of the year the conflicts were active.

could cause a simultaneity bias to the estimation of β_1 . To address this concern, I use the log of the canon per-capita but in the previous year ($CANPC_{it-1}$) in the estimation of equation (3). I also include district fixed effects to deal with unobserved heterogeneity fixed in time as well as year fixed effects to account for shocks that affected similarly to all districts in the same year. I have also included non-parametric trends such as year fixed effects interacted with indicators of above the mean value for the set of socioeconomic characteristics described in section 3.1.4. Finally, I included the margin of victory of the winner in the most recent election to measure the degree of support that the local government has from the population. In Table 5, I present the results of the estimation of equation (3) for different measures of conflict and social capital. In the first four columns, the dependent variable is the number of months in which a district had active conflicts during a given year, $C1LOC$. The last four columns show the results for the estimations considering as dependent variable the conflict indicator that also takes into account disruptive measures, $C2LOC$. Odd columns do not include the non-parametric trends for the socioeconomic characteristics' controls, while even columns do include these controls.

VARIABLES	Dependent Variable.: Local Conflict Indicator 1 (C1LOC)				Dependent Variable: Local Conflict Indicator 2 (C2LOC)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged Log of Canon Per Capita	0.000451 (0.0126)	0.00419 (0.0126)	0.00116 (0.0127)	0.00292 (0.0131)	0.000210 (0.00682)	0.00235 (0.00681)	0.000125 (0.00677)	0.00106 (0.00699)
Lagged Log of Canon Per Capita X Number of Peasant Communities	-0.00258*** (0.000987)	-0.00296** (0.00126)			-0.00143*** (0.000533)	-0.00168** (0.000665)		
Lagged Log of Canon Per Capita X Recognized Peasant Communities ' Hectares			-0.521*** (0.173)	-0.469*** (0.167)			-0.257*** (0.0893)	-0.230*** (0.0856)
Non-Parametric Trends	No	Yes	No	Yes	No	Yes	No	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.0188 (0.0330)	0.142 (0.109)	0.0185 (0.0330)	0.107 (0.102)	0.0124 (0.0174)	0.0692 (0.0581)	0.0122 (0.0175)	0.0482 (0.0552)
Observations	9,610	9,610	9,610	9,610	9,610	9,610	9,610	9,610
R-squared	0.007	0.014	0.007	0.014	0.006	0.013	0.006	0.013
Number of Districts	1,615	1,615	1,615	1,615	1,615	1,615	1,615	1,615

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. Even

Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 5. Local Conflict and Social Capital (Peasant Communities)

The first two columns show the estimation of equation (3) using the number of peasant communities existing in the district as a measure of social capital, in columns 3 and 4 the number of hectares registered by peasant communities are used as a measure of social

capital. In all these four specifications the estimated values of the interaction parameter (β_2) are negative and statistically significant. In the estimations presented in columns 5 to 8 the estimated values of the interaction parameter (β_2) are also negative. Thus, the evidence supports the existence of a negative interactive effect of the log of per-capita and social capital on local NVR campaigns. This result is robust to different measures of conflict and social capital. The estimated interactive effect of social capital is large. For instance, using specification (2) in table 5, an increment of one standard deviation of the log of per-capita canon *increases* the measure of local conflict (*C1LOC*) in an amount equivalent to 9% of the mean value of *C1LOC* when social capital is zero. However, if social capital has its mean value (*Ncomun* = 2.73), an increment of one standard deviation of the log of per-capita canon *decreases* the measure of local conflict (*C1LOC*) in an amount equivalent to 8.5% of the mean value of *C1LOC*. These effects are similar in the rest of specifications of equation (3) presented in table 4.

3.2.2. The Effects of Social Capital on Mining Conflicts

In this subsection, I test empirically Proposition 2 of the CCESC model. Proposition 2 establishes a positive interactive relationship between the exogenous wealth indicator and social capital when affecting mining conflicts. In terms of the variables used, Proposition 2 asserts that there exists a positive interactive effect of the log of per-capita and social capital on mining conflicts (*C1MIN* or *C2MIN*). Similar to equation (3), the positive interactive effect of Proposition 2 can be tested by estimating the following equation:

$$\begin{aligned}
CMIN_{it} = & \beta_0 + \beta_1 CANPC_{it-1} + \beta_2 CANPC_{it-1} \cdot SC_i + \delta X_{it} + \alpha_i + \theta_{it} + \gamma_t \\
& + v_{it} \dots \dots \dots (4)
\end{aligned}$$

In equation 4 above, $CMIN_{it}$ is one of the two mining NVR indicators discussed in section 3.1.1., $CANPC_{it-1}$ is the log of the canon per-capita in the previous year, SC_i is one of the two social capital indicators discussed in section 3.1.3, X_{it} is a set of controls, α_i and γ_t are district and year fixed effects. If Proposition 2 is supported by the data, the estimated value of the parameter β_2 should be positive and statistically significant.

In Table 6, I present the results of the estimation of equation (4) for different measures of conflict and social capital. In the first four columns, the dependent variable is the number of months in which a district had active conflicts during a given year, $C1MIN$. The last four columns show the results for the estimations considering as dependent variable the conflict indicator that also takes into account disruptive measures, $C2MIN$. Odd columns do not include the non-parametric trends for the socioeconomic characteristics' controls, while even columns do include these controls.

The first two columns show the estimation of equation (4) using the number of peasant communities existing in the district as a measure of social capital, and in columns 3 and 4 the number of hectares registered by peasant communities are used as measure of social capital. In all these four specifications the estimated values of the interaction parameter (β_2) are positive and statistically significant. In the estimations presented in columns 5 to 8 the estimated values of the interaction parameter (β_2) are also positive.

The estimated interactive effect of social capital is large. For instance, using specification (2) in table 6, an increment of one standard deviation of the log of per-capita canon

increases the measure of mining conflict ($C1MIN$) in an amount *equivalent to 8.5%* of the mean value of $C1MIN$ when social capital is at its mean value ($Ncomun = 2.73$). However, if social capital is at the value of its third quartile ($Ncomun = 3$), an increment of one standard deviation of the log of per-capita canon increases the measure of mining conflict ($C1MIN$) in an amount *equivalent to 15%* of the mean value of $C1MIN$. These effects are similar in the rest of specifications of equation (4) presented in table 6.

VARIABLES	Dependent Variable.: Mining Conflict Indicator 1 (C1MIN)				Dependent Variable.: Mining Conflict Indicator 2 (C2MIN)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged Log of Canon Per Capita	-0.0936** (0.0411)	-0.0977** (0.0423)	-0.0313 (0.0393)	-0.0377 (0.0387)	-0.0501** (0.0218)	-0.0520** (0.0225)	-0.0147 (0.0208)	-0.0176 (0.0206)
Lagged Log of Canon Per Capita X Number of Peasant Communities	0.0397*** (0.01000)	0.0369*** (0.0101)			0.0217*** (0.00541)	0.0203*** (0.00548)		
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares			3.289*** (1.189)	3.087*** (1.148)			1.704*** (0.634)	1.613*** (0.615)
Non-Parametric Trends	No	Yes	No	Yes	No	Yes	No	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.0118 (0.0996)	-0.0178 (0.273)	-0.0109 (0.101)	-0.566 (0.354)	-0.00319 (0.0525)	-0.0239 (0.143)	-0.00284 (0.0533)	-0.260 (0.179)
Observations	9,702	9,702	9,702	9,702	9,702	9,702	9,702	9,702
R-squared	0.032	0.038	0.025	0.033	0.031	0.037	0.024	0.031
Number of Districts	1,617	1,617	1,617	1,617	1,617	1,617	1,617	1,617

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. Even Columns include non-parametric trends, such as department-by-year fixed effects, and year fixed effects interacted with indicators of size of rural population poverty, access to water, sanitation, and education level.

Table 6. Mining Conflict and Social Capital (Peasant Communities)

As discussed previously, the log of per-capita canon represents the resources available to the local governments and not to the mining firms. However, I argued that the canon is a variable that also informs citizens about the existence of rents at available mining firms at the local level. Despite this, in Table 7, I have done the same empirical analysis of Table 6

but instead of using the log of per-capita canon I have used the log of per-capita value of the minerals produced in the district as a measure of rents available to mining firms at the local level. The underlying assumption of the regressions presented in Table 7 is that citizen react directly to the resources available to the mining firm. Regressions 1 to 4 of Table 7 show the results when the dependent variable is the active mining conflict indicator (*C1MIN*). In regressions 1 and 2, the interactive terms are positive and statistically significant, whereas the interactive terms of regressions 3 and 4 are not statistically significant. Therefore, the estimations in Table 7 support Proposition 2 only if social capital is measured by the number of peasant communities (*Ncomun*). This pattern is also observed when estimating *C2MIN*. These results highlight that the positive interactive effect predicted by Proposition 2 is robust to different measures of wealth available at the district level.

VARIABLES	Dependent Variable.: Mining Conflict Indicator 1 (C1MIN)				Dependent Variable.: Mining Conflict Indicator 2 (C2MIN)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged Log of The Value of Minerals Produced Per Capita	-0.00146 (0.0357)	-0.00334 (0.0353)	0.0194 (0.0481)	0.0166 (0.0476)	-0.000616 (0.0188)	-0.00132 (0.0185)	0.0125 (0.0254)	0.0112 (0.0252)
Lagged Log of The Value of Minerals Produced Per Capita X Number of Communities	0.0138** (0.00635)	0.0135** (0.00627)			0.00763** (0.00346)	0.00747** (0.00343)		
Lagged Log of The Value of Minerals Produced Per Capita X Recognized Peasant Communities' Hectares			0.631 (0.619)	0.643 (0.600)			0.290 (0.365)	0.299 (0.355)
Non-Parametric Trends	No	Yes	No	Yes	No	Yes	No	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.439*** (0.0402)	0.612*** (0.176)	0.0217 (0.0342)	-0.138 (0.279)	0.237*** (0.0215)	0.328*** (0.0963)	0.0172 (0.0181)	-0.0468 (0.147)
Observations	9,738	9,702	9,738	9,702	9,738	9,702	9,738	9,702
R-squared	0.024	0.032	0.023	0.031	0.023	0.030	0.022	0.030
Number of Districts	1,623	1,617	1,623	1,617	1,623	1,617	1,623	1,617

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. Even Columns include non-parametric trends, such as department-by-year fixed effects, and year fixed effects interacted with indicators of size of rural population poverty, access to water, sanitation, and education level.

Table 7. Mining Conflict and Social Capital (Peasant Communities)

3.3. Robustness Checks

In this section I address two concerns that arise after observing the results obtained in section 3.2. The first concern is that other social organizations that also indicate the presence of social capital have not been included in the analysis so far. Do the variables indicating the presence of these organizations correlate with peasant communities' indicators? Do the contrasting effects found for peasant communities hold once the other

social organizations are included in the regressions? These questions will be answered in subsection 3.3.1, in which I will show that the main results of section 3.2 concerning the contrasting effects of peasant communities on NVR campaigns are robust to the inclusion of additional measures of social capital.

The second concern is that the contrasting effects of peasant communities on conflict are not generated by the peasant communities but by other characteristics that are common in peasant communities, such as low education levels, poverty, linguistic differences, etc. If this were the case, the observed relationship between peasant communities' social capital and conflict would be a spurious relationship. In section 3.3.2, I address this concern by including in the analysis variables commonly related to peasant communities. I show that among a set of ten variables, two variables generate similar contrasting effects on conflict. However, the contrasting effects of peasant communities on conflict hold after controlling for these two variables.

3.3.1 Other Social Organizations

In this section I consider other social organizations that are also a potential source of social capital at the district level. I obtained information about these organizations from the RENAMU survey described in section 3.1.3. All these social organizations were created during the last 40 years mostly to address the hunger problems created by the recurrent economic crises of the late 70's and 80's. Thus, these social organizations are relatively new compared to peasant communities. Considering all seven types of social organizations included in the RENAMU survey, there are around 100 thousand social organizations in the whole country. These organizations have around 6.38 million beneficiaries or provide

this number of benefits.²⁴ Among these organizations the most numerous are of the “glass of milk” type, with 62,631 organizations in the whole country (see Table 8, row 3). The Glass of Milk is mainly financed with resources from the central government transferred to the local governments. In turn, the local governments transfer the resources to the 62,631 Glass of Milk organizations in the country. The second most numerous type of social organization is the Communal Kitchens with 17,474 organizations in the whole country (see Table 8, row 4). The communal kitchens also receive support from the central government, but the greater part of their budget is financed by contributions from their members. The central government also transfers resources to the local governments for communal kitchens.

	Total (Country)	Number of Districts	Mean	Std. Dev.	Min.	Max
Mother Clubs	10,827	1819	5.65	106.65	0	225
Glass of Milk	62,361	1819	34.28	25.92	0	2928
Communal Kitchens	17,474	1819	7.96	12.87	0	472
Wawa Wasi	6,202	1819	3.41		0	179
Elderly Clubs	585	1819	0.32	2.6	0	70
Young Clubs	1,407	1819	0.77	5.18	0	151
Others	2,203	1819	1.21	12.64	0	360

Table 8. Social Organizations in the RENAMU Survey (2005)

²⁴ Many of these reported beneficiaries can be overlapped among different social organizations. Thus, given the format of the survey, it is very likely that these social organizations do not reach 6.38 millions of people.

Table 9 provides the quantity of beneficiaries of each of the social organizations. According to the RENAMU, the Glass of Milk organizations benefit around 4.4 million children (see Table 9, row 3), about one sixth of the population. The communal kitchens benefit around 900 thousand people (see Table 9, row 4), also an important number.

As has been described, many of the organizations mentioned in the RENAMU survey have some type of relationship with the local governments²⁵, and the two most numerous receive resources from the central government through the local government. However, these organizations have been created for very specific tasks and it is not clear if they normally assign their time to deal with issues outside these tasks.

	Total (Country)	Number of Districts	Mean	Std. Dev.	Min.	Max
Mother Clubs	648,207	1819	356	106.65	0	35,385
Glass of Milk	4'459,604	1819	2,452	25.92	0	151,091
Communal Kitchens	895,921	1819	493	12.87	0	37,186
Wawa Wasi	54,340	1819	30		0	1,432
Elderly Clubs	55,729	1819	31	2.6	0	15,347
Young Clubs	51,880	1819	29	5.18	0	3,020
Others	216,370	1819	119	12.64	0	40,000

Table 9. Beneficiaries of Social Organizations in the RENAMU Survey (2005)

²⁵ Most likely for this reason these organizations are included in the RENAMU survey.

In tables 8 and 9, I have presented a disaggregated view of the additional social organizations that exist at the district level, I discussed the two most important organizations so the reader can have a better understanding of these organizations. However, I will include these organizations in the empirical analysis of the previous section by combining them into two variables. The first variable is the total number of social organizations in the district, the second variable is the total number of beneficiaries in each district. Similar to section 3.2, I will re-estimate equations 3 and 4 with an added interaction term describing the product of the lag of the per-capita canon with one of the two new measures of social capital (total number of social organizations in the district and total number of beneficiaries on each district). This type of specification will allow testing for potentially different effects of peasant communities and other social organizations on conflict. Also, since the correlation among the new social organizations' variables and the peasant communities' indicators is very low (always less than 0.06) it is likely that the new social organization indicators provide a different source of variation which is better to include independently.

VARIABLES	Dependent Variable.: Local Conflict Indicator 1 (C1LOC)				Dependent Variable.: Local Conflict Indicator 2 (C2LOC)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged Log of Canon Per Capita	-0.00145 (0.013)	0.00282 (0.013)	-0.00269 (0.014)	0.00226 (0.014)	-0.00035 (0.007)	0.00178 (0.007)	-0.00148 (0.007)	0.00096 (0.007)
Lagged Log of Canon Per Capita X Number of Peasant Communities	-0.00363** (0.002)	-0.00313** (0.001)			0.00200** * (0.001)	-0.00175** (0.001)		
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares			-0.4894*** (0.177)	-0.4709*** (0.169)			-0.2372*** (0.090)	-0.2302*** (0.087)
Lagged Log of Canon Per Capita X Number of Other Social Organizations	0.00026 (0.000)		0.00020 (0.000)		0.00012 (0.000)		0.0009 (0.000)	
Lagged Log of Canon Per Capita X Number of Beneficiaries of Other Social Organizations		0.0000 (0.000)		0.0000 (0.000)		0.000 (0.00)		0.0000 (0.000)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.0949 (0.110)	-0.0871 (0.118)	0.13883* (0.075)	0.13158* (0.074)	-0.05146 (0.056)	-0.0487 (0.062)	0.0679* (0.039)	0.06359 (0.039)
Observations	9,610	9,610	9,610	9,610	9,610	9,610	9,610	9,610
R-squared	0.014	0.014	0.014	0.014	0.013	0.013	0.013	0.013
Number of Districts	1,615	1,615	1,615	1,615	1,615	1,615	1,615	1,615

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns

include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty,

access to water, sanitation, and education levels.

Table 10. Local Conflict and Social Capital (Peasant Communities and Other Social Organizations)

Table 10 shows the results obtained from estimating equation 3 with the additional interaction terms for the new social organization indicators. In the first four columns, the dependent variable is the number of months that local conflicts were *active* in a district during a year (*C1LOC*). In columns 5 to 8 the dependent variable is the number of months that local conflicts were *active* in a district during a year averaged with the number of months that local conflicts have *disruptive events* in a district during the same year (*C2LOC*). All specifications include district, year-fixed effects, and non-parametric trends of year fixed effects interacted with indicators of above-mean value of rural population poverty, access to water, sanitation, and education levels. The results in Table 10 confirms the negative interactive relationship between peasant communities' indicators and the log of canon per-capita over the local conflict indicators: the interaction coefficients of the peasant communities' indicators did not change importantly in their sign, statistical significance, nor in their size. On the other hand, the interaction terms of the new social organizations are very small in size and did not have statistical significance in the estimation of equation 3 (Local conflicts). As mentioned in section 3.1.3, these organizations have very specific concerns and now the estimations show that they are unrelated to local conflicts.

When the mining conflicts indicators are the dependent variables, Table 11 confirms the positive interactive relationship between the peasant communities' indicators and the log of canon per capita over the mining conflicts indicators. In the re-estimations of equation 4 shown in Table 11, the interaction coefficients of

the peasant communities' indicators did not change importantly in their sign, statistical significance, nor in their size. The interaction terms of the new social organization indicators with the log of the canon per-capita show positive effects and statistical significance only when the number of hectares was used as peasant communities' indicators. The sign is positive which is consistent with proposition 2 from chapter 2. These positive effects are also potentially large. Considering the estimations in column 3 of Table 11, in a district located in the 90th percentile of the number of social organizations variable (106 social organizations) a one standard deviation increase in the log of the canon per-capita will generate an increase in the mining conflict indicator (*C1MIN*) of 0.1197, equivalent to a 30.96% of the mean conflict indicator (0.39). Overall, a joint analysis of Tables 10 and 11 show that the contrasting effects of peasant communities' indicators hold after the inclusion of the additional indicator of social organizations, other social organizations (such as glass of milk and others) did not show consistent contrasting effects

VARIABLES	Dependent Variable: Mining Conflict Indicator 1				Dependent Variable: Mining Conflict Indicator 2			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged Log of Canon Per Capita	-0.12558*** (0.044)	-0.12105*** (0.043)	-0.08876** (0.04)	-0.07951** (0.039)	-0.06677*** (0.023)	-0.06408*** (0.023)	-0.04504** (0.021)	-0.0397* (0.021)
Lagged Log of Canon Per Capita X Number of Peasant Communities	0.03486*** (0.01000)	0.03539*** (0.010)			0.01925*** (0.005)	0.01956*** (0.006)		
Lagged Log of Canon Per Capita X Recognized Peasant Communities ' Hectares			3.01397*** (1.131)	3.02795*** (1.131)			1.5721*** (0.605)	1.5809** *
Lagged Log of Canon Per Capita X Number of Other Social Organizations	0.00070 (0.001)		0.00132** (0.001)		0.00036 (0.00)		0.00071** (0.000)	
Lagged Log of Canon Per Capita X Number of Beneficiaries of Other Social Organizations		0.00001 (0.000)		0.00002* (0.000)		0.0000 (0.000)		0.0001* (0.000)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.40094 (0.245)	0.32612 (0.268)	0.2878 (0.178)	0.2765 (0.178)	0.20123 (0.131)	0.15273 (0.141)	0.14819 (0.100)	0.1415 (0.100)
Observations	9,610	9,610	9,610	9,610	9,610	9,610	9,610	9,610
R-squared	0.041	0.040	0.036	0.036	0.039	0.039	0.034	0.034
Number of Districts	1,615	1,615	1,615	1,615	1,615	1,615	1,615	1,615

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 11. Mining Conflict and Social Capital (Peasant Communities and Other Social Organizations)

3.3.2 Other Variables Related to Peasant Communities

In this subsection, I address the possibility that other social characteristics that are also typical in peasant communities are the underlying cause of the observed contrasting effects of social capital on conflict. If this were the case, the observed relationship between peasant communities' social capital and conflict would be a spurious relationship. The focus of this section is not to provide theoretical reasons why other social characteristics that are also typical in peasant communities could potentially affect conflict but to test whether other characteristics of peasant communities are driving the observed results.

People living in peasant communities are normally regarded as having lower education levels, speaking Quichua and Aymara as native languages, having higher levels of poverty, and having more rural population, among other characteristics. The table in Appendix 2 shows the correlation of the two peasant communities' indicators with ten other variables. Among these ten variables the highest correlation (0.48) was between the number of peasant communities and the percentage of the population that did not have Spanish as his first language in 2007. The correlation is always higher using the number rather than the land area of peasant communities, so I focus on this indicator. The high correlation of the number of peasant communities with the share of the population that did not learn to speak with Spanish is not a surprising result since peasant communities are mostly indigenous people. The second highest correlation of the number of peasant communities is the correlation with the percentage of the population that was extremely poor in 2009 (0.33). The third highest is the correlation with the percentage of the rural poverty in 2007 (0.3).

From the ten variables in the table in Appendix 2, I selected the six variables that had a higher correlation with the number of peasant communities. Then I proceed as follows: First, I estimate equations 3 and 4 but using the six variables instead of the peasant communities' indicators and look for variables that have similar contrasting effects on the two types of conflicts (mining and local). I found that two variables showed similar contrasting effects with statistical significance. Second, I re-estimate equations 3 and 4, but on each equation, I include both the peasant communities' indicator and the variables that showed similar contrasting effects to differentiate between the peasant community effects and the other characteristics effects. Below are the results obtained on each of the two steps just mentioned.

Effects of Variables correlated with Peasant Communities on Local and Mining NVR Campaigns

In this subsection, I present the results obtained from replacing the peasant communities' indicators in the estimations of equations 3 and 4 with other social characteristics common in peasant communities. As mentioned above, I chose the six variables with the highest correlation from a group of ten variables. Tables 12 presents the results for local conflicts. The dependent variable in Table 12 is *C1LOC* (the results are similar in sign and significance if the dependent variable is *C2LOC*, see the table in the Appendix 3)

Two variables show statistically significant effects when interacted with the lagged canon per-capita: The percentage of the population that did not have Spanish as its native language in 2007 (at 99% significance) and the percentage of the population in extreme poverty in 2007 (90% significance). Furthermore, the sign of these two variables is

negative, implying a negative interactive effect, just as the peasant communities' effect on local conflicts.

VARIABLES	Dependent Variable.: Local Conflict Indicator 1 (C1LOC)					
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Log of Canon Per Capita	0.00122 (0.0213)	0.0274 (0.0173)	0.0203 (0.0194)	0.0187 (0.0170)	-0.00532 (0.0157)	0.00528 (0.0261)
Lagged Log of Canon Per Capita X Urban Population (%)	-0.00735 (0.0339)					
Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)		-0.0770*** (0.0253)				
Lagged Log of Canon Per Capita X Rural Poverty (%)			-0.0429 (0.0374)			
Lagged Log of Canon Per Capita X Extreme Poverty (%)				-0.0878* (0.0454)		
Lagged Log of Canon Per Capita X Access to Public Sewage System (%)					-0.000597 (0.0457)	
Lagged Log of Canon Per Capita X Population with no Education Level (%)						-0.0600 (0.141)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.834*** (0.257)	0.588*** (0.225)	-0.00970 (0.175)	0.123 (0.101)	0.182 (0.116)	0.177 (0.120)
Observations	9,546	9,696	9,702	9,702	9,696	9,696
R-squared	0.015	0.014	0.015	0.015	0.013	0.013
Number of Districts	1,591	1,616	1,617	1,617	1,616	1,616

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 12. Local Conflicts and Variables Correlated with Peasant Communities

Table 13 show the results when the dependent variable is *C1MIN*, (the results are similar in sign and significance if the dependent variable is *C2MIN*, see the table in the Appendix 4)

In the estimations of Table 13, three variables show statistically significant effects: the percentage of the population that did not have Spanish as its first language in 2007 (at 95% significance), the percentage of the population in extreme poverty in 2007 (90% significance), and the percentage of the population that did not have access to a public sewage system (90 % significance). Moreover, the sign of these three variables is positive, implying a positive interactive effect, just as the peasant communities' effect on mining conflicts.

Dependent Variable.: Mining Conflict Indicator 1 (C1MIN)						
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES						
Lagged Log of Canon Per Capita	0.0629 (0.0613)	-0.0625 (0.0427)	-0.0752 (0.0477)	-0.0895 (0.0613)	-0.0225 (0.0435)	-0.0691 (0.0619)
Lagged Log of Canon Per Capita X Urban Population (%)	-0.144 (0.0943)					
Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)		0.173** (0.0798)				
Lagged Log of Canon Per Capita X Rural Poverty (%)			0.155 (0.0974)			
Lagged Log of Canon Per Capita X Extreme Poverty (%)				0.398* (0.206)		
Lagged Log of Canon Per Capita X Access to Public Sewage System (%)					0.200* (0.116)	
Lagged Log of Canon Per Capita X Population with no Education Level (%)						0.450 (0.356)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.241 (0.263)	0.504* (0.282)	0.266 (0.215)	-0.595* (0.355)	-0.563 (0.403)	-0.555 (0.402)
Observations	9,546	9,696	9,702	9,702	9,696	9,696
R-squared	0.031	0.032	0.031	0.032	0.031	0.031
Number of Districts	1,591	1,616	1,617	1,617	1,616	1,616

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 13. Mining Conflicts and Variables Correlated with Peasant Communities

An overall look at Tables 12 and 13 shows that the share of the population that did not have Spanish as its native language in 2007 and the percentage of the population in extreme poverty in 2007 have the same contrasting effects on conflict than the peasant communities' indicators. It is hard to argue that these two variables are indicators of social capital. However, since these variables are importantly correlated with the peasant communities' indicators, it is not clear which variable is actually generating the contrasting effects. To address this concern, I estimate equations 3 and 4 again, controlling for the two concerning variables.

Controlling for the Share of Native Non-Spanish Speakers in the Population

In Tables 14 and 15, I present the results of the estimations of equations 3 and 4 respectively, but on each estimation I have included an interaction term of the product of the log of the per-capita canon and the percentage of non-Spanish speakers in a district. In Table 14, the first two columns present the results with *C1LOC* as dependent variable. In columns 3 and 4 the dependent variable is *C2LOC*.

VARIABLES	Dependent Variable.: Local Conflict Indicator 1 (C1LOC)		Dependent Variable.: Local Conflict Indicator 2 (C2LOC)	
	(1)	(2)	(3)	(4)
Lagged Log of Canon Per Capita	0.02906* (0.018)	0.03148* (0.018)	0.01529 (0.009)	0.01625* (0.010)
Lagged Log of Canon Per Capita X Number of Peasant Communities	-0.00091 (0.001)		-0.00061 (0.001)	
i Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)	-0.07672*** (0.026)	-0.07721*** (0.025)	-0.03986*** (0.014)	-0.04088*** (0.013)
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares		-0.30641** (0.152)		-0.14449* (0.077)
Non-Parametric Trends	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes
Constant	-0.06225 (0.148)	-0.06103 (0.148)	-0.04089 (0.081)	-0.04047 (0.082)
Observations	9,604	9,604	9,604	9,604
R-squared	0.013	0.014	0.013	0.013
Number of Districts	1,614	1,614	1,614	1,614

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 14. Local Conflicts, Peasant Communities and Percentage of Non-Spanish Speakers

The results in Table 14 show that the negative interactive effect of the number of hectares of peasant communities and the log of per-capita canon on local conflicts holds after controlling for the percentage of the population that did not learn to speak with Spanish as their first language. The size of the effects is around 80% of the previous effect. When the number of peasant communities is used as indicator, the estimated interaction coefficients are still negative but not statistically significant.

VARIABLES	Dependent Variable.: Mining Conflict Indicator 1 (<i>C1MIN</i>)		Dependent Variable.: Mining Conflict Indicator 2 (<i>C2MIN</i>)	
	(1)	(2)	(3)	(4)
Lagged Log of Canon Per Capita	-0.101** (0.0446)	-0.0933** (0.0438)	-0.0546** (0.0241)	-0.0493** (0.0237)
Lagged Log of Canon Per Capita X Number of Peasant Communities	0.0366*** (0.0108)		0.0201*** (0.00583)	
Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)	0.0109 (0.0837)	0.140* (0.0807)	0.00786 (0.0437)	0.0799* (0.0424)
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares		2.825** (1.157)		1.463** (0.619)
Non-Parametric Trends	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes
Constant	0.00319 (0.231)	0.519* (0.282)	0.0119 (0.122)	0.274* (0.152)
Observations	9,696	9,696	9,696	9,696
R-squared	0.038	0.034	0.037	0.032
Number of Districts	1,616	1,616	1,616	1,616

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above-the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 15. Mining Conflicts, Peasant Communities and Percentage of Non-Spanish Speakers

Table 15 shows that the positive interactive effects of both indicators of peasant communities with the log of per-capita canon on mining conflicts hold after controlling for the percentage of the population that did not learn Spanish as their first language. Overall, Tables 14 and 15 provide evidence that the contrasting effects of peasant communities on local and mining conflicts hold after controlling for the percentage of the population that did not learn to speak with Spanish.

Controlling for the Share of the Population in Extreme poverty

A similar pattern is observed if instead of controlling for the percentage of the population that did not learn Spanish as their first language, I control for the share of the population living in extreme poverty.

The results in Table 16 show that the negative interactive effects of the two peasant communities' indicators and the log of per-capita canon on local conflicts hold after controlling for the percentage of the population that lived in extreme poverty; the size of the effects is around 70% of the previous effect. Again, in the first two columns of Tables 16, the dependent variable is *C1LOC* whereas in columns 3 and 4 the dependent variable is *C2LOC*.

VARIABLES	Dependent Variable.: Local Conflict Indicator 1 (C1LOC)		Dependent Variable.: Local Conflict Indicator 2 (C2LOC)	
	(1)	(2)	(3)	(4)
Lagged Log of Canon Per Capita	0.02052 (0.017)	0.02127 (0.018)	0.01045 (0.009)	0.01061 (0.009)
Lagged Log of Canon Per Capita X Number of Peasant Communities	-0.00203 (0.001)		-0.00121* (0.001)	
Lagged Log of Canon Per Capita X Extreme Poverty (%)	-0.07517 (0.047)	-0.07874* (0.046)	-0.03729 (0.025)	-0.04099* (0.024)
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares		-0.36548** (0.158)		-0.17612** (0.080)
Non-Parametric Trends	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes
Constant	0.14811 (0.109)	0.09313 (0.096)	0.07199 (0.058)	0.04295 (0.052)
Observations	9,610	9,610	9,610	9,610
R-squared	0.014	0.014	0.013	0.013
Number of Districts	1,615	1,615	1,615	1,615

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 16. Local Conflicts, Peasant Communities and Percentage of The Population in Extreme Poverty.

Table 17 shows that the positive interactive effects of both indicators of peasant communities with the log of per-capita canon over mining conflicts hold after controlling for the percentage of the population that lived in extreme poverty. Again, the size of the interactive effects of the peasant communities' indicators are of around 70% of the original (uncontrolled) effect.

VARIABLES	Dependent Variable.: Mining Conflict Indicator 1 (C1MIN)		Dependent Variable.: Mining Conflict Indicator 2 (C2MIN)	
	(1)	(2)	(3)	(4)
Lagged Log of Canon Per Capita	-0.119** (0.0603)	-0.107* (0.0610)	-0.0643** (0.0318)	-0.0571* (0.0322)
Lagged Log of Canon Per Capita X Number of Peasant Communities	0.0357*** (0.0107)		0.0196*** (0.00579)	
Lagged Log of Canon Per Capita X Extreme Poverty (%)	0.0988 (0.217)	0.299 (0.210)	0.0567 (0.114)	0.170 (0.111)
Lagged Log of Canon Per Capita X Recognized Peasant Communities' Hectares		2.692** (1.143)		1.388** (0.608)
Non-Parametric Trends	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes
Constant	-0.0247 (0.271)	-0.581 (0.353)	-0.0278 (0.142)	-0.268 (0.179)
Observations	9,702	9,702	9,702	9,702
R-squared	0.038	0.034	0.037	0.032
Number of Districts	1,617	1,617	1,617	1,617

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. All Columns include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels.

Table 17. Mining Conflicts, Peasant Communities and Percentage of The Population in Extreme Poverty

Overall, Tables 16 and 17 show that contrasting effects of peasant communities' social capital over local and mining conflicts hold also after controlling for the extreme poverty indicators.

In the CCESC model, social capital was of paramount importance to coordinate a new equilibrium after an exogenous social change. The model did not specify which type of

social capital was necessary to quickly reach a new equilibrium. In sections 3.2 and 3.3, I have been using measures of social capital as in Putnam's (1993) work, that is, indicators of the existence of social organizations. Although, I have been using at least two broad types of social organizations, the results are more robust with the peasant communities' indicators. Thus, even if the reader is not persuaded by the number of peasant communities and the hectares of these peasant communities as indicators of social capital, it is clear that there is at least a "peasant communities contrasting effect" on local and mining conflicts. However, given the information provided about how peasant communities organize and how they share networks of reciprocity and rules of civic engagement, it is very likely that the observed contrasting effects are due to a capacity to cooperate, and organize to resist external powers, which is by definition, a form of social capital.

3.4 Where Does the Peruvian Social Capital Come From? The Colonial Origins of the Peruvian Social Capital

The CCESC model's main contribution is to explain the contrasting coordination effects of social capital on conflict and the importance of social capital in obtaining concessions. Social capital is taken for granted in this model, but its presence is not explained. In the Peruvian context, unlike other social organizations, peasant communities in a district have explained most of the variation in local and mining conflicts. However, the existence of peasant communities was assumed in previous sections. In this subsection, I provide some evidence about the formation of this type of social organizations. More precisely, I argue that legally recognized peasant communities in the first half of the 20th century can be

explained by colonial extractive institutions. In these historical processes, resistance against external powers²⁶ through revolts and rebellions was an important channel of persistence for social capital.

These persistent effects of revolts and rebellions on social capital operated as follows. First, the indigenous population experienced structural violence from many extractive institutions (the mining mita, the reductions, the Corregidor, the Encomendero, the Hacendados, etc.²⁷). The violence created by these extractive institutions promoted social capital cooperation either for social insurance²⁸ or for organizing rebellions that allow peasant communities to resist these institutions. The cooperation capacities required to organize revolts and rebellions are high. Hence, under colonial rule, revolts and rebellions are indicators of a higher capacity to coordinate and cooperate to resist in those areas. In other word, revolts and rebellions are indicators of high levels social capital.

Second, this high capacity to cooperate was not lost after the end of the revolts and rebellions. Instead, it was constantly used in intracommunity activities, in new actions against persistent extractive institutions in the colony, or in resisting the expansion of the Haciendas²⁹ during the republic. This constant use of their cooperation capacities generated persistent high levels of social capital³⁰, which facilitated cooperation to obtain

²⁶ These external powers sought to extract as much surplus as possible from the peasant communities' labor force during colonial times and during the first century of the republic. Acemoglu and Robison (2001, 2012) have studied institutional settings of this type, which they named "extractive institutions".

²⁷ These social agents incarnated the extractive institutions in place within the Peruvian viceroyalty and republic. In Appendix 5, I have included a brief history of the peasant communities during the colony and the republic. This history includes a description of the role of each social agent (Corregidor, the Encomendero, the administrators of the mines, and the Hacendados).

²⁸ For instance, if one family had their male members sent to work in the mining mita, other families might organize to supply food and help or other basic needs to the family that has lost a member.

²⁹ Haciendas are rural states property of private owners. During colonial times and under the republic, these rural states sought to expand their lands.

³⁰ Social capital requires constant use to be preserved, it does not wear out with use, but rather with disuse (Ostrom, 2002)

legal recognition of their communal organizations during the first half of the 20th century. Figure 4 summarizes this argument. It is worth mentioning the importance of the arrow that goes back from social capital to revolts and then again to social capital since it indicates how social capital is preserved and persists in time.

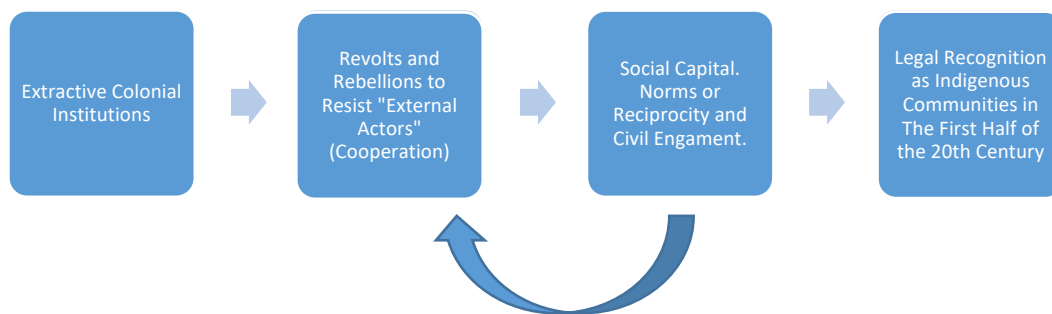


Figure 4. Extractive Colonial Institutions and Peasant Communities in the 20th Century.

The rest of this subsection has two parts. In the first part, I focus on the relationship between revolts and rebellions in the 18th century and peasant communities in the first half of the 20th century. I provide some suggestive empirical evidence that in locations in which revolts in the 18th century occurred, it was more likely that the indigenous organizations obtained legal recognition in the first half of the 20th century. In the second part, I focus on one of the cruelest extractive institutions of the colony, the mining mita. I use the data and the empirical strategy suggested for the first time in Dell (2010) to show that this harmful extractive institution that started in the 16th century had persistent effects on the formation of social capital and on the first peasant communities that obtained legal recognition in the 20th century. Thus, one channel of persistence is the revolts and rebellions in the 18th century.

3.4.1 Colonial Revolts and Peasant Communities in the 20th Century

Peasant communities started to obtain legal recognition after the enactment of the first constitution that recognized them as legitimate organizations in 1920. But obtaining legal recognition was not an easy process. It required to get information of this opportunity which was difficult in rural areas; required to have funds to travel to Lima (the capital city); to being able to write and present documentation in Spanish (most indigenous people only spoke Quechua or Aymara in 1920); also, these processes entailed having legal representatives (lawyers). All these requirements implied that obtaining legal recognition in this period required high levels of organization or high social capital.

Interestingly, the first peasant community that obtained legal recognition did it in 1921, one year after the enactment of the 1920 constitution. This community was the “Machaccoyo” peasant community, which is located in the Canas province in the Cuzco region. This province is the birthplace of Jose Gabriel Condorcanqui known as Tupac Amaru II, the leader of the Greatest Rebellion of the 18th century. In other words, the first peasant community to obtain legal recognition is located at the center of the provinces that were part of the Greatest Rebellion of the 18th century. Moreover, until 1926, 16 more peasant communities from the Canas province managed to obtain legal recognition. The first province to obtain legal recognitions of its peasant communities, the Canas province, supports my claim that that participation in insurrections, revolts, and rebellions in the 18th century had persistent effects in peasant communities’ capacity to organize and cooperate to obtain legal recognition in the 20th century. It is well known that the Great Rebellion required high levels of cooperation among provinces, since they have to

coordinate actions, and provide supply lines that involved obtaining resources from many provinces. This high capacity of organization and cooperation persisted until the 20th century and was used to obtain legal recognition as soon as it was legally possible in the 1920s.

But what about other revolts in the 18th century? The first registered revolt in the 18th century occurred in 1719 in the Cayna district located in what is known today as the Huánuco province. The Curaca and the indigenous population rebelled against the representative of the Church. The indigenous population in this district rebelled also in 1810 and 1812 against viceroy Abascal. In the 20th century, peasant communities of this district were also among the first in getting legal recognition, they obtained their legal recognition in the years 1945 and 1946.

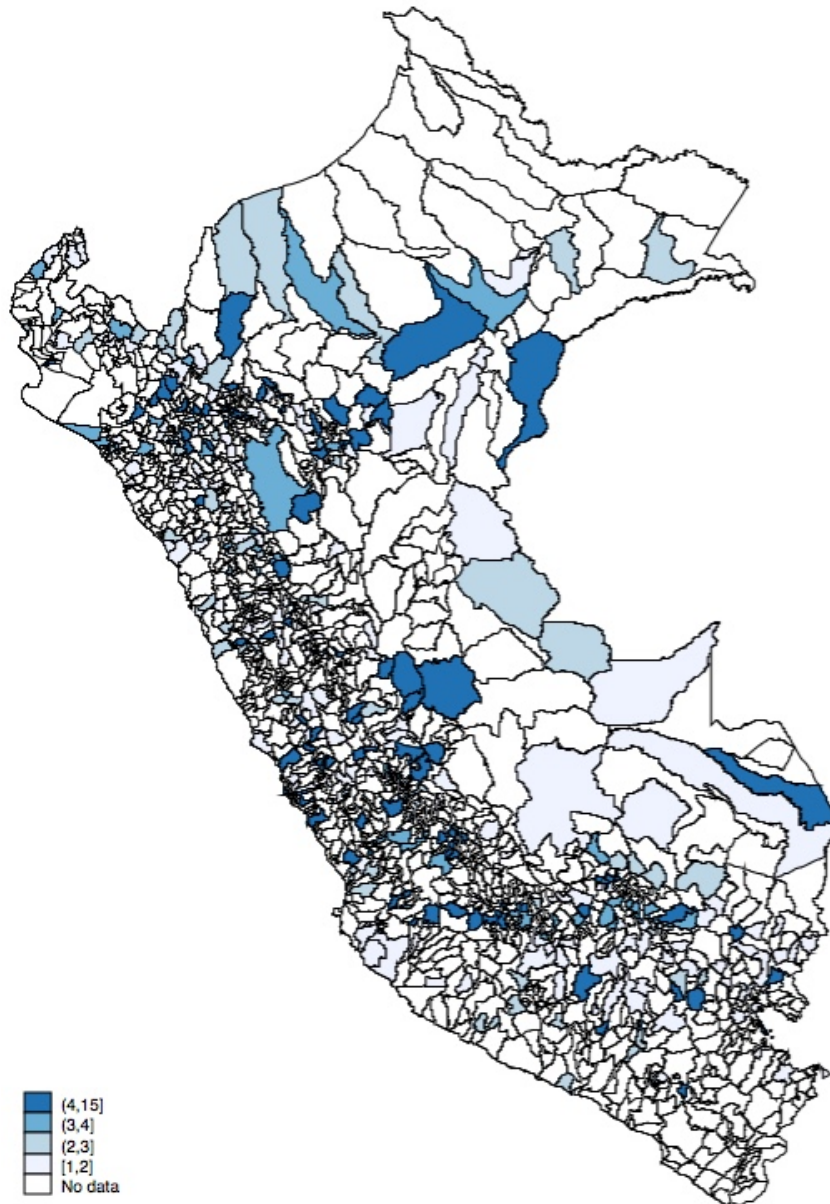


Figure 5. Revolts and Rebellions in Colonial Perú, 18th Century

The revolt in Cayna, the Great Tupac Amaru Rebellion, and other 138 revolts that occurred in the 18th century have been collected and studied by Scarlet O’phelan in his famous book “A Century of Colonial Revolts” (1985). Among the 140 revolts and rebellions listed in O’phelan’s book, 118 occurred within the current Peruvian boundaries. Each one of these revolts and rebellions have been located in current Peruvian districts in

Figure 4, which also shows the geographical distribution and the number of these revolts and rebellions on each contemporary district. The majority of these conflictive events occurred in the Andean part of the country.

I used these revolts to provide more systematic evidence that participation in insurrections, revolts, and rebellions in the 18th century had persistent effects in the peasant communities' capacity to organize and cooperate to obtain legal recognition during the first half of the 20th century. I use peasant communities registered until 1948. I do this for two reasons. First, around 1948 there were many other social processes that potentially alter the relations between urban and rural areas after 1948. Among these processes, the strong migration to the urban areas and the emergence of proletarian parties are important. Second, in 1948 a dictatorship that lasted 8 years started. During this period of absence of liberties and repression, the number of peasant communities that managed to obtain legal recognition decreased dramatically, this situation allows for an exogenous cut date in the registration of peasant communities.

I use regression analysis to test the relationship between 18th century revolt's and 20th century's legally recognized peasant communities. In the regression analysis the unit of observation is the current district. Thus, the independent variable is the number of revolts and rebellions that occurred in that district in the 18th century. I will use three dependent variables: i) the number of peasant communities legally recognized on each district until 1948, ii) The number of hectares legally recognized by peasant communities on each district until 1948, and iii) the fractionalization index of the lands that belong to peasant communities on each district until 1948.

Table 8 shows the results of the regressions of the independent variable over the three dependent variables. Column 1 shows the results of the regression of the number of revolts over the number of legally recognized peasant communities. Column 2 shows the results when the dependent variable is the number of hectares legally recognized to peasant communities. Finally, column 3 shows the result when the dependent variable is the fractionalization index of the lands that belong to peasant communities on each district. In all the three regressions the coefficients were positive and statistically significant. According to these estimations, more revolts increased the number of peasant communities that managed to obtain legal recognition in the 20th century, revolts also increased the land recognized to peasant communities, and also implied that this land were more fragmented. Overall, the results provide suggestive evidence that participation in insurrections, revolts, and rebellions in the 18th century did have persistent effects in peasant communities' capacity to organize and cooperate to obtain legal recognition in the 20th century.

VARIABLES	(1) Dep. Var.: Nr. Recognized Peasant Communities, 1948	(2) Dep. Var.: Recognized Hectares of Peasant Communities, 1948	(3) Dep. Var.: Fractionalization Index of the Recognized lands, 1948
Nr. Revolts or Rebellions in the 18 th century	0.0798*** (0.0173)	745.8*** (160.6)	0.00292*** (0.000759)
Constant	0.518*** (0.0288)	4,391*** (152.8)	0.0235*** (0.00165)
Observations	1,866	1,866	1,866
R-squared	0.025	0.014	0.012

*** p<0.01, ** p<0.05, * p<0.1 Robust standard errors in parentheses

Table 18. The Persistent Effects of Revolts in 18th Century on Peasant Communities in the 20th Century

I have also analyzed the effects of revolts in the 18th century in measures of how prone the districts are to have mining and local NVR campaigns. To do this, I added all the mining and local NVR indicators during the whole period of analysis of chapter 3 (2006-2011). These indicators can be interpreted as long-term indicators of the predisposition of each district to have mining and local NVR campaigns. Table 9 shows the results. In column 1, the dependent variable is the total number of mining NVR campaigns that a district had during 2006 to 2011. In column 2, the dependent variable is the sum of the values of the variable *C1MIN* used in chapter 3 for the period 2006-2011. In column 3, the dependent variable is the sum of the values of the variable *C2MIN*, used in chapter 3, for the period 2006-2011. Columns 4 to 6 have variables similar to the first three columns but for local NVR campaigns instead.

It is striking how revolts and rebellions in the 18th century seem to be positively and statistically related to long term mining NVR campaigns indicators but not to long term

local NVR campaigns indicators. One explanation for this pattern is that revolts in the 18th century can be seen as resistance campaigns against external actors and for this reason they are related to current resistance campaigns against external actors and not to resistance campaigns against internal actors.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Nr. Mining	<i>C1MIN</i>	<i>C2MIN</i>	Nr. Local	<i>C1LOC</i>	<i>C2LOC</i>
Nr. Revolts or Rebellions in the 18 th century	0.0451*** (0.0159)	0.460*** (0.137)	0.260*** (0.0777)	-0.00223 (0.00359)	0.0232 (0.0276)	0.0141 (0.0155)
Constant	0.146*** (0.0217)	1.867*** (0.209)	1.013*** (0.114)	0.111*** (0.0128)	0.609*** (0.0865)	0.332*** (0.0469)
Observations	1,866	1,866	1,866	1,866	1,866	1,866
R-squared	0.016	0.018	0.019	0.000	0.000	0.000

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 19. Revolts in the 18th Century and Mining and Local NVR campaigns, 2006-2011

3.4.2. Mining Mita and Peasant Communities

In this subsection, I focus on the mining mita. Created in 1572 by Viceroy Toledo, the mining mita forced the indigenous population to provide one seventh of their male population on each reduction³¹ located in the area designated to provide a workforce for the mines of Potosí (silver) and Huancavelica (Mercury). Those that served in the mining mita experienced a very high likelihood of dying during the time they served. Thus, the mining mita was one of the deadliest extractive institutions in the colony. I argue that locations in which the mining mita was required experienced more rebellions and revolts

³¹ Reductions were settlements modeled as towns and villages in Spain in which the indigenous population was relocated forcibly.

compared to places in which the mita was not required. In turn, these rebellions and revolts will generate more capacity to resist, coordinate, and cooperate which will generate more social capital. Through these revolts, social capital will persist and in the first half of the 20th century mining mita locations had peasant communities with higher social capital which helped them to obtain legal recognition of their organization and their lands. Melissa Dells' pioneering work suggested an empirical strategy to clearly identify the effect of the mining mita. The mining mita required that an important part of the colonial territory provide a labor force for the mines. However, Dell noted that only part of the mining mita boundary allowed for an accurate comparison of districts with and without mita. That part is labeled in Figure 6 as "Study Boundary." Other parts of the mita boundary were too close to the Andean precipice, were poorly populated, or data was not available.

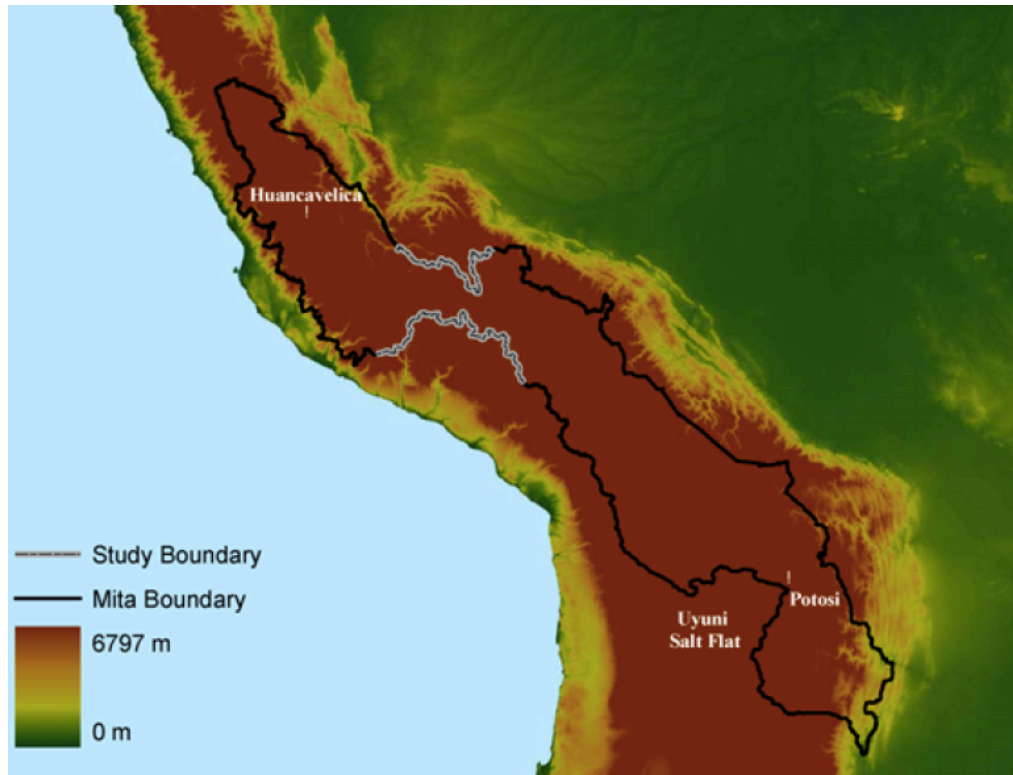


Figure 6. Altitude Map, Mita and Study Boundary. Source: Melissa Dell's (2010)

To identify a mita effect, Dell compared districts with and without mita but within 100 Km. of the study boundary by using a Regression Discontinuity Design estimation (RDD), which allows to interpret the “mita treatment” as if it were randomly assigned. In her study, Dell provided evidence of a long-run negative effect of the mining mita on indicators of child development and consumption levels in 2001. In this dissertation, I provide evidence of a “new mita effect”: a long-run effect of the mita on peasant communities in the first half of the 20th century. I argue that locations that experienced the mining mita had peasant communities with higher social capital in the 20th century. These higher levels of social capital imply that these peasant communities were among the first to obtain legal recognition of their land until 1948. To support this claim, I use Dell's RDD strategy, Table 20 shows the results of the RDD estimates.

Dependent Variable: Peasant Communities' Land Legally Recognized until 1948

VARIABLES	(1) Cubic Polynomial in Longitude and Latitude	(2) Cubic Polynomial in Distance to Potosí	(3) Cubic Polynomial in Distance to Mita Boundary
Mita	4,808.4156 (5,931.516)	10,511.7114* (6,197.727)	10,812.8677** (4,410.727)
Geo. Controls	Yes	Yes	Yes
Boundary F.E.s	Yes	Yes	Yes
Observations	44	44	44
R-squared	0.552	0.381	0.346

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Three different latent variables have been used in a cubic polynomial to model the discontinuity of the RDD estimation, each is represented in a separated column in the table.

Table 20. Mita and Peasant Communities (RDD Estimates)

The sample used in Table 20 is smaller than the sample in section 3.4.1. since the RDD method only focuses on districts near the “study boundary”, and there are many districts with missing values. The “mita treatment” shows a positive and significant effect on the hectares that peasant communities managed to obtain legal recognition until 1948. In two of the three specifications used for the latent variable (See columns 2 and 3). Furthermore, the mita also had an effect on the number of revolts and rebellions registered during the 18th century. Table 21 shows the results of the RDD estimation in which the mining mita is still the treatment variable, but the dependent variable is the number of revolts and rebellions that occurred in the 18th century. The results show that mita districts observed

more rebellions and revolts compared to non-mita districts in all the three specifications of the latent variable (See columns 1 to 3)

Dependent Variable: Revolts and Rebellions 1719-1783			
	(1)	(2)	(3)
VARIABLES	Cubic Polynomial in Longitude and Latitude	Cubic Polynomial in Distance to Potosí	Cubic Polynomial in Distance to Mita Boundary
Mita	1.9764*** (0.667)	1.1894*** (0.431)	1.5445*** (0.397)
Geo. Controls	Yes	Yes	Yes
Boundary F.E.s	Yes	Yes	Yes
Observations	99	99	99
R-squared	0.299	0.219	0.295

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Three different latent variables have been used in a cubic polynomial to model the discontinuity of the RDD estimation, each is represented in a separated column in the table.

Table 21. Mita and Revolts in the 18th Century (RDD Estimates)

Tables 20 and 21 jointly support the claim that extractive colonial institutions (i.e. the mining mita) had persistent effects on the peasant communities's social capital and that revolts and rebellions served as the mechanisms of persistence of these effects. Moreover, the results in Table 22 show that the mining mita also has persistent effects on conflicts in current times. Similar to the results obtained in Table 19, the mining mita explains only current indicators of mining conflicts but not current indicators of local conflicts. Table 22, columns 1 to 3, show the results of the RDD estimation of the effects of the mita on current mining conflicts. In two of the three specifications of the latent variable, the estimated effect was positive and statistically significant, implying a long-term effect of

the mita on mining conflicts. In contrast, the effects of the mining mita on local conflicts were not statistically significant (columns 4-6).

All these results suggest that peasant communities have a persistent capacity to organize and resist against external actors, but this capacity is used differently when contentious situations occur among internal actors.

VARIABLES	Dep. Var: Aggregated Mining Conflict Indicator 1 (<i>C1MIN</i>) in 2006-2011			Dep. Var: Aggregated Local Conflict Indicator 1 (<i>C1LOC</i>) in 2006-2011		
	(1) Cubic Polynomial in Longitude and Latitude	(2) Cubic Polynomial in Distance to Potosí	(3) Cubic Polynomial in Distance to Mita Boundary	(4) Cubic Polynomial in Longitude and Latitude	(5) Cubic Polynomial in Distance to Potosí	(6) Cubic Polynomial in Distance to Mita Boundary
Mita	3.4040 (2.825)	4.3077* (2.272)	4.2304** (1.968)	0.0532 (0.530)	-0.1108 (0.519)	-0.6300 (0.566)
Geo. Controls Boundary	Yes	Yes	Yes	Yes	Yes	Yes
F.E.s	Yes	Yes	Yes	Yes	Yes	Yes
Observations	99	99	99	99	99	99
R-squared	0.145	0.078	0.106	0.165	0.118	0.092

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Three different latent variables have been used in a cubic polynomial to model the discontinuity of the RDD estimation, each is represented in a separated column in the table.

Table 22. Mita and NVR Episodes (RDD Estimates)

Chapter 4: The Effects of Nonviolent Campaigns on Public

Policy: Evidence from Perú

Are nonviolent campaigns effective in obtaining concessions? What is the role of social capital in obtaining concessions? Based on the CCESC model, I answer these questions empirically using data from Peru. In chapter 3, I found evidence that supported the claim that depending on whether the receiver of claims is external or internal, social capital has opposite effects on contention (Propositions 1 and 2 of the CCESC model) but another central prediction of the CCESC model is that social capital increases the likelihood that NVR campaigns will obtain concessions (Proposition 3 of the CCESC model). Providing evidence that nonviolent campaigns *do* obtain concessions is crucial to explain the rationality of the claimants and the observed increase in the number of NVR campaigns in the period 2006-2011. As in chapter 3, I focus on the two main types of nonviolent campaigns, mining and local conflicts.

Chapter 4 is structured as follows: In section 4.1, I present the relevant institutional characteristics of the Peruvian budgetary process. Knowledge of these characteristics is necessary to track the relevant changes in the budget that occur as consequence of nonviolent campaigns. In section 4.2, I analyze the effects of the local conflicts. After explaining the identification strategy, I present the results obtained in the regression analysis. These results show that local conflicts caused the local political authorities to reallocate budget towards the provision of public goods. The greater are the levels of social capital, the higher the levels of reallocation of the budget towards public goods provision. In section 4.3, I turn to the effects of the mining conflicts. In this subsection, I show that mining conflicts will increase discretionary transfers for public goods provision

to the local government from the central government because the central government wants to persuade local populations to allow the mining activities without disruptions. Overall, the results of section 4.2 and 4.3 support proposition 3's claim that conflicts obtain concessions from the receiver of the claims

4.1 Peruvian Institutional Background

The main available source to track changes in the provision of public goods as consequence of NVR campaigns is the government's national accounts. In this subsection, I provide a summary of the most relevant characteristics of the Peruvian budgetary process and a of the national account's system used by the Peruvian government which is called The Integrated System for Administration and Finance (SIAF).

The Budget Process

The government's budget in Peru is approved, as in many democracies, by the congress in the previous year, normally in the period that goes from October to December. This budget includes revenues and expenditures for the three levels of governments: i) the national or central government, ii) the regional governments, and iii) the local governments. The *initial budget* approved for the three levels of government is referred within the SIAF as the Presupuesto Institucional de Apertura (PIA). Once the fiscal year has started, the execution of the budget and any modifications are registered in the *modified budget* or Presupuesto Institucional Modificado (PIM).

Expenditures can be classified in two broad types, regular expenditures (Gasto Corrientes) and investment expenditures (Gasto de Inversión). Regular expenditures refer to expenditures on salaries, on consumption goods, and other nondurable goods. Investment expenditures refer to expenditures made to build physical infrastructure, equipment, and other durable goods. Regular and investment expenditures of the local governments can be financed from five general sources of financing. However, local governments normally finance their expenditures with two types of general sources: determined resources and ordinary resources.

The ***Determined Resources*** are by definition resources of the local governments which can be used only by them, if these resources are not used in a given year, they will still be available next year. There are three types of determined resources:

- The Canon revenues are composed of 50% of the mining firm's corporate taxes. The amount each district receives is based on an exogenous pre-established formula. The Canon revenues can only be used on investment expenditures.
- The FONCOMUN, which comes from the 2% of the value-added tax of all the sales made in a given province. The amount each district receives is based on a distribution formula that depends on the population and levels of poverty. The FONCOMUN can be used for both regular expenditures and investment expenditures. The local government decides the composition of expenditures.
- Municipal Taxes are all taxes collected by the local government at the local level. These resources can be used for both regular expenditures and investment expenditures.

The *Ordinary resources* are by definition resources of the central government which can be used by the central government or can also be transferred to local and regional governments.

Table 23 summarizes the structure of expenditure financing presented so far and the forms in which each type is allowed to be used.

In the Peruvian National accounts (SIAF), each expenditure includes information about its PIA amount, its PIM amount, the type of expenditure (regular or investment), and the source of financing (Canon, FONCOMUN, Municipal Taxes, Ordinary Resources, etc.).

I focus on investment expenditures to check if NVR campaigns have an effect on public goods provision.

Expenditures on investment are normally done to provide some type of infrastructure that fits the definition of public goods.

General Source of Expenditure Financing	Specific Source	Allowed Type of Use
Determined Resources	Canon	Can be used only for investments expenditures. Local gov. decides among different types of investments.
	FONCOMUN	Can be used in both, regular and investment expenditures, Local gov. decides between these two types.
	Municipal Taxes	Can be used in both, regular and investment expenditures, Local Gov. decides between these two types.
Ordinary Resources	No Specific Source	Can be used in both, regular and investment expenditures, Central Gov. decides the type before transferring these resources to Local Gov.
Donations and Transfers	No Specific Source	Can be used in both, regular and investment expenditures, Local Gov. decides between these two types.
Resources Directly Raised	No Specific Source	Can be used in both, regular and investment expenditures, Local Gov. decides between these two types.
Resources by Credit Operations	No Specific Source	Can be used only for investments expenditures. Central Gov. authorizes or generates the Debt.

Table 23. Structure of Expenditure Financing for the Local Governments

Investment Financing Structure

Although investment expenditures can be financed with any of the five general sources described in the first column of Table 23, in the period of this study investment of the local governments have been financed mainly by Canon, Ordinary resources and FONCOMUN. Table 24 shows the average investment financing structure of local

	Observations	Average	Standard Dev.	Min.	Max.
% Total Investment financed with Canon Revenues	11007	52.00	30.00	0	100
% Total Investment financed with Ordinary Resources	7350	25.11	21.1	0	98.4
% Total Investment financed with FONCOMUN Revenues	10356	21.90	20.10	0	100
% Total Investment financed with Donations and others.	5318	8.86	13.90	0	92.5
% Total Investment financed with Municipal Taxes	2120	3.4	9.7	0	88.8

Source: SIAF-MEF

governments.

Table 24. Local Governments Investment Financing Structure (2007-2012)

The most important source of investment expenditures in local governments is the canon revenues. On average, the canon revenues financed 52% of all the investments of the local governments in the period 2007-2012. This pattern is not surprising since in this period the mineral commodities experienced historical high prices and canon revenues can only be used on investment expenditures. The second most important source of investment expenditures of the local governments is the ordinary resources, these resources financed

on average 25.11% of all the investments of local governments. These resources are provided by the central government discretionally, they do not have a pre-established source and distributional formula as the canon and FONCOMUN. The FONCOMUN is the third most important source of investment expenditures in local governments, on average around 22% of the investments were financed with FONCOMUN resources. These resources are more flexible in their use, they can be used in both regular expenditures or investment expenditures according to the decision of the local government.

To detect possible important changes in the provision of public goods, I focus on detecting changes in two of the three main sources of investment expenditures described in the previous paragraph. The two sources of investments are ordinary resources and FONCOMUN, the canon resources do not allow to track important changes on investments. Below, I explain in detail how changes in detail how I will identify changes on investments for each source of investment.

As mentioned before, each expenditure in the SIAF includes information about its initial budget amount (PIA), its modified budget amount (PIM), the type of expenditure (regular or investment), and the source of financing (Canon, FONCOMUN, Municipal Taxes, Ordinary Resources, etc.). Given this information, changes on investment decisions that occurred during the fiscal year can be detected by paying attention to the differences in the PIA and the PIM amounts for each investment expenditure observed in the SIAF.

These differences can be calculated for each type of source of financing (Canon, FONCOMUN, Ordinary Resources, Municipal Taxes, etc.).

Changes on Investment financed with Canon

Canon revenues are determined mainly by the profits made by mining firms in the previous year. Thus, social conflicts will not affect the amount of canon revenues to be received in the current year. Furthermore, since canon revenues can only be used on investment expenditures, it will not be possible to track any significant changes due to substitution of regular expenditures for investment expenditures. The expenditures included in the initial budget (PIA) and in the modified budget (PIM) financed with the Canon (only investment expenditures) will normally differ by small amounts, mainly due to differences in the projected profits calculated for the initial budget (PIA) and the actual profits which will determine the final canon revenues in the modified budget (PIM). Central and local governments cannot affect the total amount of canon revenues nor the percentage of these transfers used on investment expenditures. For these reasons changes in the PIA and PIM amounts on investments financed with Canon are likely to be small and unrelated to NVR campaigns.

Changes on Investment financed with FONCOMUN.

The amount of money available as local governments' FONCOMUN resources cannot be affected by local conflicts since FONCOMUN is predetermined to be the 2% of the value-added tax of all the sales made in a given province. However, local governments can freely decide how to divide the FONCOMUN revenues between regular expenditures and investment expenditures. This freedom gives local governments the option to switch from

regular expenditures to investment expenditures if an NVR campaign requesting more public goods arises. Changes in investments financed with FONCOMUN, therefore, offer an accurate way to track the effectiveness of NVR campaigns in the redistribution of resources towards public goods.

A change of this type can be detected in the national accounts (SIAF) by looking for investment expenditures financed with FONCOMUN that have a PIA amount of zero but a large PIM amount. In other words, if the public policy changes to prioritize public goods provision with the FONCOMUN resources, this change can be detected in the national accounts by looking at differences in the PIA and PIM amounts.

For instance, consider an investment expenditure registered in the SIAF for a new “School Lab.” this expenditure has a PIA amount of PEN S/.0 but it has a PIM amount of PEN S/.1,000,000, its source of financing is the FONCOMUN revenues. This information means that at the beginning of the year the school lab was not planned (PIA=0) but during the year, for some reason, the local government decided to build this lab and financed it with resources coming from the FONCOMUN (PIM=1,000,000). In section 4.2, I will use the log of this difference as the dependent variable in the estimation of the effects of local conflicts and social capital in the changes of the public goods provided by the local government with FONCOMUN resources.

Changes on Investment financed with Ordinary Resources

The central government normally acts as a promoter of investments in the mining sector, therefore, within a mining NVR campaign it will act mostly in favor of the mining firm (Revesz and Diez, 2006; De Echave, 2009). This type of behavior implies that, in order to persuade local populations (the claimants) to allow mining activities without any type

of disruptive actions, the central government will offer public goods to the claimants. These concessions from the central government can be detected in the national accounts as ordinary resources made available to local governments for the provision of public goods only in the modified budget (PIM), these resources will show value zero in the initial budget (PIA).

For instance, consider an investment expenditure registered in the SIAF for a new “Rural Electrification Project,” this expenditure has a PIA amount of PEN S/.0 but it has a PIM amount of PEN S/.3,000,000. Its source of financing is the ordinary resources. This information means that at the beginning of the year the electrification projects was not planned (PIA=0) but during the year, for some reason, the central government transferred ordinary resources to the local government to build the electrification project (PIM=3,000,000). This type of change in the amount of ordinary resources made available to the local government can be detected in the national accounts by calculating the difference between the reported PIM and PIA of the investment expenditures financed with ordinary resources. In section 4.3, I will use the log of this difference as the dependent variable in the estimation of the effects of mining conflicts and social capital in the changes of the public goods provided by the local government with ordinary resources.

4.2 The Effects of Local NVR Campaigns and Social Capital on Local Government’s Public Goods Provision

In this subsection, I empirically test proposition 3 of the CCESC model applied to local NVR campaigns. Proposition 3 establishes a positive interactive relationship between the

local conflict indicator and social capital, together these variables increase the budget for public good provision using FONCOMUN resources.

In terms of the variables used, proposition 3 asserts that there exists a positive interactive effect of the local conflicts (*C1LOC* or *C2LOC*) and social capital on the log of the difference between the reported PIM and PIA of investment expenditures financed with FONCOMUN. The positive interactive effect of proposition 3 can be tested by estimating the following equation:

$$\begin{aligned} & \text{Log}(InvFonc_{PIM} - InvFonc_{PIA})_{it} \\ &= \beta_0 + \beta_1 CLOC_{it} + \beta_2 CLOC_{it} \cdot SC_i + \beta_3 CANPC_{it} + \beta_4 O.RESOURC_{it} \\ &+ \beta_5 FONCOMUNPC_{it} + \delta X_{it} + \alpha_i + \theta_{it} + \gamma_t + v_{it} \dots (5) \end{aligned}$$

$\text{Log}(InvFonc_{PIM} - InvFonc_{PIA})_{it}$ is the log of the difference between the final and initial budget used for investment expenditures financed with FONCOMUN resources. $CLOC_{it}$ is one of the two local conflict indicators discussed in section 3.1.1., $CANPC_{it}$ is the log of the canon per-capita in the current year, SC_i is one of the two social capital indicators discussed in section 3.1.3, $FONCOMUNPC_{it}$ is log of the FONCOMUN per-capita in the current year, $O.RESOURC_{it}$ is the log of the ordinary resources per-capita in the current year, X_{it} is a set of controls, α_i and γ_t are district and year fixed effects. If Proposition 3 is supported by the data, the estimated value of the parameter β_2 should be positive and statistically significant.

In addition to the emergence of local NVR campaigns and the levels of social capital, the existence of other sources to finance investments might affect local government's

decision to reallocate resources from regular expenditures to investment expenditures financed with FONCOMUN.

To account for these other sources, I have included both the log of the canon per-capita and the log of the ordinary resources per-capita in the estimation of equation 5. The total amount initially available of FONCOMUN resources is clearly relevant to determine the changes on investment financed with FONCOMUN, higher levels of FONCOMUN make it easier to reallocate resources from regular expenditures to investment expenditures.

From the estimations in chapter 3, we know that canon ($CANPC_{it}$) and local conflicts ($CLOC_{it}$) are correlated. This might cause a multicollinearity problem which can increase the variance of the estimators, making it harder to obtain statistically significant results. However, in spite of this potential multicollinearity problem, if the estimations have statistically significant coefficients, we can be confident that the estimated effects are actually significant.

Another concern in the estimation of equation 5 is the possibility of the existence of a simultaneity bias between the dependent variable and the NVR campaign measure. This would happen if the reallocation of FONCOMUN resources reduces the likelihood of the emergence of local NVR campaigns because people are satisfied with the reallocation and finds unnecessary to engage in NVR campaigns. These simultaneous effects will generate a negative bias over the positive coefficient of $CLOC_{it}$. However, if despite of the simultaneity bias problem, a positive and significant effects is found, then this estimated effect will be a lower bound for the true effect.

I have also included district fixed effects to deal with unobserved heterogeneity constant in time as well as year fixed effects to account for shocks that affected similarly to all

districts in the same year. Finally, I also included non-parametric trends such as year fixed effects interacted with indicators of above the mean value for the set of socioeconomic characteristics described in section 3.1.4.

In Table 25, I present the results of the estimation of equation (5) for the two indicators of NVR local campaigns and also for the two indicators of social capital used in Chapter 3. The first two columns show the results using the NVR campaign indicators $C1LOC_{it}$ presented in Chapter 3 as independent variable. Columns 3 and 4 show the results using $C2LOC_{it}$ as main independent variables. Interactive positive and significant effects (at 10%) are found only when the number of peasant communities, $Ncomun_i$, is used as social capital indicator (Columns 1 and 3), the estimations in which the social capital was measured with the number of legally recognized hectares that peasant communities have on each district did not result in statistically significant coefficients.

In the first column, the local NVR campaign indicator is $C1LOC_{it}$ and the social capital indicator is $Ncomun_i$. In spite of the potential multicollinearity and simultaneity bias problems, the estimated value for β_2 is positive as expected (0.0251) and statistically significant at the 10%. This effect is of moderate size. Considering the average value of the number of communities among the district that have at least one community ($Ncomun_i = 4.587$), an increment of one standard deviation of the local NVR campaign indicator generates a change of 4.42% in the dependent variable, namely, there is a 4.42% more reallocation from regular to investment expenditures financed with FONCOMUN. Considering the second indicator of local NVR campaigns ($C2LOC_{it}$), the effects are similar: a one standard deviation increase of $C2LOC_{it}$ generates reallocation from regular to investment expenditures financed with FONCOMUN of 3.8%.

Dependent Variable: Log of the difference between PIM and PIA of Investment Expenditures financed with FONCOMUN (2007-2011)				
VARIABLES	(1)	(2)	(3)	(4)
Local Conflict Indicator 1	-0.0704 (0.0651)	-0.0225 (0.0679)		
Log of Total FONCOMUN Resources	3.634*** (0.337)	3.639*** (0.337)	3.633*** (0.337)	3.639*** (0.337)
Log of Canon Per Capita	0.0397 (0.0746)	0.0405 (0.0746)	0.0398 (0.0746)	0.0403 (0.0746)
Log of Total Ordinary Resources	-0.338*** (0.0713)	-0.338*** (0.0713)	-0.338*** (0.0713)	-0.338*** (0.0713)
Local Conflict Indicator 1 X Number of Peasant Communities	0.0251* (0.0141)			
Local Conflict Indicator 1 X Recognized Peasant Communities' Hectares		-2.177 (8.098)		
Local Conflict Indicator 2			-0.138 (0.127)	-0.0523 (0.134)
Local Conflict Indicator 2 X Number of Peasant Communities			0.0456* (0.0276)	
Local Conflict Indicator 1 X Recognized Peasant Communities' Hectares				-3.856 (15.30)
Non-Parametric Trends	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes
Constant	-5.586*** (1.791)	-5.607*** (1.791)	-5.582*** (1.791)	-5.606*** (1.791)
Observations	6,420	6,420	6,420	6,420
R-squared	0.766	0.765	0.766	0.765
Number of Districts	1,601	1,601	1,601	1,601

Robust standard errors in parentheses, all the estimations include year and district fixed effects. All estimations also include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels. *** p<0.01, ** p<0.05, * p<0.1

Table 25. The Effects of Local Conflicts on Public Goods Provision

4.3 The Effects of Mining NVR Campaigns and Social Capital on Local Government's Public Goods Provision

In this subsection, I empirically test proposition 3 of the CCESC model applied to mining NVR campaigns. Proposition 3 establishes a positive interactive relationship between the mining NVR indicator and social capital, together these variables increase the budget for public good provision using Ordinary resources.

The positive interactive effect of proposition 3 can be tested by estimating the following equation:

$$\begin{aligned} & \text{Log}(InvO.R._{PIM} - InvO.R._{PIA})_{it} \\ & = \beta_0 + \beta_1 CMIN_{it} + \beta_2 CMIN_{it} \cdot SC_i + \beta_3 CANPC_{it} + \beta_4 O.RESOURC_{it} \\ & + \delta X_{it} + \alpha_i + \theta_{it} + \gamma_t + v_{it} \dots (6) \end{aligned}$$

$\text{Log}(InvO.R._{PIM} - InvO.R._{PIA})_{it}$ is the log of the difference between the final and initial budget used for investment expenditures financed with Ordinary Resources. $CMIN_{it}$ is one of the two mining NVR camping indicators discussed in section 3.1.1., $CANPC_{it}$ is the log of the canon per-capita in the current year, SC_i is one of the two social capital indicators discussed in section 3.1.3, $O.RESOURC_{it}$ is the log of the *total* ordinary resources per-capita in the current year, X_{it} is a set of controls, α_i and γ_t are district and year fixed effects. If Proposition 3 is supported by the data when analyzing mining NVR campaigns, the estimated value of the parameter β_2 should be positive and statistically significant.

Besides the mining NVR campaigns and social capital, I have also included other sources of financing that the central government might consider when deciding to reallocate its ordinary resources towards investment expenditures of the local governments. For this reason, I included the canon revenues and the total amount of ordinary resources assigned to the local government. Higher canon revenues (which have to be used for investment expenditures) can make the central government reluctant to transfer additional resources for investments financed with ordinary resources. Already high levels of ordinary resources can make harder for the local government to transfer additional ordinary resources to local governments.

The potential multicollinearity and simultaneity bias problems of the estimation in section 4.2 are also present in the estimation of equation 6, and the conclusion is similar: if despite of the multicollinearity and simultaneity bias problems, a positive and significant effect is found, then this estimated effect can be interpreted as a lower bound for the true effect.

In Table 26, I present the results of the estimation of equation 6 for the two indicators of mining NVR campaigns and also for the two indicators of social capital used in Chapter 3. The first two columns show the results using the first mining NVR campaign indicator presented in Chapter 3, $C1MIN_{it}$, as independent variable. Columns 3 and 4 show the results using $C2MIN_{it}$ as main independent variables. Interactive positive and significant effects are found only when the geographical spread in hectares of the peasant communities, Ha_i , is used as social capital indicator (Columns 2 and 4), the estimation using the number of legally recognized peasant communities, $Ncomun_i$, did not result in statistically significant estimates. This pattern contrast with the obtained analyzing the

effects of local NVR campaigns, in which the interactions of NVR campaign indicators with the number of legally recognized peasant communities did have statistically significant estimates. These opposite patterns might suggest marginal differences between the two social capital indicators. The geographical spread of peasant communities is a better indicator of the agricultural activities carried by peasant communities than the number of peasant communities. Giving that mining activities are more likely to affect agricultural activities, it makes sense that the geographical spread in hectares of the peasant communities captures better the interaction effect of mining NVR campaigns and social capital.

Similar to section 4.2., I have included district fixed effects to deal with unobserved heterogeneity constant in time as well as year fixed effects to account for shocks that affected similarly to all districts in the same year. Finally, I also included non-parametric trends such as year fixed effects interacted with indicators of above the mean value for the set of socioeconomic characteristics described in section 3.1.4

Dependent Variable: Log of the difference between PIM and PIA of Investment Expenditures financed with Ordinary Resources (2007-2011)

VARIABLES	(1) Ncomun	(2) Hectares	(3) Ncomun	(4) Hectares
Mining Conflict Indicator 1	-0.0559* (0.0299)	-0.0654** (0.0302)		
Log of Canon Per Capita	0.149 (0.0963)	0.150 (0.0963)	0.149 (0.0964)	0.150 (0.0963)
Log of Ordinary Resources	-0.212** (0.0833)	-0.212** (0.0834)	-0.212** (0.0833)	-0.213** (0.0834)
Mining Conflict Indicator 1 X Number of Peasant Communities	0.00415 (0.00330)			
Mining Conflict Indicator 1 X Recognized Peasant Communities' Hectares		1.424** (0.702)		
Mining Conflict Indicator 2			-0.0983* (0.0579)	-0.109* (0.0565)
Mining Conflict Indicator 2 X Number of Peasant Communities			0.00869 (0.00709)	
Mining Conflict Indicator 2 X Recognized Peasant Communities' Hectares				2.598* (1.354)
Constant	-1.247 (0.975)	-1.245 (0.975)	-1.248 (0.975)	-1.247 (0.975)
Observations	8,085	8,085	8,085	8,085
R-squared	0.704	0.704	0.704	0.704
Number of Districts	1,617	1,617	1,617	1,617

Robust standard errors in parentheses, all the estimations include year and district fixed effects. All estimations also include non-parametric trends, such as year fixed effects interacted with indicators of above- the mean value of rural population poverty, access to water, sanitation, and education levels. *** p<0.01, ** p<0.05, * p<0.1

Table 26. The Effects of Mining Conflicts con Public Goods Provision

In the estimates of columns 2 and 4 (that have the significant positive interactive effects), mining NVR campaigns have positive effects for legally recognized hectares higher than 0.046 million (the mean value among the districts that have a nonnegative number of hectares is 0.012). Hence, obtaining investment transfers from the central government will require to be in the top 20 percentile of registered hectares. In other words, the districts

with the biggest peasant communities are more likely to obtain concessions with the central government.

Considering the estimation in column 2, the effect of one standard deviation increase in $C1MIN_{it}$ can have effects ranging from 1.5% to 9.47% of the variation of the investment expenditures financed with ordinary resources if we change from the percentile 90 to the percentile 95 of the legally recognized hectares variable. The estimation in column 4 have similar effects, one standard deviation increase in $C2MIN_{it}$ can have effects ranging from 2.65% to 10.46% of the variation of the investment expenditures financed with ordinary resources if we change from the percentile 90 to the percentile 95 of the legally recognized hectares variable.

Chapter 5: Conclusions

This dissertation has shown theoretically and empirically that social capital can have contrasting roles in conflict (NVR campaigns). Previous theories commonly argued that social capital helps to facilitate cooperation. Thus, it was expected that the presence of social capital makes disruptive collective actions more likely. But social capital is also useful to **transfer information** about the capacity to engage in sustained collective actions by local organizations. This dissertation shows that this characteristic of social capital can mitigate the need to resort to disruptive actions under some circumstances. Hence, social capital can help to generate disruptive collective actions but can also prevent the use of such disruptive means. This is a feature of the relationship of social capital and conflict that has not been previously developed nor supported empirically and is the main contributions of this dissertation.

Another theoretical contribution of this dissertation is that it provides an explanation of the use of disruptive means to obtain concessions. Disruptive means are necessary because of the type of equilibrium present at the local level in new democracies or in democracies with weak party systems. In these democracies, agreements must be enforced mainly by the parties of the agreement. Consequently, agreements can be explained as trigger strategies equilibria. In a trigger strategies equilibrium, the receiver of claims and the claimants compare the earnings and the costs of defection and decide to stay in the equilibrium path. When a resource boom occurs, due to incomplete information, disruptive actions will be necessary to assess the potential costs of defection in the new

required equilibrium. Thus, the CCESC model concludes that disruptive actions are necessary to move from one equilibrium to another under incomplete information.

Using data from Perú, one of the main empirical conclusions of Chapter 3 is that peasant communities played a crucial role in the majority of NVR campaigns that occurred as a consequence of revenue windfalls. Previous works on the Peruvian context did not pay attention to the role of peasant communities even though these are the main form of organization in the rural space. Also, previous works treated all conflicts as theoretically equivalent without paying attention to the different types of receiver of claims. This dissertation shows that there is a crucial difference. When the receiver of claims is internal, in local conflicts, strong peasant communities reduced the intensity of these conflicts and made concessions more likely; depending on the levels of social capital, the effects range from 2% to around 9% of the mean value of the corresponding dependent variables (mining or local). On the other hand, when the receiver of claims is external, as in mining conflicts, strong peasant communities increased the intensity of these conflicts but still made concessions more likely; these effects range from 2% to around 10% of the of the mean value of the corresponding dependent variables.

Although the CCESC model argues that all social capital is relevant to explaining the contrasting effects of social capital on conflict, the results in Chapter 3 and the robustness checks in section 3.3 point towards peasant communities' social capital as the main source that explains the contrasting effects. Other social organizations did not show robust contrasting effects. As discussed in section 3.1.3, this might occur because these other social organizations have very specific objectives compared with the broader peasant communities' objectives.

From the estimations in section 3.4, I conclude that peasant communities' capacity to organize and resist to external actors is ultimately a product of colonial extractive institutions that sought to extract surplus from the indigenous populations through many different institutions (mining mita, reparto, indigenous tribute, reductions, etc.). Since social capital requires use to be preserved, rebellions in the 18th century are one of the main sources and channels of persistence of the high capacity to cooperate and resist to external actors. Another channel of persistence is the process of getting peasant communities' land legally recognized. To obtain legal recognition in the first half of the 20th century, peasant communities required to use their high capacity to organize which in turn helped to the preservation of that capacity. From the results in section 3.4. this dissertation concludes that rebellions and extractive colonial institutions are predictors of current mining NVR campaigns, but they are not predictors of local NVR campaigns. These results suggest that peasant communities have a persistent capacity to organize and resist particularly against external actors, but this capacity is used differently when contentious situations occur among internal actors.

The estimations in Chapter 4, show that NVR campaigns can change the public policy at the local level. These effects are stronger with stronger peasant communities regardless the type of receiver of claims (regardless the type of conflict, local or mining). The part of the public policies affected by NVR campaigns and peasant communities are the expenditures on investments which are mostly used for the provision of public goods such as roads, schools, and other durable goods. Local NVR campaigns affected the

investments financed with local government's own resources. However, mining NVR campaigns affected the investments financed with transfers from the central government's resources and not with mining firms' resources. Future work should systematize information about the resources transferred by mining firm's to better assess the effectiveness of NVR campaigns to obtain concessions from the mining firms.

Appendices

Appendix 1

<p>7. La Encañada, provincia de Cajamarca</p>	<p>Centros Poblados de Ingambo, Negritos, Lagunas, San Cirilo y Yanacanchilla y empresa minera de Yanacocha. NUEVO</p> <p>Antecedentes: La Empresa minera Yanacocha ha desarrollado trabajos de exploración en sectores que los representantes de estas poblaciones consideran vulnerables. Por ello se realizó una asamblea general el 18 de abril del 2004, donde estuvieron presentes algunos funcionarios de la Minera Yanacocha. Allí los pobladores manifestaron su preocupación por la contaminación del medio ambiente ocasionadas por las actividades de exploración y explotación minera, expresando su total desacuerdo con el desarrollo de las actividades mencionadas; de otra parte los funcionarios de Minera de Yanacocha explicaron las acciones que desarrollan, manifestando que todo trabajo que realizan en las tierras, lo hacen con permiso del propietario, agregando que ellos podrían evaluar el apoyo y financiamiento a estas comunidades. El 9 de noviembre del 2004 se realizó una segunda asamblea que contó con los representantes de las Rondas campesinas y con las autoridades de los distintos caseríos, centros poblados, municipalidades distritales y provinciales que están en desacuerdo con las actividades mineras, participando también autoridades que no pertenecen a la zona del conflicto, pero que representan a poblados que también de consideran afectados. En esta reunión se declaró a la zona denominada "Las Lagunas" como zona intangible por representar fuente del recurso hídrico para varias provincias, a fin de no permitir la realización de trabajos de exploración y explotación por parte de Minera Yanacocha. El 8 de diciembre del 2004 se realizó una asamblea extraordinaria en la que se acordó solicitar a la empresa Minera Yanacocha la paralización y retiro de sus trabajos de exploración en las zonas en conflicto (se debe resaltar la presencia del congresista Manuel Coronado Bustamante, quien asume un compromiso de presentar documentos ante las autoridades del gobierno central para promover que la realización de las actividades mineras se realicen cuando hay licencia social). El 14 de diciembre, el dirigente Genaro López Celis cursó una carta a la empresa minera solicitando paralizar sus actividades, bajo amenaza de emplear medidas de fuerza. Durante el mes de marzo de 2005, dicho dirigente coordinó con el Prefecto de Cajamarca, a quien le solicitó una reunión inmediata con autoridades locales, regionales y del MEM para ver alternativas de solución. El día 14, en protesta por la realización de actividades de exploración minera en San Cirilo y Yanacanchilla, la Asociación de coordinadores de Defensa del Medio Ambiente de la Cuenca del Alto Llaucano y rondas campesinas bloquearon la carretera Cajamarca – Bambamarca; además, protestaron contra del desvío de las aguas del sector Las Lagunas. El 15 de marzo, por intervención del Prefecto, pobladores sostuvieron un diálogo con Minera Yanacocha, acordando realizar una inspección conjunta a la zona. Esta se realizó el 6 de abril, pero ninguna autoridad se hizo presente, por lo que al día siguiente el Frente Único en Defensa de la Vida y del Medio Ambiente de Cajamarca emitió un pronunciamiento exigiendo que Minera Yanacocha retire sus máquinas y trabajadores de San Cirilo, Yanacanchilla, Negritos y CPM Ingambo, señalando que la población no otorgará licencia social a las actividades mineras, y solicitando una comisión de alto nivel. El 17 de abril se realizó la inspección.</p> <p>Últimos acontecimientos. El 23 de abril, los pobladores acordaron dar un plazo de 5 días calendario para que la empresa minera retire sus equipos de trabajo de la zona en conflicto. Los días 25 y 26 de abril representantes de la población, MEM y minera Yanacocha se reunieron, pero sin llegar a algún acuerdo.</p>
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<p style="text-align: center;">CASO NUEVO</p> <p>Tipo: Socioambiental.</p> <p>Caso: El Frente de las Asociaciones de maricultores artesanales de Parachique (FAMARP) rechaza el trabajo de exploración y explotación de petróleo realizado por PETRO-TECH en la Bahía de Sechura, señalando que contaminan el mar en el que ellos realizan su actividad productiva</p> <p>Ubicación: Localidad de Parachique, Distrito de Sechura, provincia de Sechura.</p> <p>Actores: Frente de las Asociaciones de maricultores artesanales de Parachique (FAMARP), PRODUCE,</p>	<p>No hay diálogo</p> <p>El Frente de Pescadores Artesanales y extractores de Mariscos realizaron una marcha de protesta el 29 de mayo, señalando que presentaran una acción de amparo y una medida cautelar contra la actividad de exploración de PETROTECH, ante el Juzgado de Sechura.</p>
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Appendix 2

Matrix of Correlations Peasant Communities' Indicators and Other Social Indicators

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Number of Peasant Communities	1.000											
(2) Peasant Communities' Legally Recognized Land	0.387	1.000										
(3) Population with No Spanish as first Language(%)	-0.484	-0.224	1.000									
(4) Extremely Poor Population (%)	0.327	0.216	-0.461	1.000								
(5) Rural Poverty 2007 (%)	0.300	0.185	-0.308	0.481	1.000							
(6) Urban Population (%)	-0.299	-0.181	0.329	-0.467	-	1.000						
(7) Poverty, 2007(%)	-0.044	-0.053	0.107	-0.173	-0.255	0.275	1.000					
(8) Has Public Sewage System (%)	-0.200	-0.159	0.279	-0.441	-	0.645	0.400	1.000				
(9) Has Access to clean Water (%)	-0.145	-0.172	0.130	-0.331	-	0.432	0.185	0.577	1.000			
(10) Has Access to Electricity (%)	-0.138	-0.210	0.256	-0.512	-	0.644	0.218	0.587	0.470	1.000		
(11) No education (%)	0.298	0.130	-0.555	0.592	0.575	-0.562	-0.194	-0.470	-0.273	-0.518	1.000	
(12) Finished the High School (%)	-0.129	-0.069	0.196	-0.531	-	0.487	0.159	0.338	0.207	0.511	-0.711	1.000

Appendix 3

Dependent Variable.: Local Conflict Indicator 2 (<i>C2LOC</i>)						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Log of Canon Per Capita	5.85e-05 (0.0113)	0.0141 (0.00923)	0.0102 (0.00993)	0.00943 (0.00899)	-0.00237 (0.00835)	0.00249 (0.0140)
Lagged Log of Canon Per Capita X Urban Population (%)	-0.00278 (0.0176)					
Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)		-0.0399*** (0.0134)				
Lagged Log of Canon Per Capita X Rural Poverty (%)			-0.0219 (0.0196)			
Lagged Log of Canon Per Capita X Extreme Poverty (%)				-0.0451* (0.0242)		
Lagged Log of Canon Per Capita X Access to Public Sewage System (%)					-0.00335 (0.0236)	
Lagged Log of Canon Per Capita X Population with no Education Level (%)						-0.0304 (0.0754)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.429*** (0.130)	0.298*** (0.114)	-0.0104 (0.0913)	0.0579 (0.0548)	0.0877 (0.0609)	0.0857 (0.0630)
Observations	9,546	9,696	9,702	9,702	9,696	9,696
R-squared	0.014	0.014	0.014	0.014	0.013	0.013
Number of Districts	1,591	1,616	1,617	1,617	1,616	1,616

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. Even Columns include non-parametric trends, such as department-by-year fixed effects, and year fixed effects interacted with indicators of size of rural population poverty, access to water, sanitation, and education level.

Appendix 4

Dependent Variable.: Mining Conflict Indicator 2 (<i>C2MIN</i>)						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Log of Canon Per Capita	0.0365 (0.0325)	-0.0333 (0.0231)	-0.0399 (0.0263)	-0.0481 (0.0323)	-0.00947 (0.0230)	-0.0395 (0.0337)
Lagged Log of Canon Per Capita X Urban Population (%)	-0.0790 (0.0509)					
Lagged Log of Canon Per Capita X Non-Spanish Native Speakers (%)		0.0968** (0.0420)				
Lagged Log of Canon Per Capita X Rural Poverty (%)			0.0858 (0.0525)			
Lagged Log of Canon Per Capita X Extreme Poverty (%)				0.221** (0.109)		
Lagged Log of Canon Per Capita X Access to Public Sewage System (%)					0.103 (0.0643)	
Lagged Log of Canon Per Capita X Population with no Education Level (%)						0.266 (0.193)
Non-Parametric Trends	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.143 (0.137)	0.267* (0.152)	0.140 (0.113)	-0.275 (0.180)	-0.273 (0.204)	-0.266 (0.203)
Observations	9,546	9,696	9,702	9,702	9,696	9,696
R-squared	0.029	0.030	0.030	0.031	0.029	0.029
Number of Districts	1,591	1,616	1,617	1,617	1,616	1,616

Note: *** significant at 1%, ** 5% and * 10%. Robust standard errors. All regressions include district and year fixed effects. Even Columns include non-parametric trends, such as department-by-year fixed effects, and year fixed effects interacted with indicators of size of rural population poverty, access to water, sanitation, and education level.

Appendix 5

In this Appendix, I discuss briefly the history of peasant communities in colonial times and during the Republican period.

Peasant or Indigenous Communities in Colonial Times

In the first decades of the colony, the Spanish crown created a set of institutions intended to extract surplus from the local population and to consolidate a dominant group in the colonies. The first institution created was *The Encomienda*, which assigned a group of indigenous people to a Spanish conqueror (*The Encomendero*) which had certain obligations towards the indigenous populations such as teaching them catholic beliefs, teaching them how to work, and how to prosper. The Crown established that the indigenous people were vassals of the crown (cannot be slaves) that have to pay a tribute or tax (“tributo” in Spanish) to the King. This tribute was payed to the owner of the encomienda or “Encomendero”. In principle, the indigenous population had their own ways of subsistence outside the markets and they not required much access to Spanish coin. However, as new vassals of the Spanish Crown, now they have to pay the tribute to the “Encomendero” which normally were paid either in workforce or with goods due to the scarce access to Spanish coin that the indigenous population had. In practice, the encomienda helped to solve the most important problem in the colonies: the lack of a sizeable workforce. The Encomienda was an institution designed to promote early conquest expeditions and settlements under the Spanish hierarchy and institutions. An Encomienda was given perpetually but with no land possession, later the encomienda was set to last only two generations. This happened by the interest of the crown in obtaining as much revenue as possible and also because the crown did not want feudal lords in its

colonies. The mining activities will be the core of the colonial economy³². The most important institutions that allowed the Crown to exploit the mineral resource of its colonies were set by Viceroy Toledo (1569-1581), for this reason Toledo is one of the most important viceroys in the history of The Peruvian Viceroyalty. Given the need to provide an important workforce to the Huancavelica and Potosí mines, Toledo established *the Mining Mita*. The Mining Mita was a forced mining labor system in the south of the Peruvian Viceroyalty that started in 1570 and lasted until 1812. In addition to the Mining Mita, Toledo also created *The Reductions*, which were settlements modeled as towns and villages in Spain in which the indigenous population was relocated forcibly. This was done in order to have better information about the size of the indigenous population, and to better control them. The relocation of the population generated by the reductions structured what is known today as peasant communities. In this sense, today's Peruvian peasant communities are more a product of the conquest and colonial times than a product of pre-hispanic forms of organizations (Fuenzalida, 1969). Still some elements of pre-hispanic hierarchies were present within the reductions, the most important was the existence of a "Curaca"³³ which had a higher rank than regular indigenous people known as "Hatunruna". The authority of the Curacas did not come entirely from the Crown but also from the Pre-Hispanic social configurations that entailed responsibilities of reciprocity and redistribution, thus the Curacas were mediators between the colonial authorities and the vast majority of the indigenous population. Once the indigenous

³² The revenue obtained from the tribute paid by the indigenous population was also important: In the decade of 1560- 69, revenue from indigenous tribute was of similar order of magnitude as the revenue obtained from the mining activity in the Potosí mine (Neojovich, 2009:64).

³³ This subgroup of the indigenous population was composed for those that were able to prove their kinship links with the Inca nobility. They did not pay the tribute or tax to the crown, they have the right to private property, they were allowed to be educated in special schools, etc.

population was organized in reductions, reductions were required to contribute one-seventh of his male population for the Mita. Not all reductions were required to provide labor force for the Mining Mita but only some, which reductions will contribute will depend on their proximity to the mines (Quito, Huancavelica or Potosí) and on the total number of labor force required by the mine. The Mita required 14,181 conscripts from southern Peru and Bolivia to Potosí and 3,280 conscripts from central and southern Peru to Huancavelica (Bakewell, 1984). These numbers represented around the 3% of the whole male population living in the current Peruvian boundaries *at a given* point in time. The percentage of males that participated in the mita *at some* point in time was considerably higher, as men in subjected territories were supposed to serve once every seven years (Dell, 2010:1867). The contribution of each district to the mita was strictly enforced, the Curacas had the responsibility of ensuring that conscripts reported to mine duties, if they were unable to provide their quote, they were required to pay in silver the sum needed to hire wage laborers replacements. Given these extreme conditions, some authors considered the service in the mita as having characteristics of genocide or ethnocide (Cotler, 1978). During the XVI and XVII centuries, indigenous population decreased as consequence of these extreme life conditions and also as consequence of diseases. Moreover, the decrease of the indigenous population made the weight on the survivors higher. In these circumstances, the Crown divided its colonial territories in provinces called “*Corregimientos*”, each province had a mayor or “*Corregidor*”. The Corregidor collected taxes and had judicial authority at the local level. This dual political power was often used to obtain side gains from office. These gains could be obtained from overtaxing, from forcing sales of goods to the local population (These forced sales were

called “Reparto”), or from mobilizing labor for their own advantage. Furthermore, the governor position was sold by the crown to the highest bidder. Given that the year salary of a governor was very low, this generated that those in charge of a governorship focused mainly in extracting surplus from the indigenous population to make a profit from their investment, an extractive governor could raise around 30 to 150 times his salary (Andrien, 1982). Because of this pattern of behavior, the “Corregidor” became a symbol of abuse and exploitation in the Colonies.

To summarize, the indigenous population have a very heavy burden over their shoulders. They have to pay tribute to the Corregidor, the tithe to the church, they have to buy the products from the “reparto” at very high prices, and they also have to work in the mining mita. As a consequence of this political and economic situation indigenous populations often resisted to abuses from the Corregidor, the Encomendero, or the church. For instance, in 1719 in the city of Cayna located in what is known today as the Huánuco province, the Curaca and the indigenous population rebelled against the representative of the Church. The next year, in 1720, another revolt occurred in Muyunmarca, Huanta. This revolt occurred against the mita tributes. These revolts and 138 more that occurred in the XVIII century have been collected and studied by Scarlet O’phelan in his famous book “A Century of Colonial Revolts” (1985). As I will show later, I used this dataset to argue that colonial rebellions and revolts are conflictive situations that will have persistent effects on social capital and in the formation of legally recognized peasant communities. Among the 140 revolts and rebellions listed in O’phelan’s book, 119 occurred within the current Peruvian boundaries.

O'Phelan identified three main waves in the XVIII century in which revolts and rebellions accumulated importantly. The first wave occurred during Viceroy Castelfuerte's tenure (1724-1736) due to his aggressive fiscal policies (that included a Census to identify "indios forasteros"³⁴) after that a cholera epidemic affected the southern provinces. The second wave occurred after the legalization of the compulsory "reparto" of goods to the indigenous population (1751-1756). The third and last wave occurred as consequence of the Borbon Reforms implemented in 1777 by the "Visitor" José de Areche, this wave ended with the Great Rebellion of Tupac Amaru which spread through most parts of the commercial lines in the southern provinces. Thus, according to O'Phelan, the Great rebellion occurred as a culmination of a process initiated by minor revolts and also as a consequence of increasing economic and fiscal pressures that affected not only to the indigenous population but to other actors of the Peruvian Viceroyalty.

Peasant or Indigenous Communities after the Independence

The Peruvian proclamation of independence occurred in Lima in 1821, around thirty years after the Great Rebellion of Tupac Amaru. In its proclamation of independence, José de San Martín abolished the indigenous tribute in 1821 with the hope of gaining the rural population to the independence cause but this tribute was reestablished five years later in 1826, two years after the independence was consolidated. This tribute existed until 1854, when the revenues from the extraction of the guano (which was used as a fertilizer) allowed to dispense the indigenous tribute. The indigenous contribution was reestablished in 1877 by the president Pardo only to be abolished later to gain support from the

³⁴ "Indios forasteros" were that part of the population that with the objective of avoiding the payment of tributes, mita, etc. managed to not be counted officially in the Spanish population records.

indigenous population at the beginning of the war with Chile (1879-1883) by the strongman Nicolas de Pierola. However, during the rest of the war and after the war was ended, the indigenous contribution was reestablished until it was finally abolished again by Pierola in 1895. To address fiscal constraints, Pierola created a tax over the production and distribution of the salt in 1896, this commodity was very important for the indigenous population economy in that period. For this reason, many revolts against the salt tax collectors were observed during that year. During this period, the revolts and protests were mainly against fiscal pressures³⁵ (indigenous tribute, salt tax, etc.). Thus, in the first century of the new Peruvian Republic, the conditions of life of the indigenous population were far from being similar to rest of the free citizens, the new created state will continue to exert a heavy tax burden over the indigenous population to solve fiscal constraints.

The late 19th century and early 20th century was a period of expansion of the rural states (Haciendas). These estates existed during colonial times and also during the republic times. The haciendas had their own indigenous workforce, these were called “yanaconas” or “colonos”. This part of the indigenous population did not have their own land but worked for no salary in the lands of the “Hacendados” or “Gamonales” (The owners of the hacienda). It is well-known that inside the haciendas the living conditions of the indigenous population was of semi-slavery. The Hacendados not only abused of the “yanaconas” but also harm the indigenous population that lived outside the hacienda, the “indigenous or peasant” communities by expanding illegally their lands, with the leniency of the judicial authorities and the central government. Two rebellions against the haciendas are particularly relevant in this period, the Atusparia uprising in the Ancash

³⁵ Kapsoli (1977) has counted 44 peasant movements in this period of time.

region (March-September, 1885) and the Rumi Maqui revolt in the Puno region (1915). At the beginning of the 20th century, namely, in the period between 1900 and 1920 important changes occurred in the south Andean region product of an growing international demand for wool (from vicuña and sheep). To take advantage of this favorable international context, the haciendas develop an aggressive process of land concentration to which the peasant communities and small owners successfully resisted. Is in these years that peasant communities thrive and acquire sufficient economic dynamism to resist the power of the Haciendas. During the first years of Augusto B. Leguía's tenure (1919-1930), a new constitution was enacted in 1920, this was the first constitution to recognize the legal existence of the indigenous communities. Leguía also created an office for the defense of the indigenous population (Patronato de la Raza Indígena) in 1922. This office received at least 837 complaints against the Hacendados for illegal usurpation of agricultural and pasture lands (Kapsoli, 1977:53). The support of the Leguía's government to the indigenous population was only apparent, the indigenous population continued resisting and rebelling during Leguía's government without much support from the central government. In 1930 the secretary for indigenous education was created and in 1937 the first indigenous community law was enacted. In this period other processes started like the migration to the city in the end of 1940s and early 1950s. The raise of the proletarian movements, the communist party, etc. The hacienda system still was pervasive in the rural areas during this period, although since 1920s the "yanaconas" (indigenous population living within the haciendas) also started to rebel and request to be recognized as peasant communities. The two main authors that have studied peasant movements in this period differ in what are the relevant periods of study. According to

Alberto Flores Galindo peasant movements have a relevant period in the years between 1945 and 1964, after the second world war until some years before the agrarian reform. According to Wilfredo Kapsoli, the same period should be divided in two periods of study 1945-1948 and 1956-1965. Kapsoli does not consider the eight years of the authoritarian Manuel Odria. Since this government was a dictatorship, peasant rebellions, revolts, etc. were unlikely in this period.

In fact, the peasant communities that managed to be legally recognized in this period show an important decrease compared with the previous years since 1920. Peasant communities started to obtain legal recognition after the enactment of the 1920 constitution. Furthermore, the first peasant community to be recognized did it in 1921, this was the “Machaccoyo” peasant community. This community is located in the Canas province in the Cuzco region which is the birthplace of Tupac Amaru II. Thus, the first peasant community to obtain legal recognition is located at the center of the provinces that were part of the Great Rebellion. Moreover, during the 1930’s, 16 more peasant communities from the Canas province managed to obtain legal recognition.

The case of the Canas province raises the question about whether organizing violent insurrections generate persistent effects in the peasant communities’ capacity to cooperate even after 130 years. I argue that the answer to this question is affirmative: Participation in violent insurrections in the past can have persistent effects in the capacity to cooperate in the future, namely, violent insurrections can have persistent effects on social capital. This assertion is in line with a recent literature about the positive effects of civil wars

violence on social capital (Bellows and Miguel, 2009; Blattman and Annan, 2010; De Luca and Verpoorten, 2015; Bauer et al., 2016).

The persistent effects of revolts and rebellions on social capital can operate in the following way: the indigenous population experienced violence from many sources (the Corregidor, the encomendero, the administrators of the mines, etc.). This violence promoted cooperation either as a social insurance or to promote rebellions that allow them to respond to the violence and resist to abuses. This cooperation was constantly used in intracommunity activities, in actions against a state that was permanently imposing burden over the community, or because they have to resist to the expansion of the Haciendas. This constant use of the cooperation generated persistent high levels of social capital³⁶ which facilitated cooperation to obtain legal recognition after the 1920 constitution was enacted.

³⁶ Social capital requires constant use to be preserved, it does not wear out with use, but rather with disuse (Ostrom, 2002)

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