

ARTICLE

GOING BEYOND PANACEAS: ESCAPING MINING CONFLICTS IN RESOURCE-RICH COUNTRIES THROUGH MIDDLE-GROUND POLICIES

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INTRODUCTION

Subsoil resources are randomly distributed among countries, regardless of national boundaries.¹ Peru's natural endowment is vast, especially in mineral assets. It is the largest world producer of silver, the second of copper and zinc, and the sixth of gold.² The booming mining sector, boosted by favorable international commodity prices, has supported much of the country's economic growth over the past decade. Peru's economic growth, positive balance of payments, and cautious fiscal and monetary policy depict what many now call the "Peruvian economic miracle"³ or the "tiger of the Andes."⁴ Further, monetary poverty has decreased dramatically during this period, especially in urban areas where it has been cut in half.

While Peru has the potential to emerge as a resource blessed nation, social inequality, weak government institutions, and growing social unrest impede the transformation of its vast natural endowment into a positive development for the majority of the population, who are still waiting to benefit from the economic boom. Social violence is particularly troubling. Conflicts over lands and mineral rents have multiplied in the past few years and pose a major threat to the future of the mining sector. Indeed, civil conflicts represent a new generation of investment risk, as evidenced by the mining projects being suspended or cancelled due to social turmoil.

Hundreds of rural towns in the Andes have mobilized against extant and new mining activities, fueled by a fear of pollution,

1 PAUL COLLIER, *THE PLUNDERED PLANET: HOW TO RECONCILE PROSPERITY WITH NATURE* 64 (2010).

2 Information based on 2010 production. See U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF INTERIOR, *MINERAL COMMODITY SUMMARIES* 49, 67, 147, 189 (2011), available at <http://minerals.usgs.gov/minerals/pubs/mcs/2011/mcs2011.pdf>; MINISTERIO DE ENERGÍA Y MINAS, *BOLETÍN MENSUAL DE MINERÍA* 6 (2011), available at <http://www.minem.gob.pe/minem/archivos/file/Mineria/PUBLICACIONES/VARIABLES/2011/BOLETIN%20%2004.2010.pdf>.

3 Mario Sandoval, *Al Gore Speaks of "Peruvian Economic Miracle" at Peru Conference*, LIVING IN PERU (October 14, 2010), <http://archive.livinginperu.com/news/13334>.

4 Javier Arellano-Yanguas, *A Thoroughly Modern Resource Curse? The New Natural Resource Policy Agenda and the Mining Revival in Peru* 10 (Inst. of Dev. Studies, Working Paper No. 300, 2008) (quoting the World Bank Director for the Andean Region).

social demands, and the unauthorized use of their heritage lands. Clashes with the police can turn deadly. In April 2011, one protestor died and twenty others were injured when peasants from Islay, a town 620 miles south of Lima, marched to resist Southern Copper's US\$1 billion Tia Maria mine. They demanded that the mine leave the area.⁵ As a result, the government called off the project and rejected the environmental permit applications filed by the company. The bloody protests in Islay portray the growing public opposition to extractive industries.

Some legal scholars attribute social turbulence to the existing mining tenure regime. In Peru, as in almost all countries, title to subsoil resources vests in the government, not in landowners. This ownership arrangement engenders controversy between the holder of a mining entitlement granted by the government and the owners of surface lands. Consequently, citing efficiency and social justice benefits, some scholars propose to move from public to private ownership of mineral resources in the American tradition. The bundling of surface and subsurface resources in a single title, they claim, would prevent the clashes between extractive industries and landowners. This paper explores the implications of the proposed reconfiguration of natural resources ownership in Peru, specifically for mineral resources. Although the benefits of private ownership are clear, I argue that the existing scholarship has overlooked the feasibility of the privatization of mineral resources in countries lacking that tradition. For that reason, I propose alternative and politically feasible solutions.

Part I describes the main features that characterize the public and private ownership systems of natural resources. It then outlines the most relevant features of Peruvian mining law with regard to titling, permitting, and taxation. The Part ends with an overview of the Peruvian mining industry and indigenous lands.

Part II unpacks the "resource curse" concept and discusses to what extent Peru is experiencing it, in light of the escalating social unrest. It provides a detailed characterization of mining conflicts using available information from the Ombudsman's Office. Instead

⁵ See Terry Wade & Marco Aquino, *Resource Conflict Erupts in Peru Days before Vote*, REUTERS (June 14, 2011), <http://www.reuters.com/article/2011/04/06/peru-election-mining-idUSN0516936420110406> (describing member of citizen group's threat not to vote, which is mandatory in Peru, unless the mine leaves his town).

of blaming mineral endowment for social ills, this Part discusses the possibility of a correlation between the upward trend in violence and the effects of the world economic recession at the local level.

Part III explores the implications of the envisaged transition to private ownership of mineral resources as a way to escape social unrest. It underscores the constitutional and political transaction costs, takings claims, and boundary and assembly problems. It aims to show that privatization is not a realistic way out but an unworkable panacea solution.

Finally, Part IV examines three middle-ground alternatives to the fully-public and fully-private approaches. It discusses the possibility of adopting a substance-based rule to determine the vertical extent of ownership in land, passing to an auction system for granting mining leases, and distributing mineral rents in the form of cash payments to individuals. Given that the Peruvian mining tenure model and the social ills generally associated with extractive industries are present in other resource-rich countries, the analysis is relevant in other contexts as well.

I. OWNERSHIP SYSTEMS OF NATURAL RESOURCES

Natural resources provide essential raw materials for modern civilization, are an essential source of wealth creation, and have strategic domestic relevance.⁶ They have no natural owners, so “societies are free to assign the rights any way they like.”⁷ In light of their permanent sovereignty over natural resources,⁸ states have

⁶ Ana Elizabeth Bastida, *Mineral Tenure Regimes in the Context of Evolving Governance Frameworks: A Case Study of Selected Latin American Countries 2* (Oct. 2003) (unpublished Ph.D. dissertation, University of Dundee) (on file with Library & Learning Center, University of Dundee); see James K. Boyce, *From Natural Resources to Natural Assets*, in *NATURAL ASSETS: DEMOCRATIZING ENVIRONMENTAL OWNERSHIP* 7, 7 (James K. Boyce & Barry G. Shelley eds., 2003).

⁷ COLLIER, *supra* note 1, at 18.

⁸ This principle recognizes that the state is vested with the exclusive competence to dispose freely of its natural resources within the limits of its national jurisdiction; the right to use natural resources for national development; the right to manage natural resources pursuant to national environmental policy; and the right to regulate foreign investment. See M.S. RAJAN, *SOVEREIGNTY OVER NATURAL RESOURCES* 16, 26, 36 (1978) (describing the development of the concept in the United Nations General Assembly). See generally NICO SCHRIJVER, *SOVEREIGNTY OVER NATURAL RESOURCES* (1997).

traditionally dealt with the “vertical extent of ownership in land”⁹ in two rival ways: natural resources either belong to the landowner or to the sovereign or government.¹⁰ To simplify, I refer to these systems as the private and public ownership regimes,¹¹ respectively. The specific reason why a particular polity opted for either property arrangement is deeply rooted in history, though it has implications today because “the regulation of natural resources poses significant questions about the allocation of wealth and power in society.”¹² Next, I provide an overview of both legal systems.

A. *The Private Ownership System*¹³

In the American legal system, ownership of land carries with it ownership of all substances under the surface. This regime is premised on the Latin maxim *cujus est solum, ejus est usque ad coelum et ad inferos*, which suggests that the rights of the surface owner extend upward “to the heavens” and downward to the “center of the earth.”¹⁴ Although the origin of the “center of the earth” maxim is contested,¹⁵ it remains a distinctive feature of

⁹ See Stuart S. Ball, *The Vertical Extent of Ownership in Land*, 76 U. PA. L. REV. 631, 650 (1928) (referring to the division of surface and subsurface ownership in land as “the vertical extent of ownership in land”).

¹⁰ See, e.g., Yinka Omorogbe & Peter Oniemola, *Property Rights in Oil and Gas Under Domianial Regimes*, in PROPERTY AND THE LAW IN ENERGY AND NATURAL RESOURCES 115, 118 (Aileen McHarg et al. eds., 2010); Emeka Duruigbo, *The Global Energy Challenge and Nigeria’s Emergence as a Major Gas Power: Promise, Peril or Paradox of Plenty?*, 21 GEO. INT’L ENVTL. L. REV. 395, 440 (2009).

¹¹ By “ownership regimes” I refer to the legal and constitutional rules that deal with natural resources tenure, acquisition, holding, transfer, and termination of rights. See Bastida, *supra* note 6, at 21 (describing the subject matter of mineral tenure regimes).

¹² Aileen McHarg, Barry Barton, Adrian Bradbrook & Lee Godden, *Property and the Law in Energy and Natural Resources*, in PROPERTY AND THE LAW IN ENERGY AND NATURAL RESOURCES, *supra* note 10, at 3 (citing RICHARD BARNES, PROPERTY RIGHTS AND NATURAL RESOURCES 10 (2009)).

¹³ The scope of this Part is limited to the rules applicable to ownership of natural resources located beneath privately owned lands. Hence, I will not take into account the rules concerning natural resources ownership in federal, state, or indigenous lands.

¹⁴ See John G. Sprankling, *Owning the Center of the Earth*, 55 UCLA L. REV. 979, 980 (2008).

¹⁵ See Adrian J. Bradbrook, *The Relevance of the Cujus est Solum Doctrine to the Surface Landowner’s Claims to Natural Resources Located Above and Beneath the Land*, 11 ADEL. L. REV. 462, 462 (1987-1988) (“The maxim is

American natural resources law.¹⁶ The “center of the earth” rule suggests that all resources belong to the landowner merely by virtue of his ownership to the land surface.¹⁷ The question is how deep his title runs. Although there is little scholarship relating to the downward extent of a source landowner’s property, it is generally believed that “each landowner in the United States supposedly owns a slender column of rock, soil, and other matter stretching downward over 3,900 miles from the surface to a theoretical point in the middle of the earth.”¹⁸

Courts in the United States have traditionally embraced this theory and drawn upon English law recognizing that “[t]he grant of the land includes the surface and all that is *supra*, houses, trees, and the like . . . and all that is *infra*, *i.e.* mines, earth, clay, etc.”¹⁹ According to Blackstone, “whatever is in a direct line, between the surface of any land and the centre of the earth, belongs to the owner of the surface. . . . So that the word ‘land’ includes not only the face of the earth, but every thing under it, or over it.”²⁰ Thus private ownership of oil, gas, and other minerals has long been recognized in the American legal tradition.²¹ While this rule still

commonly attributed to [Lord] Coke, although its real origin is lost in history and may have emanated from Roman law or Jewish law. Its earliest reference in English Law is in *Bury v. Pope* in 1586.”); *see also* Sprankling, *supra* note 14, at 982–83 (“The theory that American law recognizes ownership to the center of the earth can be traced back to 1766, when William Blackstone boldly proclaimed the doctrine in his famous treatise *Commentaries on the Laws of England*. It was not a principle of Roman law—despite the Latin phrasing of the maxim—nor was the theory recognized in early common law. Rather, it is best viewed as hyperbole invented by Blackstone, without any prior foundation in English law. Measured against the yardstick of common law history, it is a comparatively modern creation.”).

¹⁶ Consider, however, that this rule did not originally apply in all states, not even in Texas, which later developed what is considered its paradigmatic formulation. *See* BARLOW BURKE, JR., ROBERT E. BECK & CYRIL A. FOX, JR., *CASES AND MATERIALS OF MINERAL LAW* 25 (1994) (“When Texas became a state in 1845, it owned all of the minerals located in Texas. . . . It was not until in the 1866 Texas Constitution that Texas provided: ‘That the State of Texas hereby releases to the owner of the soil all the mines and mineral substances, that may be on the same, subject to such uniform rate of taxation, as the Legislature may impose.’”).

¹⁷ *See* Bradbrook, *supra* note 15, at 462.

¹⁸ Sprankling, *supra* note 14, at 981.

¹⁹ Ball, *supra* note 9, at 688 (quoting *Mitchell v. Mosely*, [1914] 1 Ch. 438 (Eng.)).

²⁰ 2 WILLIAM BLACKSTONE, *COMMENTARIES* *18.

²¹ Duruigbo, *supra* note 10, at 442 (quoting Eugene Kuntz, 1 A TREATISE ON

applies to ownership of minerals as court decisions generally state that the surface owner holds title to all gold, silver, coal, and other hard rock minerals underneath his land,²² it has been replaced by the “rule of capture” regarding oil and gas.²³

Under the private ownership system, the landowner has the power to decide whether to exploit the resource and what to do with it. Given that landowners diverge in their land use preferences,²⁴ it is up to them to decide whether to leave resources unexploited, extract resources themselves, or grant mining rights to third parties through a lease²⁵ or a sale of a mineral interest.

THE LAW OF OIL AND GAS 59–60 (1987)).

²² Sprankling, *supra* note 14, at 1011.

²³ Even though this paper focuses on hard rock mineral resources, I will say a few words about fuel minerals (namely, oil and gas) for the sake of a comparative study. Oil and gas are fugacious resources. Depending on the subsurface pressures, oil viscosity, and porosity of the rock, they tend to migrate rapidly toward the low-pressure area generated by the puncture of the well bore. This migration allows adjacent landowners to extract what would be their neighbor’s oil under the “center of the earth” theory. Therefore, by comparing oil and gas to wild animals (*ferae naturae*), courts stated that property rights in oil and gas are acquired only by capture, that is, by removing them from the ground and thus converting them into personal property. Ultimately, oil and gas belong to the person who recovers them first by drilling on his land, even if that oil and gas may have “migrated” from under adjoining lands. To avoid exposing landowners to liability for wrongful taking of oil and gas, courts recognized that “the landowner is privileged to sink as many wells as he desires upon his tract of land and extract there from and appropriate all the oil and gas that he may produce.” The rule of capture has been stigmatized, though, as a “law of piracy” in the United States because it ignited a race to produce, which eventually led to over-drilling, over-production, early-depletion of reservoirs, and other inefficiencies. The rule is now frequently coupled with regulations that mandate or promote oil field unitization and limit well drilling and extraction to escape the inefficiencies it promotes. *See, e.g.*, GARY D. LIBECAP, CONTRACTING FOR PROPERTY RIGHTS (1989) [hereinafter LIBECAP, CONTRACTING]; Gary D. Libecap, *Open-Access Losses and Delay in the Assignment of Property Rights*, 50 ARIZ. L. REV. 379 (2008); Cecilia A. Low, *The Rule of Capture: Its Current Status and Some Issues to Consider*, 46 ALBERTA L. REV. 799 (2009); *see also* TERENCE DAINTITH, FINDERS KEEPERS? HOW THE LAW OF CAPTURE SHAPED THE WORLD OIL INDUSTRY (2010).

²⁴ *See* LAITOS, ZELLMER, WOOD & COLE, *supra* note 13, at 311.

²⁵ Mining leases play a key role in mining exploitation and are the principal device used for obtaining permission to develop minerals. Under this type of agreement, the lessee-mining company is granted the exclusive right to remove and sell minerals while the lessor-mineral owner receives rental payments and royalties on some percentage of the minerals mined and sold. *See* BARLOW BURKE & ROBERT BECK, THE LAW AND REGULATION OF MINING: MINERALS TO ENERGY 59 (2010); *see also* LAITOS, ZELLMER, WOOD & COLE, *supra* note 13, at 1049.

According to private property advocates, private ownership promotes the most efficient use of land and subsoil resources.

Nonetheless, many scholars have underscored the impractical implications of the “center of the earth” standard. For instance, Stuart S. Ball opines that

the phrase *usque ad inferos* involves much of the apparently absurd and useless. Our deepest mines reach but a few miles under the surface, and it takes the imagination of a Jules Verne to picture man ever finding it possible to penetrate much deeper. Nevertheless, there is no need of setting a limit on the depth of what the law will recognize as a fit subject of ownership until some situation arises demanding such a solution.²⁶

In this line, John G. Sprankling argues that this rule is in actuality a “poetic hyperbole” put forward by courts rather than a clear tenet on how deep property rights really extend.²⁷ Further, after a thorough review of the existing American caselaw, he claims that

[n]o appellate decision has ever considered whether private property rights extend to the mantle, the outer core, or the inner core [of the center of the earth]. Thus, all past judicial statements about ownership to the “center of the earth” must be considered dicta as to these regions, simply because such statements were not necessary to resolving the actual cases presented, all of which involved the crust—and, indeed, only the very shallow crust. . . . [In fact t]he deepest subsurface dispute ever litigated in the United States . . . [comprised] the drilling of an oil well] about two miles below the surface.²⁸

Consequently, Sprankling suggests that courts should take the same approach they did when facing an outburst of litigation between landowners and aviation companies in the 1930s regarding the extension of property rights “to the heavens.”²⁹ Courts found back then that the “to the heavens” principle was a generalization of old cases and had no practical application in real

²⁶ Ball, *supra* note 9, at 639.

²⁷ Sprankling, *supra* note 14, at 981.

²⁸ *Id.* at 999–1001 (footnotes omitted).

²⁹ *See id.* at 1031 (“Just as the new technology of the airplane ended the *ad coelum* era, new technologies for large-scale use of the deep subsurface—such as carbon sequestration and heat mining—may herald the end of the center of the earth approach.”).

life.³⁰ As a result of this litigation, the *cujus est solum, ejus est usque ad coleum et ad inferos* rule is now understood as granting the landowner the right to use the overlying space to such an extent as he is able, but not that his title literally extends “to the heavens.”³¹ An opposite conclusion would subject the operator of an air flight to costly contracting in an effort to avoid countless trespass suits.³²

B. *The Public Ownership System*

In contrast to the American system, most legal systems around the world grant title to minerals to the crown or government. In South America, the origin of the public ownership rule, also known as the *regalian* or *dominial* system,³³ goes back to the colonial rule. The 1574 Ordinances of Viceroy Francisco de Toledo stipulated, “All minerals are owned by His Majesty.”³⁴ The

³⁰ See *Hinman v. Pac. Air Transp.*, 84 F.2d 755, 757–58 (1936) (“This formula was never taken literally but was a figurative phrase to express the full and complete ownership of land and the right to whatever superjacent airspace was necessary or convenient to the enjoyment of land. . . . The owner of land owns as much of the space above him as he uses, but only so long as he uses it. All that lies beyond belongs to the world.”).

³¹ Sprankling, *supra* note 14, at 1000.

³² See, e.g., MICHAEL HELLER, *THE GRIDLOCK ECONOMY* 29 (2008).

³³ See Bastida, *supra* note 6, at 86 (“Due to the strategic importance of mineral resources in the economy of both Spain and its colonies, from the outset mines were regarded as *iura regalia*, a right enjoyed by the sovereign by virtue of his prerogatives. This is the hallmark of the regalian principle: the distinction between the original—also called ‘radical’—dominium which is placed in the Crown, and the dominium utile, that is granted by the Crown to whoever discovers the mine. This provided the legal basis for collecting a royalty: a share in the production of minerals.”) (footnote omitted); Jeannette Graulau, *Ownership of Mines and Taxation in Castilian Laws, from the Middle Ages to the Early Modern Period: The Decisive Influence of the Sovereign in the History of Mining*, 26 *Continuity & Change* 13, 14–15 (2011) (“Castile’s medieval concept of the grant, or lease, of mining rights meant that ‘private’ individuals could be entrusted by the government to exercise mining, without compromising the fundamental principle of sovereign ownership of the mines.”); and MARTIN BELAUNDE MOREYRA, *DERECHO MINERO Y CONCESIÓN* 32 (1998) (“Historically, the *regalian-dominial* system originates from the right imposed by the crown, sovereign, or monarch to the owner of the mining fields. Therefore, there was an obligation to secure a payment or participation on the extracted mining products when the crown granted the exploitation to private parties. Hence the name ‘royalty.’”) (translation by author) (emphasis added).

³⁴ Bastida, *supra* note 6, at 86 (quoting the Toledo Ordinances, Title I, Ordinance I (1574)).

system of concessions³⁵ was further developed by the 1783 Royal Ordinances of New Spain-Mexico, considered the first mining code of the Spanish colonies.³⁶

In today's public ownership system, natural resources are considered distinct from land tenure and vest immediately in the government, while landowners only have a right to compensation for the potential takings of surface lands.³⁷ Mining activities can be undertaken either by the government itself through state-owned companies³⁸ or, more likely these days, be awarded to private companies under licenses, concessions, or other arrangements with proprietary characteristics.³⁹ To simplify, I refer to all such agreements as mining leases.

The public ownership of natural resources has found justification on a number of grounds, including the right of monarchs, the notion that the corpus of the land belongs to the sovereign, the need to discharge government obligations, and the prevention of wasteful exploitation.⁴⁰ Currently, the main justification for public ownership is that minerals "should be considered public property to be conserved and managed for the welfare of all the citizens."⁴¹ In addition, public ownership

³⁵ The "concession system" is generally defined as "the legal device whereby the State, as the original owner of mineral resources, grants rights for the exploration and exploitation of minerals to the discoverer or first applicant following on a non-discretionary, non-negotiated procedure provided that the applicant meets the objective and impersonal requirements set out by law." *Id.* at 3-4.

³⁶ *See id.* at 83, 86 (quoting the New Spain-Mexico Ordinances, Title V, Article 1 (1783), which state that "[m]ines are granted to miners in property and possession, by means of a concession. Without separating [the mines] from my royal patrimony, I hereby grant them to my vassals in property and possession, in such a manner that they may sell, exchange, lease, donate, transfer by means of a will or legacy or to transfer the right therein in any other manner, upon the same terms whereby they possess it, and by persons able to acquire it.") (second alteration in original).

³⁷ *See* Omorogbe & Oniemola, *supra* note 10, at 115.

³⁸ *See* BELAUNDE MOREYRA, *supra* note 33, at 33 (arguing that former communist countries prohibited private entrepreneurship in natural resources exploitation and thus reserved this activity for public or state-controlled corporations); *see also* COLLIER, *supra* note 1, at 93 ("In practice, several governments do run resource-extraction businesses. . . . [T]he more common record of state-owned natural-resource companies has indeed ranged from poor to catastrophic.").

³⁹ *See* McHarg, Barton, Bradbrook & Godden, *supra* note 12, at 1.

⁴⁰ *See* Duruigbo, *supra* note 21, at 440-41.

⁴¹ *See id.* at 441.

prevents the assembly problems that extractive industries often face in the United States.⁴²

Yet the public ownership system sets the stage for two potential conflicts. First, given that open-pit mining is usually incompatible with other land uses on the surface, this regime creates a conflict between the holder of a mining lease granted by the government and the owner of the surface lands.⁴³ This conflict is exacerbated by the fact that the discovery and extraction of mineral resources in the subsoil does not necessarily create wealth and opportunity for landowners.

Second, the public ownership regime fuels a conflict between the holder of a mining lease granted by the government and other users of the same resource who claim prior or traditional access to it.⁴⁴ For example, a community in the city of Arequipa, in Peru, alleges historical access to Cerro Colorado, an ashlar stone quarry that has been awarded to a private company through a 300-hectare mining lease, because its legal exploitation would deprive 500 families of their major source of income. In this context, both parties may seek to enforce their right to exclude by resorting to informal norm-based mechanisms or to the state, leading to a deadlocked exclusion because both parties may have “equivalent exclusionary capacity.”⁴⁵

⁴² See LIBECAP, CONTRACTING, *supra* note 23, at 96–97; see also *infra* Part III.B.4.

⁴³ See McHarg, Barton, Bradbrook & Godden, *supra* note 12, at 12 (“[While] ownership arrangements that separate land from mineral resources are good for state planning and administration . . . they lay the foundation for conflict between natural gas development and land rights.”); see also BELAUNDE MOREYRA, *supra* note 33, at 23 (“The overlapping between the landowner and the titleholder of a mining concession is the source of potential conflicts which both the mining and land laws try to solve in equity. The [legal] solution tends to favor mining activities provided that they have more economic significance than the extant surface uses, and provided that the landowner is adequately compensated.”) (translation by author).

⁴⁴ See, e.g., George S. Akpan, *Host State Legal and Policy Responses to Resource Control Claims by Host Communities: Implications for Investment in the Natural Resources Sector*, in INTERNATIONAL AND COMPARATIVE MINERAL LAW AND POLICY 283, 284 (Elizabeth Bastida, Thomas Wälde & Janeth Warden-Fernández eds., 2005) (asserting that this conflict raises questions of whether the state or the host community should control access to mining resources).

⁴⁵ See Daniel Fitzpatrick, *Evolution and Chaos in Property Rights Systems: The Third World Tragedy of Contested Access*, 115 YALE L. J. 996, 1000 (2006) (claiming that open access regimes may arise “because those holding state property rights [i.e. mining leases] rely on the coercive authority of state

C. *The Public Ownership System in Peru*

Peru follows the public ownership model: Article 66 of the Constitution⁴⁶ stipulates that natural resources are the “patrimony of the nation” and recognizes the government’s sovereignty over the country’s natural assets and the right to regulate their use by private parties.⁴⁷ Scholars have long discussed the theoretical significance of the concept “patrimony of the nation.”⁴⁸ The Constitutional Court has interpreted Article 66 by saying that natural resources are “special property held by Peruvians of all generations” and that the benefits derived from their exploitation “should reach the nation as a whole.”⁴⁹ In this line of reasoning, Xennia Forno underscores that “the development of natural resources is legitimized through the granting of concession titles [mining leases] in order to harmonize the interests of the investor—who uses his [constitutional] right to freedom of enterprise—and the interests of the collectivity which should benefit from the profits obtained from the sustainable development of such resources.”⁵⁰ For our purposes, it suffices to underscore that all natural resources *in situ* are under government control. That is to say, the government has reserved to itself the right to decide on the exploitation of natural resources by granting

agencies, but the weakness or illegitimacy of these agencies makes them unable to exclude local claimants. For their part, local claimants often disregard the rules and institutions of formal law, relying instead on their own normative order or coalition of interests, particularly when the state is weak or oppressive.”).

⁴⁶ “Natural resources, renewable and non-renewable, are patrimony of the Nation. The State is sovereign in their utilization. The Act determines the conditions of their use and granting to private individuals. Such concession grants the title-holders a real right [in rem right] subject to those legal regulations.” CONSTITUCIÓN, art. 66 (Peru).

⁴⁷ In connection with mineral resources more specifically, Tit. Prel. II of the Mining Law provides that all mineral resources belong to the state whose ownership cannot be alienated or lost by adverse possession. Ley General de Minería, D.S. No. 014-92-EM, 4 junio 1992 (Peru).

⁴⁸ See, e.g., Xennia Forno, *El título minero como acto administrativo habilitante*, 8 REVISTA DEL DERECHO ADMINISTRATIVO 47 (2009); see also GUILLERMO GARCÍA MONTUFAR & MILITZA FRANCISKOVIC INGUNZA, DERECHO MINERO: DOCTRINA, JURISPRUDENCIA Y LEGISLACIÓN ACTUALIZADA 44–45 (2d ed. 2002).

⁴⁹ See Tribunal Constitucional [T.C.] [Constitutional Court], 31 marzo 2005, “José Miguel Morales Dasso c. Congreso de la República,” exp. No. 0048-2004-PI/TC, ¶¶ 29, 98, available at <http://tc.gob.pe/jurisprudencia/2005/00048-2004-AI.html>.

⁵⁰ See Forno, *supra* note 48, at 58 (translation by author).

exploitation rights through mining leases to private parties.⁵¹ Although the Constitution does not allow private property of natural resources, once the resource has been extracted it belongs to the holder of the mining lease.⁵² Today, almost all mining activities in the country are conducted by private companies through mining leases,⁵³ as the constitution restricts public entrepreneurship.

Next, I outline the basic features characterizing the Peruvian mining legislation with regard to titling, permitting and taxing. I conclude by providing a glimpse of the mining industry and its relevance to the overall economy, as well as a brief reference to indigenous lands.

1. *Mining Lease*

Mining activities in Peru are developed under a mining lease that provides the right to explore and exploit mineral resources to an unlimited depth, bound by vertical planes corresponding to the sides of a square in Universal Transverse Mercator (UTM) geographic coordinates.⁵⁴ A mining lease is an administrative title with proprietary features: it can be recorded, registered, transferred, mortgaged, and has no expiration date if the holder meets the obligations set forth by the Mining Law.⁵⁵ It is awarded

⁵¹ *Id.* at 58.

⁵² See MONTUFAR & INGUNZA *supra* note 48, at 49 (“[T]he holder of exploration-exploitation [rights] only acquires the right to explore and exploit [a mineral field], but does not acquire the property over the field [itself], it only becomes the owner of the minerals once it has extracted them.”) (translation by author).

⁵³ The top mining companies during the 2010 fiscal year were Minera Yanacocha, which produces gold in Cajamarca (owned by Newmont, USA / Grupo Buenaventura, Peru); Southern Peru Copper Corporation, which produces copper in Moquegua (owned by Grupo Mexico, Mexico); Sociedad Minera Cerro Verde, which produces copper in Arequipa (owned by Freeport-MacMoran Copper, USA); and Minera Buenaventura, which operates multiple mines (owned by Grupo Buenaventura, Peru). MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 16, 34.

⁵⁴ See Ley General de Minería, D.S. No. 014-92-EM, 4 junio 1992 (Peru), tit. prel. VII, art.9.

⁵⁵ There are two main obligations necessary to maintain a mining lease in good standing: (i) payment of an annual Mining Good Standing Fee per hectare claimed (US\$3 U.S. dollars per hectare); and (ii) achievement, by the end of the first semester of the eleventh year after the granting of the title, of a Target Annual Production per hectare set forth by the Mining Law (approximately US\$ 1300 in 2011). If the target annual production is not obtained in the legal term, a

through an administrative procedure conducted by a government agency (INGEMMET) on a first-come, first-serve basis,⁵⁶ though some significant projects held by the government are subject to auction procedures conducted by the agency in charge of promoting private investment (PROINVERSION).

Article 9 of the Mining Law clearly establishes that a mining lease is a right distinct and separate from the land in which it is located. In other words, holding a mining lease does not grant any right over the surface lands, in the same way in which the landowner holds no right to the natural resources beneath his land.⁵⁷ This limitation is why one of the main factors affecting mining projects is securing title to surface lands.⁵⁸ If the surface lands are privately owned, the law requires mining lessees to negotiate with landowners and enter into an agreement to use their lands. For this reason, landowners hold, in actuality, quasi-property rights over subsurface mineral resources since they act as gatekeepers to the resource.⁵⁹ Yet, if no agreement is reached, lessees have the right to request from the Ministry of Energy and

penalty of ten percent of the production target per hectare shall apply until the year in which such production target is reached. Failure to pay in a timely manner either the Mining Good Standing Fee or the Mining Penalty for two consecutive years is cause of forfeiture of a mining lease. The main principle behind (ii) is that mining leases should be in production. For further details on Peru's mining titling regime, see, for example, SOCIEDAD NACIONAL DE MINERIA, PETROLEO Y ENERGÍA DEL PERÚ, PERU MINING INVESTMENT HANDBOOK ch. 1–2 (2011), available at <http://www.snmpe.org.pe/informes-y-publicaciones-snmpe/manuales-de-inversion/manuales-de-inversion-del-sector-minero/manual-de-inversi%C3%B3n-en-ingles.html>; and Forno, *supra* note 48, at 58–59.

⁵⁶ Forno, *supra* note 48, at 59 (2009).

⁵⁷ “The right to an estate extends to the subsoil and surface in a vertical line up until it is useful for the owner. Subsoil ownership does not include the natural resources, fields, and archaeological sites, or any other good regulated by a special legislation.” Cód. Civ. [CIVIL CODE] art. 954 (Peru) (translation by author).

⁵⁸ See Francisco Tong & Fernando Montero Alvarado, *Sobre la problemática de obtener derechos superficiales para el desarrollo de actividades mineras*, 8 REVISTA DEL DERECHO ADMINISTRATIVO 79, 80 (2009) (“For most mining projects, occupying all or part of the surface lands comprised in the project may be indispensable not only for technical reasons, but also because it turns out to be a legal condition established by mining laws in Peru.”) (translation by author).

⁵⁹ I will show later, though, that such “gatekeeping” has several flaws because landowners do not always have title to land or have few remedies to enforce their rights. See *infra* Part II.A.

Mines a mandatory easement, though it has only been used in a handful of cases due to the transaction costs, delays, and unpopularity of this legal tool.⁶⁰ A mandatory easement forces the landowner to bear the mining project within his land in exchange for fair market compensation. By contrast, if surface lands are publicly owned the law requires the lessee to acquire title to land from the government agency in charge of public property (Superintendencia Nacional de Bienes Estatales). Public barren lands are free to use for mining activities.⁶¹

In addition, in 2003 the government added a requirement to the titling procedure of mining leases. Lessees are now required to submit a sworn statement whereby they undertake a series of sustainable development commitments in the carrying out of mining activities.⁶² The statement must be filed on an annual basis and shall include provisions regarding the hiring and training of local labor force, the acquisition of local goods and services, and the execution of infrastructure projects in benefit of the local population within the previous year. However, this statement is only a commitment on paper because it is not enforced.

2. *Socio-environmental Regulations*

The performance of mining exploration and development requires prior authorization of the environmental office of the Ministry of Energy and Mines (DGAAM)⁶³ to confirm compliance of environmental requirements, including proof of title to surface lands. Therefore, mining activities cannot commence until both environmental permits and title to surface lands are secured. Lessees must also undertake public participation mechanisms prior, during, and after the preparation and submission of the

⁶⁰ For a thorough analysis, see Tong & Montero Alvarado, *supra* note 58.

⁶¹ Ley General de Minería, D.S. No. 014-92-EM, 4 junio 1992 (Peru), art. 37(1).

⁶² See D.S. No. 042-2003-EM, 13 diciembre 2003 (Peru).

⁶³ See Reglamento Ambiental para las Actividades de Exploracion Minera [Environmental Regulations for Mining Exploration], D.S. No. 020-2008-EM, 2 abril 2008 (Peru), art. 7; Ley General del Ambiente [Law of the Environment], Ley No. 28611, 13 octubre 2005 (Peru), art. 146. The Environmental Supervision Agency (OEFA) and the Mining Security Supervision Agency (OSINERGMIN) are the competent authorities to supervise the environmental and health and safety implications of mining activities, respectively. OEFA has the competence to sanction violations with fines up twelve million U.S. dollars.

Environmental Impact Assessment (EIA).⁶⁴

3. *Mineral Rents*

Mining companies pay a profit tax rate of thirty percent to the national government, as any other corporation. The national government is obliged to transfer fifty percent of the profit taxes collected to the regional and local authorities (hereinafter the “subnational governments”)⁶⁵ located within the area of influence of mining operations. These revenues, known as *canon minero*, can only be used by such to finance infrastructure projects of regional and local impact.

In addition to income tax, as of 2005 mining companies must pay a “consideration” for the exploitation of mineral resources in the form of a mining royalty.⁶⁶ In September 2011, Peru modified the Mining Royalties Law (Ley No. 29788), created a new special tax for mining companies that have not entered into a stability agreement with the Peruvian government (Ley No. 29789), and incorporated a new encumbrance for mining companies that have entered into a stability agreement with the government (Ley No. 29790).⁶⁷ Through this new scheme the government expects to

⁶⁴ During the evaluation procedure, lessees must distribute an Executive Summary of the project to the population involved in the project and relevant authorities, which should be written in plain language. Stakeholders are entitled to formulate comments or observations to the EIA. The lessee will submit a Public Participation Plan to DGAAM, detailing the public participation instruments to be executed. In this way, the following are considered obligatory public participation instruments: Workshops and Public Hearings. Additional public instruments include the following: Mailbox for Suggestions, Public Participation Office, Guided Tours, etc. Also, the Public Participation Plan will contain a proposal for public participation instruments to be carried out during the project implementation phase. *See, e.g.,* SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, *supra* note 55, ch. 7, 2–3.

⁶⁵ *See* CONSTITUCIÓN, art. 77 (Peru); Ley del Canon [Law of Canon], Ley No. 27506, 15 junio 2001 (Peru), art. 9. In Peru there are 25 regional governments, 195 provincial municipalities, and 1832 district municipalities.

⁶⁶ This mining royalty was validated as constitutional by the Constitutional Court in 2005. Tribunal Constitucional [T.C.] [Constitutional Court], 31 marzo 2005, “José Miguel Morales Dasso c. Congreso de la República,” exp. No. 0048-2004-PI/TC, *available at* <http://tc.gob.pe/jurisprudencia/2005/00048-2004-AI.html>.

⁶⁷ *See, e.g.,* *Gobierno Promulga los Impuestos a las Ganancias Extraordinarias en la Minería*, MACROCONSULT (Sept. 29, 2011), <http://www.macroconsult.com.pe/comentario-editorial/2011/09/29/gobierno-promulga-los-impuestos-a-las-ganancias-extraordinarias-en-la-mineria/>. PROINVERSION is the governmental agency in charge of fostering private investment and executing

obtain around 1.1 billion U.S. dollars on an annual basis.⁶⁸ The national government is also required to transfer fifty percent of the amounts collected as royalties to the subnational governments.

Following the increase in the international commodity prices, in December 2006 the government “invited” mining companies to enter into an agreement to create a “voluntary contribution fund” to finance social investments in the area of influence of their projects, such as health, nutrition, and education programs. In the end, thirty-nine mining companies signed the agreement that is valid for five years. The “voluntary fund” is managed by an independent committee and has raised around US\$600 million as of May 2010.⁶⁹

4. *Overview of the Mining Industry*

Peru has produced minerals since time immemorial. Both the pre-Inca and Inca cultures mastered the art of gold and silversmithing. During the colonial period, the Spaniards further boosted mining production with forced labor to satisfy the crown’s appetite for gold and silver. In 2010 Peru ranked number one in the world in the production of silver, number two in copper and zinc, number four in tin and lead, and number six in gold.⁷⁰ The primary destinations of these commodities are Canada, China, and Switzerland.⁷¹

The total area of the national territory (128 million hectares) occupied by mining facilities is relatively small: only 0.29% is

legal stability agreements with foreign investors. Stability Agreements include specific tax regulations and labor regulations and grant investors the following rights: to freeze the income tax regime, to remit abroad the total amount of the capital and dividends, not to be discriminated against, to use the most favorable exchange rate, stability on the regimes to hire personnel, and stability on certain regimes related to the export such as temporary admission of goods, free zones and others of similar characteristics. See SOCIEDAD NACIONAL DE MINERÍA, PERU MINING INVESTMENT HANDBOOK, *supra* note 55, ch 3.

⁶⁸ *Nuevo Gravamen Minero Generó S/.204 Millones en Primer Mes de Pago*, EL COMERCIO (Dec. 7, 2011), <http://elcomercio.pe/economia/1344696/noticia-nuevo-gravamen-minero-genero204-millones-primer-mes-pago>.

⁶⁹ See SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, APOORTE VOLUNTARIO MINERO (2010), *available at* <http://www.snmpe.org.pe/pdfs/Aporte-Voluntario/Documentos/SNMPE/Diptico-Aporte-Voluntario.pdf>.

⁷⁰ See MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 6; U.S. GEOLOGICAL SURVEY, U.S. DEP’T OF INTERIOR, *supra* note 2, at 49, 67, 91, 147, 171, 189.

⁷¹ See MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 9–10.

used for mining operations and 0.78% for exploration.⁷² Mining leases awarded by INGEMMET comprise more than 22.7 million hectares, that is to say, 17% of the national territory.⁷³ However, 55% of the national territory is excluded from mining activities due to the existence of national parks, archaeological sites, and urban areas.⁷⁴

In 2010, the revenues transferred to subnational governments (*canon minero*) amounted to US\$1.09 billion.⁷⁵ The regions that received more mineral rents are the following: Ancash (US\$276 million); Arequipa (US\$122 million); Cajamarca (US\$146 million); La Libertad (US\$149 million); Pasco (US\$147 million); Moquegua (US\$86 million); Tacna (US\$70 million); and Puno (US\$64 million).⁷⁶

The importance of mining production to the national economy is significant. Mining activities represent 6.3% of the Peruvian GDP, 60% of the country's total exports, and 35% of corporate profit tax collected in 2010.⁷⁷ The number of people directly employed in the mining industry, both by mining companies and contractors, increased from 108,495 in 2006 to 147,291 in 2010.⁷⁸ Additionally, mining investment, mainly foreign capital, is experiencing a rapid upward trend. Between 1992 and 2007 mining companies invested more than US\$12 billion,⁷⁹ with the rate increasing as investments added up to US\$1.7 billion in 2008, US\$2.8 billion in 2009, and US\$4 billion in 2010.⁸⁰ Between

⁷² *Id.* at 27.

⁷³ *See id.* at 26.

⁷⁴ *See id.* at 27.

⁷⁵ *See* SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, REPORTE INFORMATIVO: TRANSFERENCIAS DE CANON MINERO EN EL 2010 (2011), available at <http://www.snmpe.org.pe/portal/contenido/68/canon/id.68>.

⁷⁶ *See id.* at 2.

⁷⁷ SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, PERU PAIS MINERO (2011), available at <http://www.snmpe.org.pe/informes-y-publicaciones-snmpe/mineria-en-cifras/peru-pais-minero.html>; SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, MINERÍA EN CIFRAS, available at <http://www.snmpe.org.pe/informes-y-publicaciones-snmpe/mineria-en-cifras/mineria-en-cifras.html>; *Peso de la Minería en el PBI Se Triplicó*, PERU21.PE (DEC. 7, 2011), <http://peru21.pe/2011/12/07/economia/afirman-que-peso-mineria-pbi-cada-vez-mayor-2002187>.

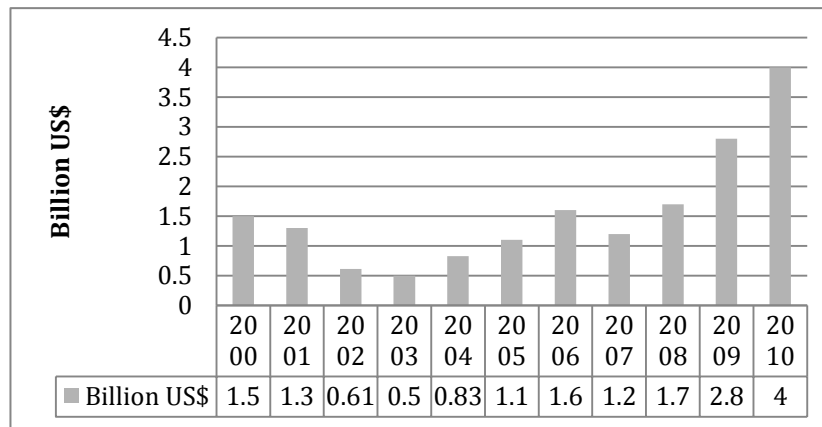
⁷⁸ MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 27.

⁷⁹ SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, MINERÍA EN CIFRAS, *supra* note 77.

⁸⁰ *See infra* Figure 1; *Web Estadística Mineroenergética, Inversiones en*

January and June 2011, more than US\$2.9 billion were invested.⁸¹ The value of mining projects in exploration, exploitation, and development in the following years amounts to US\$41 billion.⁸² These statistics evidence that Peru has become, for better or worse, a “global center for mining expansion.”⁸³

Figure 1: Investment in the Mining Sector 2000-2010⁸⁴



Minería, SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, http://www.estadisticassnmpe.org.pe/EstExt_Principal/EstExt_Pri_Menu.aspx?x=6104593&parCodIndicador=21&parCodRubro=2 (last visited Dec. 21, 2012).

⁸¹ MINISTERIO DE ENERGÍA Y MINAS, BOLETÍN MENSUAL DE MINERÍA 12 (Aug. 2011), available at <http://www.minem.gob.pe/minem/archivos/file/Mineria/PUBLICACIONES/VARIABLES/2011/BOLETIN%20DE%20MINERIA%2008-11.zip>.

⁸² See MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 31. The most important expected investments in the next few years originate from the following mining companies: Grupo Mexico (Mexico); Shougang Corporation (China), Votarantim Metais (Brazil); Freeport-MacMoran Copper (USA); BHP Billiton Xstrata Teck Mitsubishi; Grupo Buenaventura (Perú); Barrick Gold Corp. (Canada); Anglo American (UK); Xstrata Copper (Suiza); Newmont, Buenaventura (USA, Perú); Zijin Mining Group (China); Minmetals /Jiangxi Copper (China); and Rio Tinto Plc (UK-Australia). See *id.* at 30–31.

⁸³ Anthony J. Bebbington & Jeffrey T. Bury, *Institutional Challenges for Mining and Sustainability in Peru*, 106 PNAS 17296, 17296 (2009), available at <http://www.pnas.org/content/106/41/17296.full.pdf>.

⁸⁴ *Web Estadística Mineroenergética, Inversiones en Minería*, *supra* note 80 (graphic representation by author).

5. *Indigenous Lands*

Peru's population is around twenty-nine million.⁸⁵ Over seventy-seven ethnic groups inhabit the country and at least sixty-eight different languages are spoken.⁸⁶ According to the national census conducted in 2007, Peru's indigenous population is approximately four million, out of which eighty-three percent belong to the Quechua ethnic group, eleven percent to the Aymara group, and six percent to Amazonian tribes.⁸⁷ Peruvian legislation classifies groups of indigenous peoples as peasant communities (*comunidades campesinas*) and native communities (*comunidades nativas*).⁸⁸ Their lands are constitutionally protected and are not subject to adverse possession.⁸⁹

Peasant and native communities are social organizations with independent legal personality that control a specific territory and are made up of families tied by ancestral, ethnic, linguistic, and cultural bonds.⁹⁰ Peasant communities are mainly located in the Andean and coastal regions. There are 6067 peasant communities,

⁸⁵ *Perú: Población Total, Censada y Tasa de Omisión, Según Censos Realizados, 1940-2007*, INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA, <http://www.inei.gob.pe/perucifrasHTM/infdem/cuadro.asp?cod=3818&name=po01&ext=gif> (last visited Dec. 20, 2012) [hereinafter INEI].

⁸⁶ *Mapa Etnolingüístico del Perú 2010*, INSTITUTO NACIONAL DE DESARROLLO DE PUEBLOS ANDINOS, AMAZÓNICOS Y AFROPERUANOS, <http://www.indepa.gob.pe/mapa2.html> (last visited Dec. 20, 2012).

⁸⁷ *See id.* DEFENSORÍA DEL PUEBLO, SERIE INFORMES DEFENSORIALES—INFORME NO. 152: APORTES PARA UNA POLÍTICA NACIONAL DE EDUCACIÓN INTERCULTURAL BILINGÜE A FAVOR DE LOS PUEBLOS INDÍGENAS DEL PERÚ 54 (2011), available at <http://www.defensoria.gob.pe/modules/Downloads/informes/defensoriales/Informe-Defensorial-152.pdf>. Yet, establishing the number of indigenous peoples using mother tongue as a proxy is not very precise, as it does not measure the subjective element of self-identification. According to a recent poll, at least 26.9 percent of Peruvians identify themselves as belonging, directly or indirectly, to a particular indigenous group. *See id.* at 50–51.

⁸⁸ *See* Ley General de Comunidades Campesinas [Law of Peasant Communities], Ley No. 24656, 30 abril 1987 (Peru); Ley de Comunidades Nativas y de Desarrollo Agrario de la Selva y de Ceja de Selva [Law of Native Communities], Decreto-Ley No. 22175, 9 mayo 1978 (Peru). Native communities in voluntary isolation are protected through special legislation. *See* (Ley para la Protección de Pueblos Indígenas u Originarios en Situación de Aislamiento y en Situación de Contacto Inicial [Law for the Protection of Indigenous Peoples in Voluntary Isolation and Initial Contact], Ley No. 28736, 16 mayo 2006 (Peru).

⁸⁹ *See* CONSTITUCIÓN, art. 89 (Peru).

⁹⁰ *See id.*

out of which 5095 have official title to land.⁹¹ By contrast, native communities are located in the Amazon. There are 1447 native communities, out of which 1265 hold official title to land.⁹² Peasant and native communities hold their lands in common and are organized through a general assembly and a directive committee. Alienation of indigenous lands requires a decision of the general assembly approved by two-thirds of the members of the community.

II. CURSE OR BLESSING?

A. *The Resource Curse Literature*

Some resource-rich countries are unable to convert an endowment of natural resources into an enhanced standard of living for their citizens⁹³ and have performed worse than expected.⁹⁴ Following Paul Collier, “[T]he failure to harness natural capital is the single-most important missed opportunity in economic development.”⁹⁵ In many countries, the exploitation of natural resources that are highly concentrated—such as oil, diamonds, and minerals⁹⁶—and generate large rents is related to unexpectedly low rates of economic growth and a series of adverse effects on governance, including authoritarianism, militarization, regional secessionism, corruption, and socioeconomic inequality.⁹⁷ According to Patrick J. Keenan, “[E]vidence of the association

⁹¹ Victoriano Cáceres, *Reunión de Trabajo Sobre las Situación de la Titulación de Comunidades Campesinas y Nativas del Perú*, ORGANISMO DE FORMALIZACIÓN DE LA PROPIEDAD INFORMAL 12 (Aug. 2010) (on file with N.Y.U. ENVT. L. J.).

⁹² *Id.* at 14.

⁹³ See Emeka Duruigbo, *Permanent Sovereignty and Peoples' Ownership of Natural Resources in International Law*, 38 GEO. WASH. INT'L L. REV. 33, 33 (2006).

⁹⁴ See Duruigbo, *supra* note 21, at 423.

⁹⁵ COLLIER, *supra* note 1, at 37.

⁹⁶ Garvin Bridge, *Past Peak Oil: Political Economy of Energy Crises*, in GLOBAL POLITICAL ECOLOGY 305, 316 (Richard Peet, Paul Robbins & Michael J. Watts eds., 2011) (“An oil well represents a discrete, molecular point of access rather than a contiguous territorial claim. Compared to the expansive spaces of forestry or agriculture, for example—where production and the generation of value is diffused across borders—the extraction of oil occupies a point in space rather than a laminar, extensive presence.”).

⁹⁷ See Javier Arellano-Yanguas, *Aggravating the Resource Curse: Decentralisation, Mining and Conflict in Peru*, 47 J. DEV. STUD. 617 (2011).

between resource wealth and civil conflict is compelling and appears robust across a number of contexts.”⁹⁸ Declining standards of democracy and perpetuation of authoritarian regimes are also associated with natural resources exploitation.⁹⁹ Scholars coined the phrase “resource curse” to describe the inverse relationship between endowment with natural resources and social ills.¹⁰⁰

According to the extant literature, the resource curse stems from factors connected to the exploitation of natural resources:¹⁰¹ the detachment of the extractive activities from other sectors of the economy (or “enclave development”);¹⁰² currency appreciation

⁹⁸ Patrick J. Keenan, *Curse or Cure? China, Africa, and the Effects of Unconditioned Wealth*, 27 BERKELEY J. INT’L L. 84, 107 (2009). See also Jonathan DiJohn, *Mineral Resource Abundance and Violent Political Conflict: A Critical Assessment of the Rentier State Model 5* (Crisis States Programme Working Papers Series No. 1, Working Paper No. 20, 2002).

⁹⁹ See, e.g., Keenan, *supra* note 98, at 105 (claiming that “there is increasing evidence that resource wealth can contribute to a weakening of democratic institutions”); Paul Collier, *Laws and Codes for the Resource Curse*, 11 YALE HUM. RTS. & DEV. L.J. 9, 11–14 (2008) (arguing that “elections can be introduced rapidly in any society because they are brief events, and the incentives for parties to participate are strong. In contrast, effective checks and balances are continuous processes, and since their purpose is to limit power, the powerful have little incentive to build them. An implication of this is that the wave of democratization has not yet improved governance to the level at which the incentives of decision-makers would be aligned with the interests of citizens”). On a contrary posture, see generally Stephen Haber & Victor Menaldo, *Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse*, 105 AM. POL. SCI. REV. 1 (2011) (stressing that oil and mineral reliance does not promote dictatorship over the long run).

¹⁰⁰ Marcia Langton & Odette Mazel, *Poverty in the Midst of Plenty: Aboriginal People, the “Resource Curse” and Australia’s Mining Boom*, 26 J. ENERGY NAT. RESOURCES L. 31 (2008). For a skeptical approach to the “resource curse”, see, for example, William Ascher, *The “Resource Curse”*, in INTERNATIONAL AND COMPARATIVE MINERAL LAW AND POLICY, *supra* note 44, at 569, 569, 586 (arguing that policy and management reforms can help developing countries avoid the resource curse).

¹⁰¹ See, e.g., MACARTAN HUMPHREYS, JEFFREY D. SACHS & JOSEPH E. STIGLITZ, *ESCAPING THE RESOURCE CURSE* 4 (Macartan Humphreys, Jeffrey D. Sachs & Joseph E. Stiglitz eds., 2007).

¹⁰² See, e.g., Richard Auty, *Mining Enclave to Economic Catalyst: Large Mineral Projects in Developing Countries*, 13 BROWN J. WORLD AFF. 135, 136 (2006) (arguing that mining projects often mean large investments concentrated in a specific area, for a finite period of time, employing small and skilled workforce). The revenue flow from mining activities can be limited to the return on capital and the taxation of this return. Since other economic impacts derived from local purchase of mining inputs, further processing of the mineral, and expenditures by works are less significant. Consequently, the overall economic impact of mining is narrowly channeled and also acutely sensitive to the manner

due to resource revenues and its negative effect on the competitive position of other industries (or the “Dutch disease”); increases in state borrowing using future resource revenues as collateral; the asymmetries between the government controlling exploitation and the private sector making the investments; and overconsumption of the resource. Others posit that higher levels of corruption¹⁰³ and rent-seeking behavior,¹⁰⁴ together with weak and unstable governmental institutions,¹⁰⁵ explain the curse.

Recently the resource curse literature has been subject to criticism.¹⁰⁶ While it is true that possession of oil, natural gas, and

in which the government deploys the tax revenue. *Id.* See also HUMPHREYS ET. AL., *supra* note 101, at 4 (claiming that the generation of natural resource wealth can occur independently of other economic processes, such as linkages to other industrial sectors, and can take place without the participation of large segments of the domestic workforce given that mineral resources need to be only extracted, not produced).

¹⁰³ See Andrew P. Morris, Roger E. Meiners & Andrew Dorchak, *Homesteading Rock: A Defense of Free Access under the General Mining Law of 1872*, 34 ENVTL. L. 745 (2004) (“[W]here there is discretion there is potential for corruption and the appearance of corruption; where there are valuable resources to be allocated through discretion, rent-seeking behavior is likely to lead to corruption.”).

¹⁰⁴ See HUMPHREYS ET. AL., *supra* note 101, at 4 (“This concept describes the situation whereby the private sector and politicians have incentives to use political mechanisms to ‘capture’ the economic rent derived from the gap between the value of natural resources and the costs of extracting it. Resource-rich countries are thus more susceptible to rent-seeking than advanced industrialized states.”).

¹⁰⁵ For some scholars, the quality of institutions determines which countries experience good performance. See, e.g., Jeffrey A. Frankel, *The Natural Resource Curse: A Survey* 15 (Nat’l Bureau of Econ. Research, Working Paper No. 15836, 2010) (“[W]eak institutions lead to inequality, intermittent dictatorship, and lack of any constraints to prevent elites and politicians from plundering the country.”); Halvo Mehlum, Karl Moene & Ragmar Torvik, *Institutions and the Resource Curse*, 116 THE ECON. J. 1 (2006) (showing that the variance of growth performing among resource-rich countries is primarily due to how resource rents are distributed via the institutional arrangements, so that resource curse only appears in countries with inferior institutions); see also Keenan, *supra* note 98 (suggesting that resource revenues tend to strengthen autocratic regimes and delay or prevent transitions to democracy that might otherwise be expected); COLLIER, *supra* note 1, at 46, 65 (“The resource curse is confined to countries with weak governance,” and “the endowment of natural assets has ambiguous effects, which depend upon the initial prevailing level of governance.”).

¹⁰⁶ See, e.g., COLLIER, *supra* note 99, at 11–12 (“The resource curse is evident from particular situations, such as Nigeria since the discovery of oil [Yet] counterexamples to Nigeria, such as the rapid growth of Botswana since the discovery of diamonds, demonstrate that the resource curse is not

minerals does not necessarily confer economic success, it does not follow that natural wealth must lead to inferior economic or political development.¹⁰⁷ The resource curse is not a categorical rule that resource-rich countries are doomed to failure.¹⁰⁸ Natural endowment should be viewed as a double-edged sword with both benefits and dangers,¹⁰⁹ leading to success in some cases and failure in others. Blaming resource wealth for poverty “is like blaming a treasure for the existence of pirates.”¹¹⁰

Botswana, Chile, and Norway are mentioned by the literature as successful resource blessed countries.¹¹¹ Why is Peru not in that list? That may be because its success is recent. In the past decade, Peru has enjoyed sustained economic growth, increasing GDP per capita, positive balance of payments, low inflation, small deficits, increasing international reserves, and growing foreign direct investment.¹¹² These figures illustrate an economic miracle. The mining industry has played a significant role in this economic boom and has helped transform the profile of the country.

inevitable.”); *see generally* Langton & Mazel, *supra* note 100, at 31–32 (noting the existence of “growth winners” that defy the resource curse).

¹⁰⁷ *See* Frankel, *supra* note 105, at 3–4.

¹⁰⁸ *See id.* at 4.

¹⁰⁹ *See id.*

¹¹⁰ Charles Kenny, *What Resource Curse?*, FOREIGN POL’Y (Dec. 6, 2010), http://www.foreignpolicy.com/articles/2010/12/06/what_resource_curse?page=0,1.

¹¹¹ Paul Stevens, *Resource Impact: A Curse or a Blessing?* 4–5 (Ctr. for Energy, Petroleum and Mineral Law and Policy, University of Dundee, Working Paper, 2003), *available at* http://www.dundee.ac.uk/cepmlp/journal/html/Vol14/Vol14_1.pdf.

¹¹² *See infra* Figures 2, 3. Peru’s GDP tripled between 2000 and 2011. *See MEF: Producto Bruto Interno del Perú se Triplicó en los Últimos Once Años*, EL COMERCIO (Feb. 24, 2012), <http://elcomercio.pe/economia/1378769/noticia-mef-producto-bruto-interno-peru-se-triplico-ultimos-once-anos>.

Figure 2: Economic Growth 2000-2011¹¹³

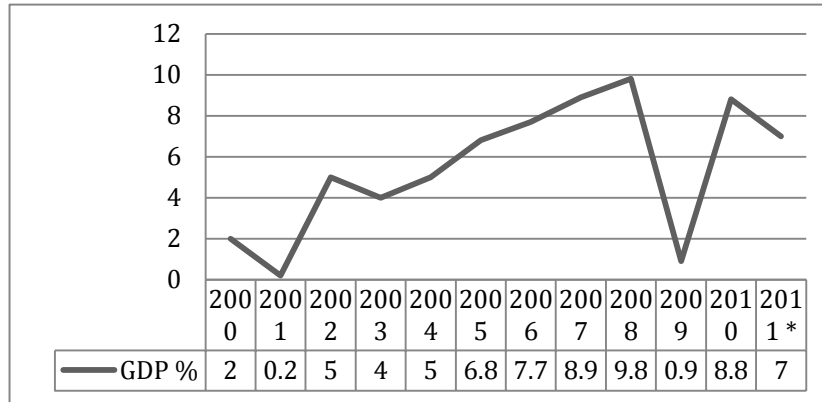
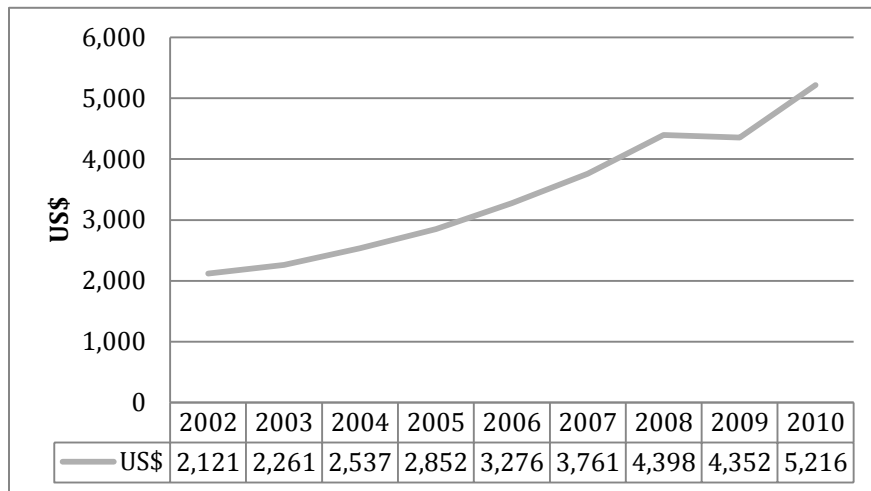


Figure 3: GDP per Capita 2002-2010¹¹⁴



A social transformation has also taken place. Monetary poverty has decreased significantly: it fell from 54.8% in 2001 to 31.3% in 2010.¹¹⁵ Urban poverty has been reduced by half from

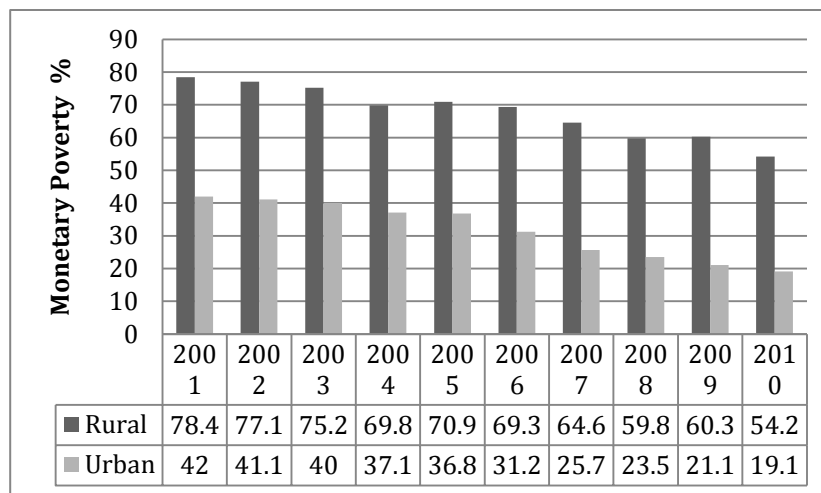
113 *Peru Data*, WORLD BANK, <http://data.worldbank.org/country/peru> (last visited Dec. 26, 2012) (graphic representation by author).

114 *Id.*

115 *Peru Data*, WORLD BANK, <http://data.worldbank.org/country/peru> (last visited Dec. 26 2012).

42% in 2001 to 19.1% in 2010; rural poverty fell from 78.4% to 54.2% within that same period.¹¹⁶ Subjective measurements of poverty have also improved: while in 2005 74% of households regarded themselves as poor, in 2009 this rate dropped to 44%.¹¹⁷ In addition, Peru has experienced some improvements in human development indicators: it now ranks sixty-third in the 2010 Human Development Index (HDI).¹¹⁸ Mining regions in particular show improved rates for children's nutrition, literacy, and electrification as compared with non-mining regions.¹¹⁹

Figure 4: Monetary Poverty 2001-2010¹²⁰



116 See *infra* Figure 4; Aníbal Sánchez Aguilar, *Evolución de la Pobreza en el Perú al 2010*, INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA 18, 22 (May 18, 2011), http://www.inei.gob.pe/documentosPublicos/Pobreza2010/Presentacion18_Mayo_2011.pdf.

117 Carolina Trivelli, *Las Caras de la Pobreza: Los Pobres Siguen Siendo Pobres*, in OXFAM: POBREZA, DESIGUALDAD Y DESARROLLO EN EL PERÚ 28, 31 (Milagros Salazar ed., 2010), available at http://www.oxfam.org/sites/www.oxfam.org/files/memoria_final_peru.pdf [hereinafter OXFAM].

118 U.N. DEV. PROGRAM, HUMAN DEVELOPMENT REPORT 2010: THE REAL WEALTH OF NATIONS 144 (2010), available at http://hdr.undp.org/en/media/HDR_2010_EN_Complete_reprint.pdf.

119 SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, IMPACTO ECONÓMICO DE LA ACTIVIDAD MINERA EN EL PERÚ 58 (2008), available at <http://www.snmpe.org.pe/pdfs/LibroMacroconsult.pdf>.

120 *Peru en Cifras*, INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA, <http://www.inei.gob.pe/> (last visited Dec. 26, 2012) (graphic representation by author).

In light of a decade of economic success, Peru does not appear to be among the resource cursed countries. But while natural resources have been transformative, the country faces serious challenges before it can be included in the list of resource blessed nations. As Javier Arellano-Yanguas claims, “Despite the Peruvian government’s compliance with orthodox economic and political prescriptions, the problems of persistent poverty, increasing mining-based economy, and conflict reveal that Peru faces serious political challenges related to mineral exploitation.”¹²¹

First, social inequality characterizes the nation. Inhabitants of the rural areas of the Andes, particularly indigenous peoples, are likely to be poor. In the Cajamarca Region 49.1% of the population is poor in spite of its being the largest gold producing region and host to the largest gold mine in Latin America. Poverty levels are high in other mining regions such as Pasco (43.6%) and Puno (56%). This shows that the wealth accompanying the extraction of natural resources does not mean egalitarian development.

Second, Peru lacks solid institutions and democratic checks and balances. Indeed, it is characterized by political instability and unrepresentative authorities.¹²² Only fifteen percent of Peruvians believe that their political representatives actually govern for the benefit of the people, and eighteen percent believe that democracy ensures wealth distribution in society.¹²³ Mineral rents are easily captured by politicians, individuals, and corporations, rather than generally benefiting the larger population. The windfall of mineral rents has exacerbated the contests for their capture and created pressure to expand state expenditure and bureaucracy.¹²⁴ Countries with good levels of governance prior to commodity booms tend to succeed.¹²⁵ In the Peruvian case, the windfall of mineral rents preceded the implementation of solid institutions,¹²⁶ hence the

121 Arellano-Yanguas, *supra* note 4, at 11.

122 *Id.* at 15.

123 Nelson Manrique, *Más Allá de las Anforas: Democracia No Solo en el Voto Sino para Garantizar los Derechos de la Vida Cotidiana*, in OXFAM, *supra* note 117, at 38, 41.

124 See Keenan, *supra* note 98, at 113.

125 See COLLIER, *supra* note 1, at 64–65. See also *supra* note 105.

126 See Bebbington & Bury, *supra* note 83, at 17301 (“The Peruvian case speaks to key hypotheses on institutions and sustainability. It suggests that, when

ambiguous effects of mineral rents in the country.

Finally, the incidence of social conflict has multiplied in the past few years. The rising conflicts over lands and mineral rents pose a significant threat to the future of the mining industry¹²⁷ and represent a new generation of investment risk.¹²⁸ I will unpack this key factor next.

B. *Increasing Social Unrest*

Social conflicts¹²⁹ have increased noticeably. While they are not new phenomena in Peru, since 2006 social conflicts have intensified in frequency and gravity, depicting a climate of growing impatience and disregard for peaceful channels to address social demands.¹³⁰ There have been violent clashes with the police

resource based growth precedes institutional innovation, serious sustainability problems will emerge.”).

¹²⁷ See Arellano-Yanguas, *supra* note 97, at 620.

¹²⁸ George S. Akpan, *Host Community Hostility to Mining Projects*, in INTERNATIONAL AND COMPARATIVE MINERAL LAW AND POLICY, *supra* note 44, at 311, 313–314 (“The new generation of risk [to mining projects] . . . take[s] the form of actions or reactions by members of the host communities and their supporters to the operations of foreign investors that adversely impact their environment, human rights and general well-being. . . . Members of the host communities in which mining projects are located take actions that adversely affect the foreign investment or the contractual and other rights of the foreign investor. The actions of the host populations . . . [may] result in suspension of the operation of the investment, or may make the operation of the investment difficult or impossible, or may even result in a loss of the investment altogether. The fact that the adverse effect to the foreign investor results not from a sovereign act, but from the actions of members of the host communities and their supporters sets this new generation of risk apart from the traditional political risk.”) (footnotes omitted).

¹²⁹ According to the Ombudsman’s Office of the Republic of Perú, a social conflict may be characterized “as a public confrontation among actors that seek to influence the organization of social life,” and “[a]n essential element of this definition is the public character of the conflict.” The Ombudsman’s Office further notes that the consequences arising from said public character are twofold. On the one hand, norms, government and authority performance, the definition and implementation of public policies, and culture constitute the object of divergence. On the other hand, the public nature of conflict “refers to the scenario where collective actions that defy the social order take place. . . [and t]heir disruptive nature” requires state intervention. DEFENSORÍA DEL PUEBLO, ANTE TODO, EL DIÁLOGO 12 (2005), *available at* <http://www.defensoria.gob.pe/temas.php?des=3> (translation by author).

¹³⁰ See *generally id.* at 83 (arguing that even though “the State establishes norms, procedures, and mechanisms to channel” those controversies, “experience shows that those mechanisms are insufficient or inadequate to deal with complex conflicts”) (translation by author).

leaving civilians and public servants dead or injured,¹³¹ destruction of public and private property, and halted investment projects.¹³²

Mining conflicts can be “all-or-nothing” conflicts.¹³³ That is to say, where mining projects face “social license” obstacles to start up, expand, or continue operations, surrounding communities reject the presence of mining activities within their lands and the operators are unable to proceed. The latest example is the cancellation by the government of the US\$1 billion Tia Maria project in April 2011 due to social unrest.¹³⁴ Tia Maria is located in Islay, in the Arequipa Region, and is owned by a Mexican company, Southern Peru Copper Corporation. The project would have created 3000 jobs during the construction phase, 600 during operation phase, and generated mineral rents of US\$140 million to the Arequipa Region. However, the Ministry of Energy and Mines of Peru cancelled the evaluation of the EIA submitted by the company due to social protests. The government alleged flaws in the EIA to justify its decision. What is more, the government passed a thirty-six month moratorium on new mining leases within Puno jurisdiction as an ancillary measure.¹³⁵

Since 2004 the Ombudsman’s Office has prepared monthly reports of social conflicts.¹³⁶ These reports corroborate the upward trend in social unrest.¹³⁷ Most conflicts relate to “control, access

131 Eighty-eight people have died over the past four years due to social unrest in Peru. *Defensoría ante Conflictos Sociales: “No Podemos Esperar que Haya Muertes”*, EL COMERCIO (June 23, 2011), <http://elcomercio.pe/politica/802244/noticia-estado-espera-que-haya-muertos-resolver-conflictos-sociales-afirmo-defensor-pueblo>.

132 According to a recent report, social conflicts may compromise up to US\$9 billion in mining projects. *Peligra Inversión por US\$9,000 Millones*, PERU21.PE (July 17, 2011), <http://peru21.pe/noticia/887287/peligra-inversion-us9000-millones>.

133 Arellano-Yanguas, *supra* note 97, at 629.

134 See, e.g., Press Release, Ministerio de Energía y Minas, MEM Declara Inadmisibile EIA del Proyecto Tia María en Islay (April 8, 2011), available at <http://www.minem.gob.pe/descripcion.php?idSector=4&idTitular=3275>. See generally *Tia María Generará Importante mpacto Social y Económico en Provincia de Islay*, SOUTHERN COPPER, http://www.southernperu.com/ESP/opinte/Notas%20de%20Prensa%20Tia%20Maria/tm150311_7.pdf (last visited Jan. 24, 2012).

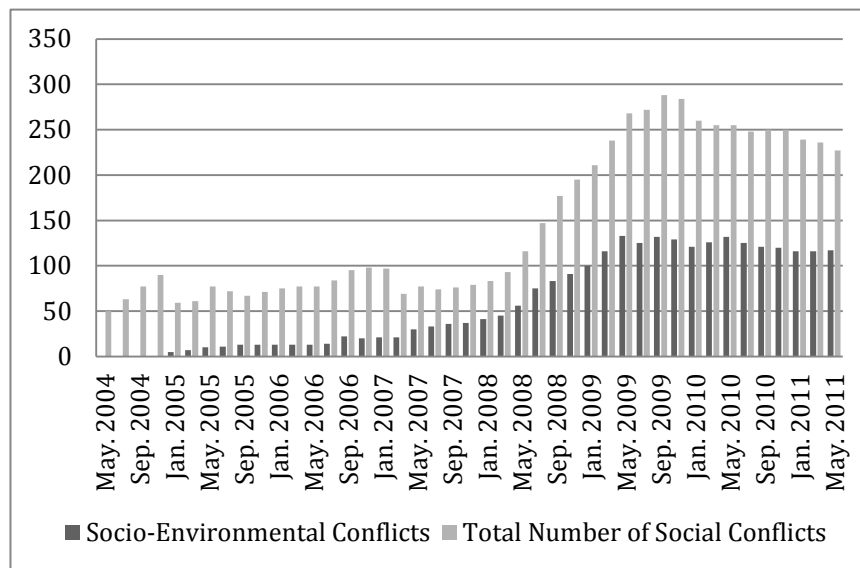
135 See D.S. No. 033-2011-EM, 25 junio 2011 (Peru).

136 See DEFENSORÍA DEL PUEBLO, SOCIAL CONFLICTS REPORTS 2004-2012, available at <http://www.defensoria.gob.pe/temas.php?des=3>.

137 See *infra* Figure 5.

and use of natural resources and the environment” (referred to as “socio-environmental” conflicts in the Ombudsman’s reports).¹³⁸ Socio-environmental conflicts rose from 5 in January 2005 to 117 in May 2011, though the peak was May 2009 when 133 conflicts were identified.¹³⁹ These figures corroborate that current levels of social unrest, especially of socio-environmental conflicts, are unprecedented, though they seem to have stabilized for the past two years.

Figure 5: Number of Social Conflicts May 2004-May 2011¹⁴⁰



The Ombudsman’s reports distinguish between active and dormant social conflicts. Approximately 67% of the active conflicts flagged in May 2011¹⁴¹ are classified by the Ombudsman’s Office as socio-environmental controversies,¹⁴²

¹³⁸ See *Glosario*, DEFENSORÍA DEL PUEBLO, <http://www.defensoria.gob.pe/conflictos-sociales/glosario.php?pag=2> (last visited Dec. 26, 2012).

¹³⁹ See *infra* Figure 5.

¹⁴⁰ DEFENSORÍA DEL PUEBLO, SOCIAL CONFLICTS REPORTS 2004-2011, *supra* note 136 (graphic representation by author).

¹⁴¹ See DEFENSORÍA DEL PUEBLO, SOCIAL CONFLICTS REPORT NO. 87 (2011), available at http://www.defensoria.gob.pe/conflictos-sociales/objetos/paginas/6/44reporte_87.pdf.

¹⁴² The Prime Minister’s Office reports sixty-eight socio-environmental

10% relate to national government controversies, and 7% to local government controversies. Out of all socio-environmental controversies, 60% are related to “formal” (legal) mining activities, 16% to oil and gas, 9% to “informal” (illegal) mining activities, and less than 4% to electric power, agriculture, port, waste management, and logging activities.¹⁴³ Given the mining scope of this article, next I focus on socio-environmental conflicts pertaining to formal mining activities based on the Ombudsman’s May 2011 report.

Most mining conflicts involve indigenous peoples’ claims (79%); only 21% correspond to non-indigenous local communities.¹⁴⁴ According to the description offered by the Ombudsman’s Office, 36% of mining conflicts are related to fear of pollution, 15% to social demands, 12% to unauthorized use of surface lands, 10% to fear of water scarcity, and 9% to actual or potential damage to property.¹⁴⁵ Other reasons, such as fear of displacement of local activities, illegal issuance of mining title, or protection of archaeological sites, have less than 3% each.¹⁴⁶ Most mining conflicts are directed to extractive companies (83%), while only 15% to the government.¹⁴⁷ With regard to their timing, 63% of mining conflicts are related to ongoing activities, while 28% correspond to exploration or new projects. Ancash (16%) and Cajamarca (16%) have the most conflicts, followed by Puno (12%) and Huancavelica (9%).¹⁴⁸

conflicts in May 2011, that is, seventy percent of the total number of conflicts during that month. PRESIDENCIA DEL CONSEJO DE MINISTROS: OFICINA DE GESTIÓN DE CONFLICTOS SOCIALES, CONFLICTOS SOCIALES CLASIFICADO POR SU NATURALEZA (2011) *available at* <http://www.pcm.gob.pe/InformacionGral/ogcs/Confl%20May11.pdf>.

¹⁴³ DEFENSORÍA DEL PUEBLO, *supra* note 141, at 44 (graphic representation by author).

¹⁴⁴ *Id.*

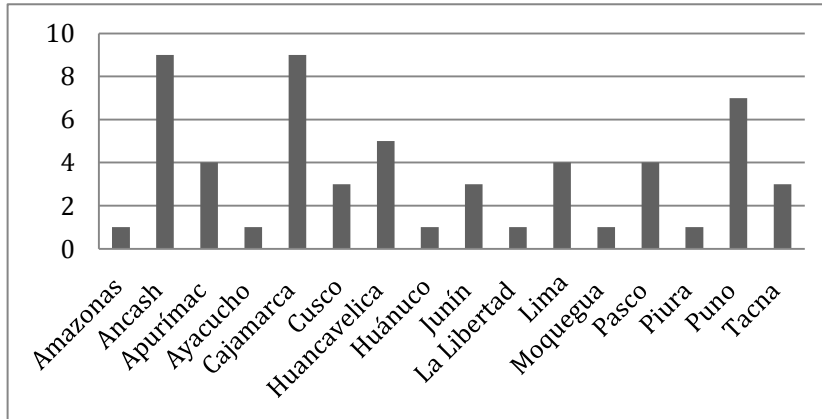
¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *See infra* Figure 6; DEFENSORÍA DEL PUEBLO, *supra* note 141.

Figure 6: Total Number of Mining Conflicts by Region in May 2011¹⁴⁹



The data from May 2011 indicate that (i) most mining conflicts involve clashes between indigenous peoples and mining companies; (ii) the alleged factors that trigger violence tend to be fear of pollution, social demands, and unauthorized use of lands; (iii) the majority of mining conflicts are related to ongoing mining operations; and (iv) Ancash, Cajamarca, and Puno present the highest rates of mining conflicts. Social discontent in these mining regions is further evidenced by the overwhelming support that the new left-wing government, led by Ollanta Humala and characterized by a nationalistic political discourse, received during the April and June 2011 presidential elections.¹⁵⁰

¹⁴⁹ DEFENSORÍA DEL PUEBLO, *supra* note 141 (graphic representation by author).

¹⁵⁰ President Ollanta Humala obtained 30.8% of the vote in Ancash, 31.5% in Cajamarca, and 60.7% in Puno during the first round in April 2011, while he obtained 56% in Ancash, 52.5% in Cajamarca, and 77.6% in Puno during the second round in June 2011. For full elections results, see *Elecciones*, OFICINA NACIONAL DE PROCESOS ELECTORALES, <http://www.web.onpe.gob.pe/elecciones.html> (last visited Dec. 26, 2012). See also Dan Collyns, *Peru Election: Is Ollanta Humala the Great Transformer?*, BBC NEWS (June 7, 2011), <http://www.bbc.co.uk/news/world-latin-america-13680272> (claiming that President Humala's message "seems to have resonated with the one-in-three Peruvians who live in poverty and feel excluded from the country's economic boom").

C. *The Causes of Social Unrest*

There is no single cause that explains social unrest in mining regions of Peru. Thus there is likely no silver bullet to solve it, as I will show in Part IV. The extant literature has identified a series of factors that trigger social unrest in the country. Next I explore these findings,¹⁵¹ using examples taken from the May 2011 Ombudsman's Office report, where applicable.

1. *Cultural Factor*

The lack of trust between local communities and mining companies has historical depth. During the colonial era, the Spanish colonizers implemented the *mita* or compulsory work scheme in the mines, resulting in the exploitation of indigenous peoples. The *mita* required indigenous villages to provide one-seventh of their adult male population as rotating laborers to the Potosí and Huancavelica mines.¹⁵² The effect of mining activities is still alive in the Andean culture, as manifested in their music, poetry, and dance. This is why contemporary mining is said to have inherited the negative perception that it exploits indigenous peoples and loots the natural wealth of the country, as the Spaniards did.¹⁵³

¹⁵¹ This Section is adapted from Jorge Recharte, Adriana Delgado & Inés Olivera, *La Dimensión Social de la Minería en el Perú*, 53 *ECONOMÍA Y SOCIEDAD* 64 (2004), available at <http://www.gestiopolis.com/canales5/eco/consorcio/eys53/archivos/53-analisis-del-sector-de-minas-y-energia-en-el-peru.pdf>; WORLD BANK, WEALTH AND SUSTAINABILITY: THE ENVIRONMENTAL AND SOCIAL DIMENSIONS OF THE MINING SECTOR IN PERU 17–18 (2005); DEFENSORÍA DEL PUEBLO, INFORME EXTRAORDINARIO: LOS CONFLICTOS SOCIOAMBIENTALES POR ACTIVIDADES EXTRACTIVAS EN EL PERÚ (2007), available at <http://sinia.minam.gob.pe/index.php?idElementoInformacion=381&idformula=&idTipoElemento=>; DEFENSORÍA DEL PUEBLO, *supra* note 141; Jeffrey Bury, *Mining Mountains: Neoliberalism, Land Tenure, Livelihoods, and the New Peruvian Mining Industry in Cajamarca*, 37 *ENV'T & PLAN. A* 221, 231 (2005); and Gustavo Arturo Zambrano Chavez, *Ongoing Corporate Social Responsibility Through Dialogue with Stakeholders: A Study Case* (June 2009) (unpublished M.A. thesis, Linköpings Universitet, Sweden), available at <http://liu.diva-portal.org/smash/get/diva2:224637/FULLTEXT01>. See also ISABELLA MUNILLA, PEOPLE, POWER, AND PIPELINES: LESSONS FROM PERU IN THE GOVERNANCE OF GAS PRODUCTION REVENUES (2010), available at <http://www.oxfamamerica.org/files/oxfam-america-camisea-report-lowres.pdf>.

¹⁵² See, e.g., Melissa Dell, *The Persistent Effects of Peru's Mining Mita*, 78 *ECONOMETRICA* 1863 (2010).

¹⁵³ See WORLD BANK, *supra* note 151, at 17–18; Bebbington & Bury, *supra* note 83, at 17,298.

2. *Fear of Pollution*

There is a general perception that mining is a highly polluting activity¹⁵⁴ that especially affects water sources.¹⁵⁵ Local communities see mining as incompatible with agriculture and grazing,¹⁵⁶ even in the case of sophisticated mining operations with high standards of environmental compliance.¹⁵⁷ This negative perception is due in part to the legacy of abandoned mining infrastructure¹⁵⁸ that is visible throughout the Andes.¹⁵⁹ In areas without historical mining activities, the negative view toward mining can be explained by the lack of clear communication between mining projects and local communities regarding the environmental impact of the envisaged activities.¹⁶⁰

Discussions of environmental issues are usually technical, complex, and hard to transmit, all of which create uncertainty and anxiety in the population, especially in the absence of strong and independent agencies.¹⁶¹ Globalization and improved

¹⁵⁴ See generally WORLD BANK, *supra* note 151, at 110; Arellano-Yanguas, *supra* note 4, at 25; DEFENSORÍA DEL PUEBLO, *supra* note 141, at 39–41 (reporting that all mining conflicts identified in the Puno Region relate to fear of pollution).

¹⁵⁵ For example, the civil society of the Tacna Region rejected Minsur's Pucamarca Project because it could pollute water resources. Also, the Jilatamarca peasant community, in the Puno Region, demands the halt of operations of Minera Aruntani due to the "possible pollution" of the Surani lagoon. See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 40, 43.

¹⁵⁶ For example, the Ticaco peasant community, in the Tacna Region, alleges that the mining activities envisaged by Newmont are incompatible with agriculture and pose a threat to the water quality. See *id.* at 42.

¹⁵⁷ See Recharte, Delgado & Olivera, *supra* note 151, at 68.

¹⁵⁸ According to the Ministry of Energy and Mines, there are 6847 environmental liabilities in the country (*pasivos ambientales mineros*), including abandoned pitheads, open pits, deposits, and mining tailings. See *Tienen 6,847 Pasivos Ambientales Mineros a Nivel Nacional, Según Inventario Actualizado del MEM*, MINISTERIO DE ENERGÍA Y MINAS (Aug. 17, 2011), <http://www.minem.gob.pe/descripcion.php?idSector=1&idTitular=3753>.

¹⁵⁹ For example, the Michiquillay peasant community, in the Cajamarca Region, requested the reclamation of abandoned environmental impacts left by a state-owned company. Also, the Sallcca Santa Ana peasant community in the Huancavelica Region demanded compensation from Minera San Genaro-Castrovireyna for the environmental impacts generated by its failure to reclaim mining operations. See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 19, 23–24.

¹⁶⁰ For example, the Tiaparo peasant community in the Apurimac Region asked Southern Peru Copper Corporation to provide more information on the exploration activities they conduct within their lands. See *id.* at 12.

¹⁶¹ See, e.g., Bebbington & Bury, *supra* note 83, at 17,300.

communications have facilitated the exchange of information and experiences among local communities. Peasant communities know about the Choropampa mercury spill that took place in Cajamarca in 2000,¹⁶² so associations between ongoing mining activities and environmental ills seem inevitable.¹⁶³

Nonetheless, “[the] environment is no longer exclusively related to pollution, management of natural resources or biodiversity. The term has been opened up to include dignity and justice, popular control over territory, respect for human rights and sustainable development as essential elements.”¹⁶⁴ Indeed, the mining environment is a “mental landscape, a social terrain, and an ideological map.”¹⁶⁵ In some cases, local communities can use environmental mobilization as an excuse to negotiate better deals with mining companies.¹⁶⁶ Evidence of this is found in the generic allegations of pollution (“irrational use of water,” “possible pollution of rivers,” etc.)¹⁶⁷ and local communities’ lenient standards when it comes to neighboring informal mining undertakings.

3. *Unfulfilled Expectations for Employment and Benefits*¹⁶⁸

Most mining activities take place in remote and economically depressed areas characterized by unemployment, social exclusion,

¹⁶² See Recharte, Delgado & Olivera, *supra* note 151, at 68; CHOROPAMPA: THE PRICE OF GOLD (Ernesto Cabello & Stephanie Boyd 2002), available at <http://www.youtube.com/watch?v=dW7zn0SbrV4>.

¹⁶³ See *id.* For example, the Ocuwiri’s peasant community in the Puno Region accuses Minera Arasi of polluting the river and thus causing the death of fish. Also, the Lauricocha peasant community in the Huanuco Region alleges that Minera Raura is responsible for the presence of lead in blood among members of the community. See DEFENSORÍA DEL PUEBLO, *supra* note 141.

¹⁶⁴ Arellano-Yanguas, *supra* note 4, at 26.

¹⁶⁵ Gavin Bridge, *Contested Terrain: Mining and the Environment*, 29 ANN. REV. ENV’T & RESOURCES 205, 241 (2004) (quoting ROSALIND H. WILLIAMS, NOTES ON THE UNDERGROUND: AN ESSAY ON TECHNOLOGY, SOCIETY, AND THE IMAGINATION (1990)).

¹⁶⁶ Arellano-Yanguas, *supra* note 4, at 25 (“Social movements around mining use an environmental discourse to frame their claims and to gain legitimacy.”).

¹⁶⁷ For example, the Ayash Pichiu and Santa Cruz Pichui peasant communities in the Ancash Region claim that Antamina is polluting the environment, but at the same time they demand an agreement “to receive the support of the company for social programs.” See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 9–10.

¹⁶⁸ See, e.g., Recharte, Delgado & Olivera, *supra* note 151; see also WORLD BANK, *supra* note 151, at 105.

poor education levels, and weak government presence, and are inhabited by cultural and racial minorities.¹⁶⁹ Local communities have high expectations for incoming mining activities in terms of new jobs and access to public infrastructure.¹⁷⁰ In many cases, the company is responsible for spreading this hope because it claims that megaprojects will transform local economic conditions. Naturally, local residents are disappointed when they realize that mining activities employ relatively small workforces¹⁷¹ and that the products and services they demand at the local level are limited.¹⁷² Other problems related to social demands are due to (i) the lag of time between the start of mining operations and the generation of revenue that can benefit the population; (ii) the view that communities should be entitled to more benefits if there is a windfall;¹⁷³ and (iii) mismanagement of social demands, including arrogance and mistreatment of the population.

Mining companies have invested large sums to fulfill local demands by financing the construction of roads, sports arenas, electrification projects, provision of books, etc. However, these are generally isolated, informal compensations that do not create a sustainable or long-lasting impact on communities, such as capacity building or self-employment opportunities. The lack of programs perceived as continuing social compensation plans thus fosters tension.

¹⁶⁹ See, e.g., Anthony Bebbington et al., *Mining and Social Movements: Struggles over Livelihood and Rural Territorial Development in the Andes*, 36 *WORLD DEV.* 2888, 2889 (2008).

¹⁷⁰ See Arellano-Yanguas, *supra* note 4, at 25 (“Official discourse on the strategic importance of mineral wealth raises popular expectations and generates incentives for poor people to demand their share.”). For example, the Hualgayoc local community in the Cajamarca Region demanded that Minera Gold Fields supply them with water and electricity. See *DEFENSORÍA DEL PUEBLO*, *supra* note 141, at 22.

¹⁷¹ For example, the Chalhahuacho peasant community in the Apurímac Region organized a barricade against Xtrata Las Bambas to demand more jobs for their community. See *DEFENSORÍA DEL PUEBLO*, *supra* note 141, at 16.

¹⁷² For example, the El Tingo peasant community, in the Cajamarca Region, demanded that Cia. Minera Coimolache prioritize contracts with local companies. See *DEFENSORÍA DEL PUEBLO*, *supra* note 141, at 22.

¹⁷³ For example, the Pachangara peasant community in Lima requested that Minera Los Quenuales modify the agreement already in place and include new terms. See *DEFENSORÍA DEL PUEBLO*, *supra* note 141, at 34.

4. *Lack of Negotiation and Management Capabilities*

Local actors lack negotiation and management capabilities to deal with their sophisticated counterparts. This asymmetry leads to poor agreements and fuels accusations of fraud, deceit, and abuse in land transactions involving mining companies. It creates room for confrontational attitudes and “all-or-nothing” type of discourses. Local leaders perceive that they are not acknowledged by the government as having the same rights as mining companies.

5. *Internal Communal Problems*

Internal conflicts within communities weaken their bargaining position. Local leaders often lack legitimacy in their community.¹⁷⁴ When rents are seen as available, new groups demand to participate in the bargaining process as a whole. New leaders tend to disregard what previous leaders agreed to, including land transactions and social exactions.¹⁷⁵ Some communities even accuse mining companies of fostering internal divisions within the groups.¹⁷⁶

6. *Weak Institutions*

Regional and local governments are largely unprepared for the revenue windfall and lack the know-how, transparency, and accountability to handle such resources.¹⁷⁷ Moreover, there is

¹⁷⁴ See, e.g., Recharte, Delgado & Olivera, *supra* note 151, at 69.

¹⁷⁵ For example, the Quiulacocha peasant community in the Pasco Region claims that the agreement entered into with Volcan Cia. Minera by the previous directive committee is invalid. See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 35.

¹⁷⁶ For example, the Iscahuaca peasant community in the Apurimac Region accused Minera Ares of promoting their internal division. See *id.* at 12–13.

¹⁷⁷ See, e.g., STAFF OF S. COMM. ON FOREIGN RELATIONS, 110TH CONG., THE PETROLEUM AND POVERTY PARADOX: ASSESSING U.S. AND INTERNATIONAL COMMUNITY EFFORTS TO FIGHT THE RESOURCE CURSE 69 (Comm. Print 2008), available at <http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110%5Fcong%5Fsenate%5Fcommittee%5Fprints&docid=f:44727.pdf> (“[L]ocal Peruvian Governments do not have the technical capacity to use these surplus funds effectively and the expectations of regular Peruvians regarding their Government are low. This is creating a degree of social conflict and an increasing sense of frustration among the Peruvian people who have not seen ground-level benefits of this economic windfall in the form of services, health, education or infrastructure to improve their everyday lives. This has resulted in a sense of distrust of both the mining companies as well as the national Government.”); Arellano-Yanguas, *supra* note 97, at 623 (“The field research suggested that subnational governments that enjoy large financial transfers use

usually little coordination among regional and local officials, so their actions are generally disconnected from national policies, resulting in “a patchwork of juxtaposed strategies without synergy.”¹⁷⁸ This is aggravated by short-term periods of government service (more than eighty percent of subnational government staff are replaced after every election)¹⁷⁹ and strict procedures for resource allocation imposed from Lima. There is a general view that public servants managing mineral rents are corrupt.¹⁸⁰

The national government has shown an inability to enforce environmental regulations at the local level. Environmental regulations tend to be lenient with regard to international standards and environmental monitoring is flawed due to the lack of resources. National officials tend to react belatedly, once conflicts have already escalated and usually travel to the affected areas with mining companies, giving the impression that law enforcement officials are biased.¹⁸¹ Given that communities lack the democratic mechanisms to channel their complaints and have no avenues for

them inefficiently.”); *c.f.* Arellano-Yanguas, *supra* note 4, at 33 (“Regional and local governments in the mining regions have to manage an unexpected and substantial amount of money for public investment. Four factors condition their performance: (a) the volatility of [mineral rents] transfers; (b) a lack of technical expertise to implement large and complex programmes; (c) legal requirements that impose strict procedures for resource allocation; (d) a growing pressure from mining companies and the central government to spend all the available financial resources quickly. Over the past year, the need to spend money quickly has turned out to be a major issue.”).

¹⁷⁸ Arellano-Yanguas, *supra* note 4, at 31.

¹⁷⁹ *Id.* at 32.

¹⁸⁰ Peru ranks seventy-eighth in the Corruption Perceptions Index 2010 prepared by Transparency International. *Corruption Perception Index 2010*, TRANSPARENCY INT’L, http://www.transparency.org/policy_research/surveys_indices/cpi/2010/results (last visited Dec. 27, 2012). Alarming, Peru’s General Comptroller Office reported that between January 2009 and July 2011 at least 10,000 public officials were involved in cases of corruption. *Detectan Diez Mil Funcionarios en Presuntos Actos de Corrupción*, RPP (Aug. 31, 2011, 9:20 PM), http://www.rpp.com.pe/2011-08-31-detectan-diez-mil-funcionarios-en-presuntos-actos-de-corrupcion-noticia_399598.html. Notwithstanding this, the Peruvian government has recently obtained the “complaint country” certification from the Extractive Industries Transparency Initiative (EITI), probably a landmark towards the long path to enhancing governance and transparency. *See Peru*, EXTRACTIVE INDUS. TRANSPARENCY INITIATIVE, <http://eiti.org/Peru> (last visited Dec. 27, 2012).

¹⁸¹ Similarly, the fact that mining companies can legally retain policemen to provide security to their installations is negatively perceived by the population.

redress, protest seems to be the only path to being heard.¹⁸²

7. *Consultation Mechanisms*¹⁸³

The consultation process prior and during the EIA phase is usually conceived to fulfill legal requirements only and not as a business tool that could help legitimize mining projects within local populations. In some cases, mining companies ignore the social and cultural norms of a community.¹⁸⁴

8. *Land Acquisition*

Land acquisition by mining companies creates tensions, misunderstandings, and conflicts.¹⁸⁵ Low prices paid for land in transactions and land evictions are two elements of this problem.¹⁸⁶ There are also cases of unresolved indigenous title to

182 See OFFICE OF SPECIAL RAPPORTEUR FOR FREEDOM OF EXPRESSION, INTER-AM. COMM’N H.R., ANNUAL REPORT 213, OEA/Ser.L/V/II.134, doc 5. (2009) (“[W]hen faced with institutional frameworks that do not favor participation, or in the face of serious barriers to access to more traditional forms of mass communication, public protest appears to be the only medium that really allows sectors of society traditionally discriminated against or marginalized from public debate to have their point of view heard and appreciated.”). Cf. Jose De Echave, *Industrias Extractivas a la Fuerza*, in OXFAM, *supra* note 117, at 106–108 (claiming that the reaction of the government to social violence has been to criminalize protest and prosecute social leaders).

183 Peru is currently facing the challenge of implementing the right to consultation established in the Convention on Indigenous and Tribal Peoples (ILO 169) and other human rights treaties. Several domestic judicial decisions have established that the formalistic public participation regulations concerning the issuance of natural resources exploitation rights do not fulfill ILO 169 standards. After a long debate, in August 2011 the Peruvian Congress passed the Law of Consultation which does not award indigenous peoples a right to veto. Currently, there are some discussions going on concerning that law’s scope and application. See, e.g., *Peru’s President Approves Indigenous Consultation Law*, BBC (Sept. 6, 2011, 8:08 PM), <http://www.bbc.co.uk/news/world-latin-america-14812506>.

184 See generally Recharte, Delgado & Olivera, *supra* note 151, at 66 (describing differences in expectations between mining companies and local communities).

185 Bury, *supra* note 151, at 231 (Bury claims that the mining sector has changed land tenure in mining regions for two reasons. First, transnational mining operations are accelerating the transformation of land-tenure institutions from communally managed, or informally negotiated, to private ownership. Second, the magnitude of transnational mining claims is transforming land values and leading to a “revalorization” of land-use resources and priorities).

186 See *id.* at 233 (noting that in the beginning of 1992, Minera Yanacocha began paying US\$80 per hectare, but prices had gone up 600% by 1996).

land (either due to the lack of title or boundary disputes)¹⁸⁷ making it harder for indigenous peoples to capture the value of their traditional lands.¹⁸⁸ Other conflicts stem from technical

187 For example, inhabitants of San Juan de Paucar, in the Pasco Region, demanded the recognition of their title to the lands where Minera Raura would be located. See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 35.

188 See generally THE MYSTERY OF CAPITAL OF INDIGENOUS PEOPLES OF THE AMAZON, (Inst. For Liberty & Democracy 2009), available at <http://www.youtube.com/watch?v=xdQeyeYHMtU>; Hernando de Soto, *The Peruvian Amazon Is Not Avatar*, CTR. FOR INT'L PRIVATE ENTER. (June 5, 2010), <http://www.cipe.org/regional/lac/pdf/The%20Peruvian%20Amazon%20is%20no%20Avatar.pdf>. See also Carol Rose, *Invasions, Innovation, Environment*, in HERNANDO DE SOTO AND PROPERTY IN A MARKET ECONOMY 21 (D. Benjamin Barros ed., 2010); Ezra Rosser, *Anticipating de Soto: Allotment of Indian Reservations and the Dangers of Land-Titling*, in HERNANDO DE SOTO AND PROPERTY IN A MARKET ECONOMY 61 (D. Benjamin Barros ed., 2010); Thomas Thornton, *Alaska Native Corporations and Subsistence: Paradoxical Forces in the Making of Sustainable Communities*, in SUSTAINABILITY AND COMMUNITIES OF PLACE (Carl A. Maida ed., 2007). In the documentary *The Mystery of Capital of Indigenous Peoples of the Amazon*, Peruvian economist Hernando de Soto posits that the legal recognition of indigenous territories “is the central problem from which all others flow.” He claims that indigenous peoples should benefit from their lands and extract from it its maximum value. De Soto’s main thesis is that “the only way of indigenous peoples of defending their culture and their land in the twenty-first century is with economic power. And economic power only comes with business and property rights.” His argument is twofold. First, he argues that the legal titles granted by the state to indigenous peoples have practically no function, are not recognized beyond the community, are badly delimited, and out of date. In short, “without property rights you cannot create capital: therein lies the mystery of capital.” Without a doubt, titling (or the lack thereof) is still a problem in Peru: the territories of many native communities have not been correctly delimited and demarked by the state or even recorded in the public registry. See *supra* Part I.C. Furthermore, overlapping property has brought about disputes over property boundaries. So, without formal property rights recorded or land disputes settled, says de Soto, native communities cannot access credit from financial institutions or use their territories in an efficient manner. Thus, setting up a property rights system capable of being recorded, traded and enforced is a pending task. Second, de Soto claims that Amazonian natives have no access to business rights; since they do not distinguish communal and individual goods, they operate without limited liability, and thus incur higher risks. Using the Alaskan and Canadian situations as examples, de Soto underscores that indigenous life is not incompatible with modernity; in Alaska, he contends, natives have formed multi-billion-dollar businesses without losing their culture. Yet de Soto’s extrapolation of the Alaskan experience to the Peruvian Amazon is flawed. First, de Soto forgets that even if we manage to settle all controversies with regard to land titling, indigenous peoples would not be entitled to the subsurface resources lying beneath their lands. Such resources belong to “the nation,” according to the Peruvian constitution. This is a critical difference between Alaska and Peru, since native corporations in Alaska do hold title to forest and mineral resources as part of the 1971 Alaska Native Claims Settlement Act (ANCSA); however, the native

difficulties in valorizing the market price of land,¹⁸⁹ unauthorized use of lands by mining companies,¹⁹⁰ damage to property,¹⁹¹ land displacement,¹⁹² or fear of displacement of local activities.¹⁹³

9. *Mandatory Easements*

Mining companies have the right to resort to a mandatory easement in case landowners decide to hold out against them. This legal tool reinforces the asymmetries between mining industry and local communities because it reduces the negotiating power of landowners.¹⁹⁴ Although it has been used in only a handful of cases, in practice it creates the view that if negotiations fail the community will lose its land anyway. Some mining companies

corporations envisaged by de Soto for the Amazon would not. Second, ANCSA did more than just create native corporations—it also granted native Alaskans title to land, title to natural resources within those lands, and rural subsistence rights. De Soto overlooks the fact that ANCSA was a historical landmark, a political solution to a historical problem concerning ancestral lands in Alaska. Taking this law out of context to favor “indigenous entrepreneurship” may prove problematic. Finally, both Carol Rose and Ezra Rosser point out that allowing indigenous peoples to sever their lands in individual parcels could have devastating effects tantamount to the Alaska Native Allotment Act of 1906.

¹⁸⁹ See WORLD BANK, *supra* note 151, at 107.

¹⁹⁰ For example, the Tapayrihua peasant community, in the Apurimac Region, claims that Southern Peru Copper Corporation is using their lands without their authorization. See DEFENSORÍA DEL PUEBLO, *supra* note 141, at 13–14.

¹⁹¹ For example, the Hualgayoc peasant community, in the Cajamarca Region, alleges that cracks in their homes are due to Minera Gold Fields’ operations. See *id.* at 20. Also, local communities in the town of San Juan de Milpo, in the Pasco Region, claim that Minera Milpo is responsible for potential damages in their homes due to vibrations caused by mining activities. See *id.* at 36.

¹⁹² For example, the Concepcion Ingenio peasant community, in the Puno region, fears that mining activities conducted by Minera Bear Creek Mining Corporation could displace them. See *id.* at 28. Also, the civil society in Morococha, in the Junin Region, asked to talk with Minera Chinalco Peru regarding the terms of the relocation of their town. See *id.* at 40. Furthermore, the Tambillo peasant community, in the Puno Region, condemned the issuance of a mining lease overlapping Lake Warawarani because it is a tourist area. See *id.* at 41.

¹⁹³ For example, the Huambo peasant community, in the Ancash Region, fears that exploration activities by Minera Centauro could affect their agricultural activities. See *id.* at 8.

¹⁹⁴ See Zambrano Chavez, *supra* note 151, at 20 (“[T]he use of easement is not considered expropriation although it is tantamount to it.”); De Echave, *supra* note 182, at 104 (arguing that for indigenous peoples the use of mandatory easements is a “disguised expropriation”).

have been charged with threatening to use this tool as part of their land acquisition strategy.¹⁹⁵

10. *The Public Ownership Regime*

The Peruvian mining tenure regime allows the central government in Lima to grant mining leases in places where other surface activities are conducted, creating resentment among locals who perceive that decisions are imposed on them and that the government and mining companies are in collusion.¹⁹⁶ As Arellano-Yanguas contends, “highly centralized regulation, decision-making, and monitoring of large mines in Lima results in decisions that are taken with limited knowledge of realities ‘on the ground.’”¹⁹⁷ For Enrique Gherzi, a classic liberal scholar, the public ownership system explains the current scenario of social unrest:

[T]he fact that the peasants who hold title to surface lands are not the owners of the subsoil, which hides the enormous mineral wealth of our country, is at the heart of that [social] crisis This leads to the capture of the mineral rent by the state and mining companies, leaving the poorest peasants of our country as voiceless witnesses.¹⁹⁸

In the Peruvian model, he claims, landowners are helplessly doomed to watch the natural endowment located within their communities be extracted by foreign mining companies without reaping any direct benefits.¹⁹⁹

195 See Zambrano Chavez, *supra* note 151, at 20–21.

196 See, e.g., Arellano-Yanguas, *supra* note 4, at 27.

197 Arellano-Yanguas, *supra* note 4, at 26.

198 Enrique Gherzi, *Ni Dádivas, Ni Impuestos: Por la Propiedad Privada del Subsuelo*, SOCIEDAD LIBRE, http://www3.upc.edu.pe/sociedadlibre/Det_Bol1.asp?CON=2949&BOL=18&EJE=274&SEC=Opini%F3n (last visited Dec. 27, 2012) (translation by author). See also ENRIQUE GHERZI, 1RA PARTE (ABOGADO) MANUEL PULGAR VIDAL (ABOGADO) (Willax 2009), available at <http://www.youtube.com/watch?v=I6ZMKV9WGbA&feature=related>; ENRIQUE GHERZI - DEVOLVER LA PROPIEDAD DEL SUBSUELO, (Willax 2010), available at <http://www.youtube.com/watch?v=mSeJxvls5cs&feature=related>.

199 See Gherzi, *supra* note 198; see also Auty, *supra* note 102, at 137 (observing that detachment from other sectors of the economy explains why mining is generally perceived as an activity that “benefit[s] shareholders, downstream processing plants, and consumers, all located overseas”).

D. *But Why Did Violence Peak in 2008-2009?*

Socio-environmental conflicts almost tripled in one year (from 56 conflicts in May 2008 to 133 in May 2009). What was the catalyst of violence during this period? Some authors blame the mining boom for the increased unrest. Arellano-Yanguas contends that “analysis of the recent revival of the mining industry in Peru reveals a new form of resource curse The most notorious symptom of this new form of resource curse is the growing incidence of conflicts related to mining operations.”²⁰⁰ Similarly, Bebbington and Bury claim that growing mining activities led to “increased social conflict” in Peru.²⁰¹ Also, according to De Echave, “the unprecedented growth of mining activities has been followed by an augmentation in social conflicts in Peru.”²⁰²

It is undeniable that the new waves of mining investment—fueled by the economic boom and the commodity bonanza—extended social tensions accordingly. This explanation fails to address, however, the fact that the mining boom took place prior to May 2008 (when violence started to increase) and that most mining conflicts are related to on-going activities, not to new mining projects, as previously discussed in Part II.B. Conversely, the domestic effects of the world economic crisis offer an alternative explanation to the peak in violence in 2008 and 2009.

Even though the world crisis hit Peru with less intensity than elsewhere, it had several negative effects on the economy. Economic growth shrank: GDP went from 9.91% in 2008 to 0.88% in 2009.²⁰³ GDP per capita also suffered a slight decrease.²⁰⁴ The value of Peru’s exports dropped almost fifty percent between May and October 2008.²⁰⁵ With the exception of gold, the international prices of Peru’s top mineral exports (namely, copper, silver, tin, zinc, and lead) decreased—in some cases abruptly—during 2008 and 2009.²⁰⁶ The number of applications filed with INGEMMET to obtain mining rights dropped by half: 9793 applications were

200 Arellano-Yanguas, *supra* note 4, at 36.

201 Bebbington & Bury, *supra* note 83, at 17,296.

202 De Echave, *supra* note 182, at 101 (translation by author).

203 *See supra* Figure 2.

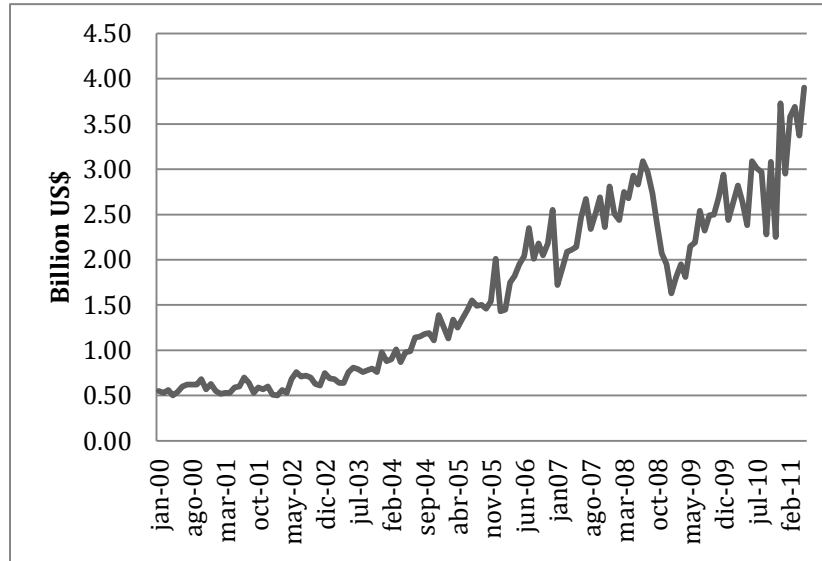
204 *See supra* Figure 3.

205 *See infra* Figure 7.

206 *Web Estadística Mineroenergética*, SOCIEDAD NACIONAL DE MINERÍA, PETRÓLEO Y ENERGÍA DEL PERÚ, http://www.estadisticas-snmpe.org.pe/EstExt_Principal/EstExt_Pri_Menu.aspx (last visited Dec. 27, 2012).

filed in 2008 and only 5235 were filed in 2009.²⁰⁷

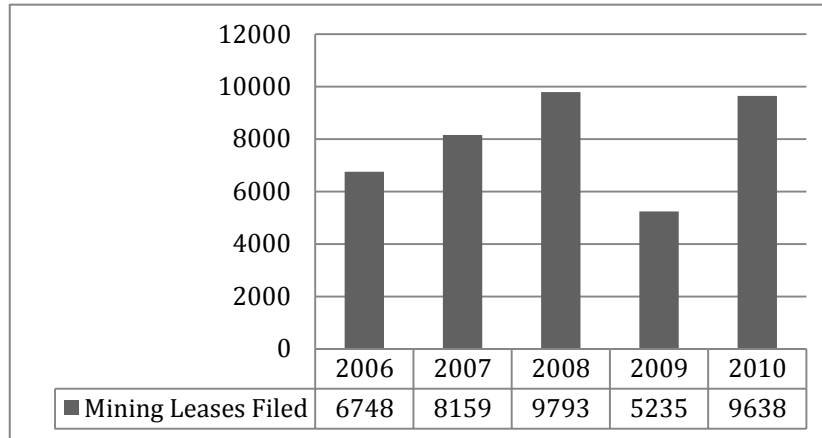
Figure 7: Peru's Total Exports 2000–2011²⁰⁸



²⁰⁷ See *infra* Figure 8; see also *supra* Figure 1 (demonstrating that, paradoxically, private investment in the mining sector did not drop during the world crisis years).

²⁰⁸ *Web Estadística Mineroenergética*, *supra* note 206 (graphic representation by author).

Figure 8: Number of Mining Leases Filed before INGEMMET 2006-2010²⁰⁹



As a consequence of the world crisis and the commodity prices crash, subnational governments received less tax revenues from Lima (*canon minero*). Indeed, transfers dropped from US\$1.5 billion in 2008 to US\$1.1 in 2009.²¹⁰ Let us take the case of the two regions with the highest rates of violence: Ancash and Cajamarca.²¹¹ While Ancash received US\$520 million in 2007, mineral rents fell to US\$450 million in 2008 and to US\$283 million in 2009. In turn, while Cajamarca received US\$187 million in 2007, mineral rents decreased to US\$62 million in 2008 and to US\$75 million in 2009. While the Peruvian economy has very much recovered from the international recession, to date the mineral rents transfers to regional and local governments have not reached pre-crisis levels.²¹²

209 MINISTERIO DE ENERGÍA Y MINAS, BOLETÍN MENSUAL DE MINERÍA (April 2011), available at <http://www.minem.gob.pe/minem/archivos/file/Mineria/PUBLICACIONES/VARIABLES/2011/BOLETIN%20%2004.2010.pdf> (graphic representation by author).

210 See *infra* Figure 9.

211 See *infra* Figure 10.

212 The trend is still downward. In 2010, the rents distributed amounted to US\$1.09 billion, less than the pre-crisis years.

Figure 9: Mineral Rents (Canon Minero) Distributed to Subnational Governments 2000- 2010²¹³

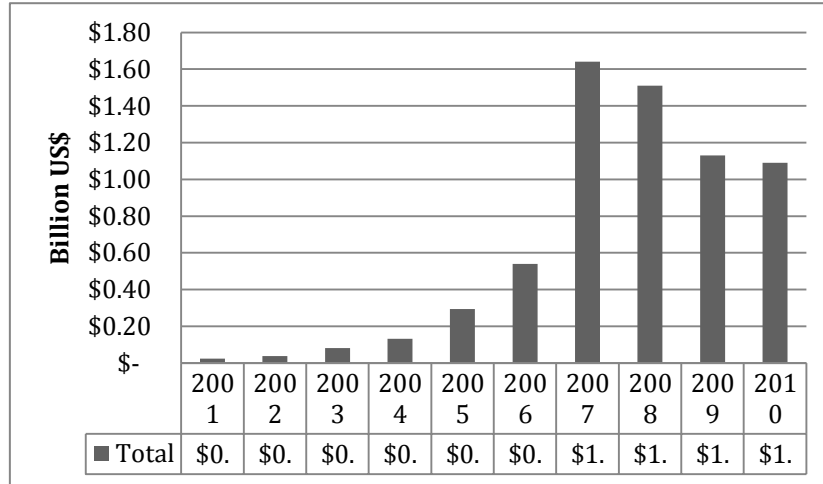
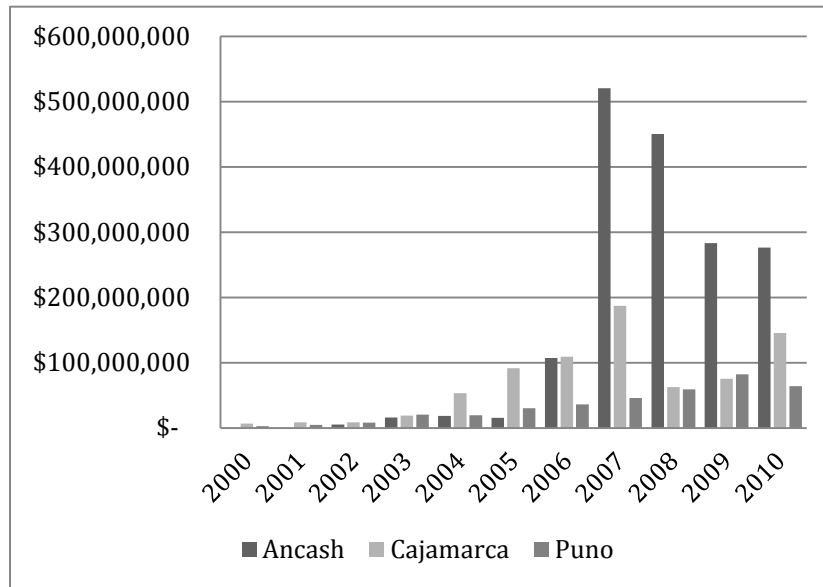


Figure 10: Mining Rents (Canon Minero) Distributed to Ancash, Cajamarca and Puno 2000- 2010²¹⁴



213 *Web Estadística Mineroenergética, supra* note 206 (graphic representation by author).

214 *Id.* (graphic representation by author).

generated during the pre-crisis years triggered races to capture them among private companies and government officials, but also among indigenous and local communities. When revenue transfers decreased, violence peaked. Locals realized that rents were no longer available, or, wherever available, they were misused or simply not used at all. We can understand violence as a principal-agent problem: public officials (the agents) who are placed in control over resources can advance their own interests at the expense of those whose interests they are supposed to be serving (their principals). The principals consider themselves entitled to part of the rents created by mineral exploitation—the “patrimony of the nation” promise—but which are mismanaged by their agents. This is why they resort to protest.

In my view, this correlation between social conflict and economic recession provides a better explanation to why conflicts exploded in 2008 and 2009, particularly in regions such as Ancash and Cajamarca, which suffered dramatic cuts in their *canon minero*. It also helps explain why most conflicts relate to extant mining operations and not to new projects (that is to say, areas where mineral rents used to be available for rent-seekers prior to the crisis). Given that mineral rents have not yet recovered in full, violence has not returned to its pre-crisis levels.

E. *Summary*

Peru’s vast natural wealth confirms its potential to emerge as a resource blessed nation such as Botswana, Chile, or Norway. While its macroeconomic accomplishments are praised internationally, social inequality, weak government institutions, and growing social unrest are latent problems that impede the conversion of the country’s natural endowment into development for the majority of the population. The growing violence in the local arena is preoccupying, above all, because it has the potential to jeopardize the socioeconomic achievements already accomplished. Mineral endowment is not a curse, though. It is a challenge.

Prompt reforms are indispensable to prevent conflicts boiling out of control. Failure to do so will mean that more and more landowners of the Andes will decide to forgo mining opportunities and frustrate the investment of the US\$41 billion lined up in mining projects for the next decade and the associated creation of wealth. The question is therefore how to revert the upward trend in

social unrest. Following similar initiatives elsewhere,²¹⁵ scholars like Enrique Ghersi, Alfredo Bullard²¹⁶ and others,²¹⁷ along with journalists and politicians,²¹⁸ suggest a transition from public to private ownership in the American tradition. The following Part provides an assessment of such initiative.

III. PRIVATIZATION OF MINERAL RESOURCES: A PANACEA SOLUTION

Property systems are not immutable; they are constantly adapting rights to manage new conflicts, deal with resource scarcity, and ensure democratic governance.²¹⁹ In effect, “property

²¹⁵ See Duruigbo, *supra* note 21, at 444 (“To avoid a repeat of the dismal performance of oil, there is the need to move away from the current model of ownership of natural resources to ensure that natural gas becomes a blessing to all Nigerians. Ordinarily, one would propose complete private ownership in which the government transfers total control over natural resources to the previous landowners and stops interfering with property rights in case of future oil and gas discoveries, which was also the approach adopted recently by the Nigerian Bar Association (NBA). Individual and communal landowners can develop their resources and pay appropriate taxes to the government. Such a development, however, is unrealistic in today’s Nigeria.”).

²¹⁶ See Alfredo Bullard & Cecilia O’Neil, *Avatares para Definir la Propiedad*, EL CATO (Feb. 12, 2010), <http://www.elcato.org/avatares-para-definir-la-propiedad>.

²¹⁷ See Mario Zúñiga, *Una Propuesta de Solución para Puno (y Otros Conflictos Sociales): La Propiedad Privada de los Recursos Naturales*, DE COMÚN SENTIDO (July 7, 2011, 12:03 PM), <http://decomunsentido.wordpress.com/2011/07/11/una-propuesta-de-solucion-para-puno-y-otros-conflictos-sociales-la-propiedad-privada-de-los-recursos-naturales/>.

²¹⁸ See, e.g., PRENSA LIBRE MIERCOLES 2/5/10 GUIDO LOMBARDI EN CASO BAGUA PARTE 1, (Prensa Libre 2010), *available at* http://www.youtube.com/watch?v=d17zNwpL_LM. *Accord* Cecilia Valenzuela, *Libre Mercado y Derechos de Propiedad*, WILLAX.TV (Jan. 9, 2010), <http://sites.willax.tv/ceciliavalenzuela/entrevistas/libre-mercado-y-derechos-de-propiedad-1.html>.

²¹⁹ See McHarg, Barton, Bradbrook & Godden, *supra* note 12, at 3–4 (“A confluence of trends from globalization to privatization, from climate change to energy security, and from economic liberalization to looming economic recession has served to raise awareness of the central importance of energy and resources to the future of humanity, its security and well-being. Moreover, as fossil fuel reserves become more valuable, and by contrast, natural resources . . . become increasingly scarce, control and access issues become ever more important. Such trends have prompted a number of countries to reconsider their ownership regimes, and have raised issues about the ownership of newly ‘discovered’ forms of natural resources.”). For a description of the democratic governance argument, see Boyce, *supra* note 6, at 19–20 (“In the United States, a long tradition in political thought holds that property rights and democracy go

rights have been reconfigured in response to competing private claims and interests and changing conceptions of public good.”²²⁰ Property rights are thus “adaptive”²²¹ and “plastic.”²²² Gerard Friedman says that “property rights have been reallocated throughout American history to advance both private interests and public interests Property law has been made, interpreted, and refashioned to serve the society’s broader goals, not to accord with immutable principles.”²²³ The airspace caselaw in the United States, in which courts disregarded trespass suits filed by landowners against airplane operators, is an example of property rights adjustments over time.²²⁴ Other examples of how the definition of property develops according to human learning and evolution, both in moral and practical terms, include the prohibition of slavery, the protection of endangered species, and the regulation of coastal lands.²²⁵

In consequence, it is hardly striking that some voices in Peru have proposed to reorganize the ownership of natural resources by borrowing the “center of the earth” maxim from the U.S., advocating the privatization of natural resources. Is this suggested legal transplant necessary to advance the goals of poverty reduction and escape the paradox of social conflict? As I show next, the answer is no: on the one hand, the public ownership system is not the single cause of social unrest, and on the other hand, today’s landowners are already the gatekeepers of mineral wealth in private lands, as their consent is indispensable for mining projects to commence.²²⁶

hand in hand. Democracy prevents a political elite from usurping citizens’ property rights; widely dispersed property ownership protects democracy against subordination to an economic elite When wealth is concentrated in the hands of a few, the mutually supportive relationship between property rights and democracy is supplanted by a relationship of tension”).

220 Boyce, *supra* note 6, at 6.

221 See, e.g., McHarg, Barton, Bradbrook & Godden, *supra* note 12, at 7.

222 Boyce, *supra* note 6, at 24.

223 Gerald Friedman, *A Question of Degree: The Sanctity of Property in American Economic History*, in NATURAL ASSETS: DEMOCRATIZING ENVIRONMENTAL OWNERSHIP, *supra* note 6, at 29, 35.

224 See HELLER, *supra* note 32.

225 See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1061 (1992) (Stevens, J., dissenting).

226 See *supra* Part I.C.

A. *The Proposed Legal Transition to Private
Ownership of Natural Resources*

“What is the difference between finding oil in your own garden in Talara [a city in Peru rich in oil reserves] and finding it in Houston?” asks Gherzi in a theatrical tone.²²⁷ “The answer is that if you find it in Houston you are rich because the oil belongs to you; whereas if you find it in your garden in Talara you are poor because it belongs to the government.”²²⁸ Gherzi contends that current socio-environmental conflicts in Peru stem from an inefficient allocation of property rights. Indeed, “wherever there are scenarios of violence, there is a problem of property rights.”²²⁹

Gherzi claims that the public ownership rule has resulted in the “expropriation” of the poor landowners of the Andes and that such “taking” of property has perpetuated throughout the post-colonial system to date.²³⁰

[I]f [peasants] were to own the subsoil they would . . . be among the richest people in the continent. The mining legislation has thus *expropriated* the subsoil from the poor who, in spite of owning the surface lands, must settle for witnessing how others become richer. This expropriation necessarily engenders violence and resentment, which are the . . . breeding ground for . . . political [manipulation] . . . If we [privatized mineral resources] . . . , peasant and native communities would not have to resort to violence to obtain something out of bureaucrats’ and businessmen’s false charity, as they would be the rightful owners of the mining fields and . . . the main beneficiaries of their benefits.²³¹

For this reason, Gherzi underscores that giving the subsoil ownership “back” to the landowners of the Andes is not only a justice imperative, but also would create economic incentives for landowners as well as social stability. Under the private ownership model the landowners would decide what to do with the subsoil:

²²⁷ See Gherzi, *supra* note 198.

²²⁸ *Id.*

²²⁹ Enrique Gherzi, *¿Quién es el Dueño del Subsuelo?*, ENFOQUE DERECHO (Sept. 3, 2011), <http://enfoquederecho.com/¿quien-es-el-dueno-del-subsuelo/> (translation by author).

²³⁰ See *id.* See also Bullard & O’Neil, *supra* note 216 (The authors argue that in Peru the state has “expropriated” the subsoil from native communities to the “nation.” This is why, they contend, the state can force the surface landowners to allow the exploitation of resources located within or under their lands).

²³¹ See Gherzi, *supra* note 198. (translation by author) (emphasis added).

they may lease it, sell it, or enter into an agreement with mining companies. Hence, landowners will become “masters of their own destinies.”

In short, the privatization proponents claim that if natural resources were privatized, (i) landowners would be compensated for past wrongs and wealth would be redistributed to the poor who would reap some benefits of mining development, thereby satisfying concerns about equality; and (ii) landowners would exploit mineral resources more rationally, invest capital, and work on them more efficiently as they would be entitled to exclude others from reaping the fruits of their own effort. Next, I analyze these arguments separately.

1. *The Justice Argument*

Gherzi’s justice argument is twofold. Vesting mineral resources in landowners is suggested as a mechanism for correcting past wrongs, that is to say, to compensate for the “takings” or “theft” of property (i.e., the subsoil resources) from the landowners of the Andes that occurred upon the arrival of the Spanish colonizers and the subsequent implementation of the *regalian* system.²³² This is therefore a *corrective justice* claim holding that current generations hold a duty to redress the wrongs done by past generations.²³³ Furthermore, the privatization of mineral resources is thought to help redistribute wealth in society, taking the subsoil resources from rich mining companies holding mining leases and redistributing them to poor peasant communities (who hold no title to the subsoil resources).²³⁴ This is thus a *distributive justice* claim considering the allocation of benefits and social ills in society.²³⁵

Yet the corrective and distributive justice claims put forward by Gherzi are unsound. With regard to the former, reconfiguring

²³² Gherzi, *supra* note 229 (“Let’s say I’m up here, a millenary Indian from the Andes living prehistorically. . . . and down there there is gold. The government comes and gives it to a mining company X. What did the government do to me? It stole the gold from me! Of course it stole it from me!”) (translation by author).

²³³ See Lawrence B. Solum, *To Our Children’s Children’s Children: The Problems of Intergenerational Ethics*, 35 LOY. L.A. L. REV. 163, 175 (2001).

²³⁴ Gherzi, *supra* note 229 (“I believe that if we had to do an act of redistribution, of course with all the problems it may create, it should diffuse property universally.”) (translation by author).

²³⁵ See Solum, *supra* note 233, at 175.

mining tenure to redress past wrongs is troublesome. Why should the government compensate alleged wrongs that took place more than five-hundred years ago? Those who would be compensated today by this measure are not the victims of past wrongs or even necessarily their descendants. In a word, achieving corrective justice by reconfiguring subsurface rights poses insoluble difficulties related to intergenerational justice.

Concerning the distributive justice argument, vesting mineral resources in landowners of the Andes entails a “givings” problem—the flip side of takings problem.²³⁶ Physical givings entail the granting of a property interest (i.e., cattle grazing, mineral or logging rights on public lands) to a private actor.²³⁷ Givings are problematic because the recipients are not charged or taxed, raising issues of justice and efficiency.²³⁸ As Bell and Parchomovsky contend, “Overlooking givings may cause a massive misallocation of resources, impose an enormous cost on the public, and create opportunities and incentives for political mischief.”²³⁹ Hence, by privatizing mineral resources the state would deprive itself of some of its most valuable assets, subject to no consideration or restriction at all.²⁴⁰ A broad measure like this has the potential to negatively impact the nation’s budget, economic development, and even national security. So why should the government redistribute mineral resources to landowners and, in any case, do it for free?

Further, the mining tenure reconfiguration would benefit extant landowners exclusively, excluding those citizens who hold

236 See, e.g., Abraham Bell & Gideon Parchomovsky, *Givings*, 111 YALE L.J. 547, 500 (2001) (“Every time the government ‘upzones,’ or changes a zoning ordinance to the benefit of certain property owners, it has executed a giving. Similarly, when the government relaxes environmental regulations, a giving occurs. The same occurs when the government grants a license to engage in a certain business or transfers title to land or a lesser property interest to a private actor”) (footnotes omitted).

237 See *id.* at 563.

238 See *id.* at 564.

239 *Id.*

240 To overcome the “givings” problem, the government could transfer subsoil resources to landowners subject to some conditions. For example, it could transfer the mining rights subject to a mortgage or a royalty payment contingent to the future discovery of recoverable mineral resources within the landowner’s property. Consequently, the government could make sure that it would reap some benefits from the future exploitation of the resources it would transfer and prevent the holdout problem. See *infra* Part III.B.4.

no title to land. This measure would make landowners richer and, in turn, create a new powerful social caste or constituency that would control the nation's valuable assets.²⁴¹ This initiative would benefit some landowners more than others. If a landowner happens to live in a resource-rich area of the country he would become richer, whereas a landowner who lives in a resource-poor area would not benefit from this new rule. In short, the privatization of mineral resources would engender more socioeconomic inequality based on "geological chance."

For all the above reasons, it is clear that the privatization of mineral resources is not necessarily the best policy alternative to correct past wrongs or advance wealth distribution in society.

2. *The Efficiency Argument*

The argument for privatization is well known. Resources are best managed when divided among private owners,²⁴² as public officials are seen as "overburdened, hapless, or weak-willed bureaucrats who are likely to overlook unintended consequences of their rules or to be 'captured' by powerful interests with a stake in regulatory outcomes."²⁴³ In the public management of resources

²⁴¹ By contrast, the current public ownership regime is thought to benefit the whole population. The "patrimony of the nation" concept reflects the idea that mineral resources belong to all Peruvians. President Humala recently declared that "[I]and responds to a local or regional jurisdiction. But the subsoil belongs to everyone. If it were not for everyone, we would not be a Republic; we would be a confederation". See *Ollanta Humala: "El Principio de Autoridad Se Tiene Que Fortalecer*, GESTION (Dec. 6, 2011, 2:32 PM), <http://gestion.pe/noticia/1344335/ollanta-humala-principio-autoridad-se-tiene-que-fortalecer>. This is why one of the key roles of the national government is to balance the fact that only some subnational governments receive mineral rents, while the rest lack such an important source of income. See *supra* Part I.C.

²⁴² Yet there may be certain exceptional circumstances in which public ownership is recommended because private property can result in inefficient outcomes. See Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 718–19 (1986) ("[A] governmental body might be the most useful manager where many persons desire access to or control over a given property, but they are too numerous and their individual stakes too small to express their preferences in market transactions; governmental ownership could broker those preferences. . . . Conventional wisdom instructs that in such cases [i.e. public goods and externalities], the most productive solution would be for government to assume some or all of the rights of ownership and control over the property, and to use its powers to correct the market's misallocation.").

²⁴³ Doug A. Kysar, *Sustainable Development and Private Global Governance*, 83 TEX. L. REV. 2109, 2148 (2005).

there is a risk of wasteful regulation, overconsumption of resources,²⁴⁴ and endless cycles of “interest-group politicking.”²⁴⁵ In this line, the critics of public ownership of mineral resources argue that it deprives communities of the benefits of their natural endowment, concentrates wealth in the national government and few companies, and encourages an unhealthy race for power.²⁴⁶

By contrast, private property allows the owner of an entitlement to exclude others²⁴⁷ and “capture the full value of his individual investment, thus encouraging parties to put time and labor into the development of resources.”²⁴⁸

[It] also makes it possible for owners to identify other owners, and for all to exchange the fruits of their labors, until these things arrive in the hands of those who value them to the great cumulative advantage of all. Thus exclusive private property is thought to foster the well-being of the community, giving its members a medium in which resources are used, conserved and exchanged to their greatest advantage.²⁴⁹

Therefore, private ownership creates powerful incentives to preserve and enhance the value of what people own.²⁵⁰ It

²⁴⁴ See Keenan, *supra* note 98, at 114 (“[P]olitician managers face a powerful incentive to exploit the resources much more quickly than would otherwise be optimal. If an incumbent politician knows that his political survival depends on his ability to create and fill public sector jobs, for example, his immediate need for revenue may well outweigh arguments supporting a slower extraction schedule.”).

²⁴⁵ See Eduardo M. Peñalver, *The Costs of Regulation or the Consequences of Poverty? Progressive Lessons from de Soto*, in HERNANDO DE SOTO AND PROPERTY IN A MARKET ECONOMY, *supra* note 188, at 9.

²⁴⁶ See Duruigbo, *supra* note 21, at 443 (“It is an incontrovertible fact that exclusive government ownership of natural resources in Nigeria has been a disaster for the country. It deprives communities of the maximum benefits of their natural endowment, while saddling them with the bulk of the present and potential pitfalls of the development of these resources. It concentrates wealth in the government, fueling an unhealthy jostle for power and the attendant corruption by politicians who have enormous wealth at their disposal and little interest in the wellbeing of the people. It also hinders political development because the reliance by the government on resource rents, instead of taxes on the citizens, leads to the loss of a vital connection between the governing class and the governed.”).

²⁴⁷ See Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) (“[T]he right to exclude is more than just ‘one of the most essential’ constituents of property—it is the *sine qua non*.”).

²⁴⁸ See Rose, *supra* note 242, at 711.

²⁴⁹ *Id.* at 711–12.

²⁵⁰ See TERRY ANDERSON & DONALD LEAL, FREE MARKET

confronts controllers of resources with consequences that are unique and particularly appropriate to guide resources toward uses that maximize their values.²⁵¹ Considering that the landowner's wealth is at stake if bad decisions are made, private property helps to impose discipline on resource management.²⁵²

By the same token, in the private ownership regime, when surface and subsoil resources are bundled in a single title, the subsurface rights holder incorporates the value of land into his wealth, which creates incentives to preserve the surface resources and choose long-term management over environmentally destructive uses.²⁵³ Conversely, when title to land and subsoil is severed, the holder of subsurface rights has the incentive to exploit the resource rapidly while he still holds the rights, fueled by the fear of a change in the rules or expropriation, which may lead to overconsumption and the use of environmentally destructive techniques.²⁵⁴

Furthermore, private property also allows freedom of choice,²⁵⁵ the provision of collateral for accessing capital for investment,²⁵⁶ more flexible exchange, and greater information generation.

Even though the benefits of private ownership are clear, tearing apart the property arrangements that already exist in Peru could be disastrous, as the Peruvian reality is not comparable to the American West in the nineteenth century, when homesteaders moved into unsettled land and private arrangements were necessary to facilitate development.²⁵⁷ As I show next, the

ENVIRONMENTALISM 3 (1991).

²⁵¹ See Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967).

²⁵² See *id.*

²⁵³ Morris, Meiners & Dorchak, *supra* note 103, at 771–72, 781–83.

²⁵⁴ See *id.*

²⁵⁵ See Lee Godden & Maureen Tehan, *Introduction: A Sustainable Future for Communal Lands, Resources and Communities*, in COMPARATIVE PERSPECTIVES ON COMMUNAL LANDS AND INDIVIDUAL OWNERSHIP: SUSTAINABLE FUTURES 1, at 1 (Lee Godden & Maureen Tehan eds., 2010).

²⁵⁶ See Gary D. Libecap, *The Assignment of Property Rights on the Western Frontier: Lessons for Contemporary Environmental and Resource Policy*, 67 J. ECON. HIST. 257 (2007). See also HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE* 51 (2000).

²⁵⁷ See, e.g., Andrea G. McDowell, *From Commons to Claims: Property Rights in the California Gold Rush*, 14 YALE J.L. & HUMAN. 1 (2002).

borrowing of the private ownership scheme from the United States in the Peruvian legal system seems unrealistic. Had privatization been introduced at the time Peru became a nation, it may have lessened some of the tensions that exist today, but at this point privatization is simply not politically feasible, even if one sets aside issues of law and justice.

B. *The Implications of a Transition to Private Ownership*

1. *Political Transaction Costs*

A move from public to private ownership faces a constraint given that the Peruvian Constitution stipulates that natural resources are the “patrimony of the nation,” and thus private property of natural resources is not allowed.²⁵⁸ Accordingly, a transition would require a constitutional amendment and significant consensus to authorize the privatization of natural resources vesting them in landowners. The Constitution of Peru is more amenable to change than those of other countries, as there have been multiple instances in which amendments have been passed.²⁵⁹ In addition, while a transition from private to public property ownership would potentially bring about millions of claims from affected landowners—enough to block any constitutional change—a transition from public to private ownership would create fewer losers (namely, the lessees). It is true, however, that mining companies possess more political and economic leverage than landowners do. In this regard, Gary Libecap points out that groups with vested interests are likely to oppose change and pressure to maintain the status quo.²⁶⁰

Furthermore, modifying the existing property regime would not only require a constitutional revision, but also “lobbying and political negotiations among private claimants, bureaucrats, politicians, and judges to implement” the new allocation of

²⁵⁸ See *supra* Part I.C.

²⁵⁹ At least twenty articles of the 1993 Peruvian Constitution have been amended over the past decade.

²⁶⁰ See LIBECAP, CONTRACTING, *supra* note 23, at 6 (“Groups with vested interests may have advantages in political bargaining relative to other groups through lower costs of collective action. Their current position in the system binds them together to make them a relatively cohesive bargaining group. . . . These advantages will make vested interests effective political lobbyists, biasing institutional change toward maintenance of the status quo.”).

rights.²⁶¹ But this process of bargaining over changes in property rights—or “contracting for property rights” as Libecap calls it—is likely to fail due to the size of the aggregate expected gains, the number of competing interests, the heterogeneity of the contracting parties, information asymmetries, and the degree of concentration of the current and proposed distribution of wealth.²⁶²

[P]olitical transaction costs are especially important in the assignment and subsequent modification of property rights. Once an allocation rule is established, it becomes very difficult politically to modify. Many constituencies develop a stake in the *status quo* and the distributional implications of any change in it can be both large and uncertain. These factors complicate the development of bargaining positions in negotiations for institutional change.²⁶³

Therefore, given the strategic nature of natural resources, the number and heterogeneity among contracting parties, and the concentration of wealth in relatively few mining companies, “contracting for property rights” would be a daunting endeavor in Peru. So, “while attractive because of their ability to better link private and social net benefits in decision making than is possible with traditional command-and-control regulation, property rights instruments face complicated institutional design and implementation problems.”²⁶⁴

Briefly, the privatization proponents have failed to explain how to tackle the inevitable difficulties in passing a constitutional amendment and “contracting for property rights.”

2. *Takings and Transition Difficulties*

The privatization of subsurface property would entail the taking of property from extant mining lessees and vesting those mining rights in landowners, thereby raising takings claims from mining companies. The privatization proponents overstate the economic implications of the transition to private ownership, because the government is constitutionally required to compensate such takings at market value.²⁶⁵ Hundreds of mining companies

²⁶¹ See *id.* at 4.

²⁶² See *id.* at 21–26.

²⁶³ Libecap, *supra* note 256, at 259.

²⁶⁴ *Id.* at 284–85.

²⁶⁵ CONSTITUCIÓN, art. 70 (Peru) (“The right of property is inviolable. The State guarantees it. It is exercised in harmony with the common good and within

would be entitled to claim compensation for their loss of expected returns, even if we ignore the political reality that mining companies would certainly try to block any constitutional amendment and lobby politicians to secure their long-term investments.

Moreover, the proposal disregards the fact that many mining companies have received special legal guarantees from the Peruvian government²⁶⁶ or are protected under Bilateral Investment Treaties (BITs) including arbitral clauses that trigger international adjudication.²⁶⁷ Massive taking claims would discredit the country in international fora and create uncertainty in the investment framework, thus deterring foreign entrepreneurship in the country.²⁶⁸ Precisely, the most debated risk is expropriation, while the most pervasive risk is adverse change of law.²⁶⁹

Furthermore, privatization proponents fail to explain who would manage mining projects already operating on private lands. If the answer is the landowners, they are generally unskilled,

the limits of the law. No one shall be deprived of his property, save, exclusively, on grounds of national security or public need determined by law and upon cash payment of the appraised value, which must include compensation for potential damages. Proceedings have been instituted before the judiciary to challenge the property value established by the State in the expropriatory procedure.”)

²⁶⁶ See *supra* note 67.

²⁶⁷ Peru has entered into BITs with Canada, China, EFTA, the European Union, Singapore, South Korea, Thailand, and the United States. See *Acuerdos Comerciales Del Perú*, MINISTRY OF COMMERCE AND TOURISM, http://www.acuerdoscomerciales.gob.pe/images/stories/varios/cuadro_de_acuerdos_comerciales_25_01_12.pdf (last visited Dec. 27, 2012).

²⁶⁸ For example, in 2011 MVM Resources International B.V. of the Netherlands applied to PROINVERSION to sign into a stability agreement to protect its investment in mining projects for more than US\$ 160 million. See *Solicitudes Presentadas*, PROINVERSION, <http://www.proinversion.gob.pe/0/0/modulos/JER/PlantillaSectorHijo.aspx?ARE=0&PFL=0&JER=5275> (last visited Dec. 27, 2012).

²⁶⁹ See Robert Pritchard, *Safeguards for Foreign Investment in Mining*, in INTERNATIONAL AND COMPARATIVE MINERAL LAW AND POLICY, *supra* note 44, at 73, 80 (explaining that these risks have resulted in the frequent use of “change of law” clauses in financing documents). See also Eugenia Levine, *Amicus Curiae in International Investment Arbitration: The Implications of an Increase in Third-Party Participation*, 29 BERKELEY J. INT’L L. 200, 202 (“Historically, international investment regimes have gained popularity in large part due to investor concerns about being subject to arbitrary and discriminatory treatment by developing-country governments, such as expropriation, as well as national governments’ recognition of the need to attract investment opportunities by providing investors with greater protection.”) (footnotes omitted) (internal quotation marks omitted).

undercapitalized, and lack coordination incentives to continue those mining operations.²⁷⁰ Hence this transition may jeopardize the macroeconomic accomplishments of the country during the past decade. By contrast, if the answer is the government, this would be tantamount to the nationalization of mining companies, something which Peru already experimented with in the 1970s with destructive results.

To evade the takings problem, some may argue that the new system should be prospective and not applied retroactively.²⁷¹ But this would bring about chaos, boundary controversies, and an uneven set of “old winners” versus “new losers.” Rumors about a future constitutional amendment would open the floodgates to massive acquisition of land rights, thus aggravating the current tensions between landowners, mining companies, and the state. Others may attempt to transfer the existing mining leases and associated payments to landowners as an encumbrance running with the transfer of subsoil resources.

In sum, the privatization movement has not addressed the takings issues derived from their suggested policy, nor has it outlined the characteristics of a transitory regime (if any) to deal with the current mines in operation.

3. *Boundary Problems*

The private ownership system would create two types of boundary problems. The first problem is inherent to this system and is linked to the lack of correlation between a mineral reserve and the size or shapes of the lots on the surface. In a word, “land is divisible but mines are not.”²⁷² Accordingly, the “center of the earth” principle would prompt ambiguity in the policing of vertical boundaries, as evidenced elsewhere.²⁷³ Private ownership over

²⁷⁰ See Adefolake Adeyeye, *Corporate Responsibility in International Law: Which Way to Go?* 1 SING. Y.B. INT'L L. 141 (2007) (claiming that many fee simple owners of individual surface plots may not have the resources necessary to efficiently develop subsoil extraction industries).

²⁷¹ See Libecap, *supra* note 256, at 260 (“Grandfathering in initial allocation often has been a necessary ingredient in building the political support for property rights allocations.”).

²⁷² Bastida, *supra* note 6, at 24.

²⁷³ *Id.* at 24–25 (“[In England] the private ownership of minerals. . . . was hardly an advantage to the subsequent development of mining. . . . [I]nnumerable disputes arose out of the artificial boundaries between colliery concessions, made to correspond with the boundaries between surface holdings.”).

mining fields would not create full clarity with regard to the vertical extent of ownership in land and may bring about the potential for tort litigation among neighbors.

Second, following the Agrarian Reform carried out in the 1970s in Peru, landownership in rural areas is subdivided in small lots and in many cases held in common by peasant and native communities.²⁷⁴ The atomization of surface lands into small lots would generate even more uncertainty over what and how much mineral resources correspond to each landowner, increasing neighboring controversies and raising the transaction costs for potential assembly undertakings. As Michael Heller contends, “[I]f a common field were privatized down to the square inch, no shepherd would be able to graze a single sheep.”²⁷⁵ Therefore, fragmented land ownership in the Andes would create a gridlock to exploit valuable natural resources, as we would have innumerable landowners owning “square inches” of the subsoil.

With reference to collectively-owned lands, the number and homogeneity of voting members in peasant and native communities would be crucial to determine the possibility of undertaking alternative land uses, given the number of individuals who must decide, coordinate, and monitor.²⁷⁶ So, unless the number of individuals sharing common property is quite small, even rational, self-interested individuals would find it costly to achieve common or group interests.²⁷⁷ Put differently, “[t]he larger the number of claimants, the greater is the potential for free riding, holdup, and defection. In contrast, smaller, more homogeneous groups are better able to find consensus on the allocation of property rights.”²⁷⁸

For the above reasons, vesting mineral rights in landowners

²⁷⁴ See *id.* at 312.

²⁷⁵ HELLER, *supra* note 32, at 26.

²⁷⁶ See Robert C. Ellickson, *Property in Land*, in PERSPECTIVES ON PROPERTY LAW 146 (Robert C. Ellickson, Carol M. Rose & Bruce A. Ackerman eds., 3d ed. 2002).

²⁷⁷ See ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 6 (1990) (quoting MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 2 (1965)) (“[U]nless the number of individuals [sharing property] is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests.*”).

²⁷⁸ Libecap, *supra* note 256, at 264.

would bring about uncertainty over the vertical extent of ownership in land and would be difficult to implement in the Andes where land is fragmented or subject to community management.

4. *Assembly Problems*

The private ownership model would create assembly problems that impede the exploitation of mineral resources. To exploit specific mining fields, mining companies would have to assemble neighboring lands or mining leases in order to make a project feasible both technically and economically. Without voluntary cooperation among neighboring landowners or legal instruments that prevent holdout problems, mining activities would be hardly possible. As Libecap has noted, land is much easier to break up than to put back together.²⁷⁹

The holdout problem arises when individual owners, realizing that they can impose substantial costs on the mining company trying to assemble contiguous lots of land or mining rights, seek prices in excess of their likely value due to their monopoly power.²⁸⁰ The result is that large-scale projects requiring assembly will tend to be underproduced.²⁸¹ Strategic holdout problems are significantly troublesome for developing countries, given that natural resources are significant assets and sources of wealth.²⁸²

Assembling mineral rights in the private regime is different than assembling lands in the public ownership system. First, parties face a problem of asymmetric information. Landowners have imperfect information on the value of their subsoil resources. Paul Collier notes, "Asymmetric information is likely to lead to the more informed party [the mining company] benefiting at the expense of the less informed party. The result is always the same:

²⁷⁹ See LIBECAP, CONTRACTING, *supra* note 23, at 111.

²⁸⁰ See Thomas J. Miceli & C. F. Sirmans, *The Holdout Problem and Urban Sprawl* (Univ. of Conn. Econ. Working Papers, Paper No. 200438, 2004), available at http://digitalcommons.uconn.edu/econ_wpapers/200438.

²⁸¹ See *id.*

²⁸² My argument here is not for centralized control of natural resources, nor do I argue that central planning generates a more efficient use of natural resources. My point is just to acknowledge the relevance of natural resources to the economy and general welfare of developing countries. Public ownership has some advantages in bridging the assembly problems present in the private ownership scheme, which in turn may bring about an economic deadlock, particularly when there are information asymmetries.

the company underpays.”²⁸³ In the absence of exploration results determining the amount and value of mineral resources, the value of the mining rights is unknown, meaning that transactions over mining rights are more complex than securing title to land. Even if the information is available, the mining company has few incentives to disclose it to the landowner. Second, landowners’ unfamiliarity with these new transactions based on mining rights and the lack of legal instruments to force a deal in case of deadlock situations may forestall assembly efforts.

The government can certainly resort to its eminent domain powers to take private property (in this case, the subsoil resources of rural landowners) for public use, but this would seem counterproductive as part of a transition to private property for subsurface rights. Put differently, it makes no sense to privatize mineral resources one day, only to take them back from landowners to satisfy public needs the next day. Furthermore, from an empirical standpoint, the state might not even be able to pay the required “just compensation” given that the market value of properties would obviously tend to rise in view of the value of the subsoil resources now tied to land.

All told, the privatization account fails to consider the assembly shortfalls of this ownership scheme.

5. *Mining Rush*

Mining is a highly risky, expensive, and long-termed venture. It is risky because relatively few deposits are of mineral quality and it is directly related to swings in the economy and the international commodity prices.²⁸⁴ “Most sites turn out either to have no ore or not to be profitable” at all.²⁸⁵ Mineral development tends to be a long-term investment, requiring years from discovery of deposits to actual development.²⁸⁶ What is more, due to the

²⁸³ COLLIER, *supra* note 1, at 70.

²⁸⁴ See Lawrence J. MacDonnell, *Mineral Law in the United States: A Study in Legal Change*, in NATURAL RESOURCES POLICY AND LAW: TRENDS AND DIRECTIONS 69 (Lawrence J. MacDonnell & Sarah F. Bates eds., 1993).

²⁸⁵ See Libecap, *supra* note 256, at 270.

²⁸⁶ See *id.* See also Willard Lacy, *An Introduction to Geology and Hard Rock Mining*, ROCKY MOUNTAIN MIN. L. FOUND., <http://www.rmmlf.org/scitech/lacy/lacy.htm> (last visited Dec. 27, 2012) (“Lag time between discovery and development and operation of deposits influences capital investment decisions. Between the time of initial detection of base metal deposits and development is an average period of ten years.”).

capital intensity of the activity, only the larger firms can survive to collect the data, invest the time, and perform the environmental analyses necessary for compliance with state regulations.²⁸⁷ The question that follows is whether the “new winners” in the private ownership system (namely, the landowners) would produce revenues parallel to those generated by mining operations to date.

The “new winners” would have two paths to put their lands into the most profitable use: either undertake mining exploration themselves or grant mining rights to a specialized company. Unskilled and undercapitalized landowners would generally opt to grant mining leases to a specialized company instead of embarking on self-entrepreneurship. In view of their financial and technical constraints, together with the non-fugacious nature of mineral resources (these resources do not “escape” or “migrate” as fugacious resources do), landowners would not have to race to exploit their resources to prevent their neighbors from taking away their resources.²⁸⁸ They may well choose to wait while they negotiate the most profitable lease terms with a mining company.

Notwithstanding the above, there are several factors that play against this anticipated forecast in the Peruvian case. First, favorable international commodity prices tend to incentivize mining ventures. The recent record-high gold prices have triggered a gold rush in the Peruvian Amazon with irreversible consequences to the environment, including deforestation and mercury pollution.²⁸⁹ Consequently, they have shifted mining pace into hyperdrive, to the extent that its impact “is now plainly visible from space.”²⁹⁰ In short, high international commodity prices would incentivize self-entrepreneurship, even informality, in the

²⁸⁷ See BURKE & BECK, *supra* note 25, at 3.

²⁸⁸ In fact, in the United States it was the fugacious nature of the resources that ignited a resource race since landowners were allowed to drill and legally appropriate their neighbor’s oil and gas on a first-come, first serve basis, fueling the need to exploit the oil as fast as possible. See generally LIBECAP, CONTRACTING, *supra* note 23.

²⁸⁹ See, e.g., *Gold Prices Spur Six-Fold Spike in Amazon Deforestation*, NICHOLAS SCHOOL NEWS & EVENTS (Apr. 23, 2011), <http://www.nicholas.duke.edu/news/gold-prices-spur-six-fold-spike-in-amazondeforestation/?searchterm=None> (“Roughly 7,000 hectares, or about 15.2 thousand acres, of pristine forest and wetlands have been cleared at two large mining sites between 2003 and 2009, with a six-fold increase in deforestation occurring in the last three years.”).

²⁹⁰ *Id.*

mining sector.

Second, current levels of poverty in rural areas, the informal business culture ingrained in the country,²⁹¹ and the absence of “formal” title to land²⁹² may all trigger a devastating mining race, at least during the first years after the privatization reform has been passed when the new winners would be anxious to reap all the benefits from the government’s givings. To escape poverty, landowners may choose to survey their own lands in search of undiscovered mineral resources. In fact, informal mining practices are prevalent throughout the country and do not require large capital disbursements given their artisanal components.²⁹³ Unlike other economic activities, in the mining sector there is the possibility of a “stroke of luck.”²⁹⁴ Experience in artisanal mines in Peru shows that informal workers are driven by their belief that they are “close to winning a prize” or about to “strike it rich.”²⁹⁵ Moreover, landowners would have an incentive to undertake mining activities themselves, in lieu of entering into a mining lease with a company, because doing so would provide them the

291 See, e.g., DE SOTO, *supra* note 256, at 21, 28 (“[Migrants’] only alternative is to live and work outside the official law, using their own informally binding arrangements to protect and mobilize their assets. These arrangements result from a combination of rules selectively borrowed from the official legal system, ad hoc improvisations, and customs brought from their places of origin or locally devised. . . . These extralegal social contracts have created a vibrant but undercapitalized sector.”).

292 See *id.* at 5–6 (“[The poor] hold these resources [i.e. dwellings] in defective forms: houses built on land whose ownership rights are not adequately recorded.”).

293 In Peru, artisanal mining has proliferated due to a combination of survival and opportunity; it has become one of the few subsistence activities in depressed areas where agriculture or grazing are not possible or have disappeared. Although artisanal mining has been conducted since pre-Columbian times, it has increased since 1980 as a consequence of economic recession, agricultural crisis, and political violence. See, e.g., JUANA R. KURAMOTO, *ARTISANAL AND INFORMAL MINING IN PERU* (2001), available at <http://www.ibcperu.org/doc/isis/6020.pdf>; Gilmar Goyzueta & Ciria Trigos, *Riesgos a la Salud Pública en el Centro Poblado Minero Artesanal La Rinconada (5200 MSNM) en Puno, Perú*, 26 *REVISTA PERUANA DE MEDICINA EXPERIMENTAL Y SALUD PÚBLICA* 41 (2009), available at <http://redalyc.uaemex.mx/src/inicio/ArtPdfRed.jsp?iCve=36311625008>.

294 MARIA DEL CARMEN PIAZZA, INT’L LABOR ORG., *CHILDREN WORKING IN SMALL-SCALE TRADITIONAL GOLD MINING IN PERU* 73 (2001), available at <http://www.dol.gov/ilab/grants/sga0204/SouthAmericaMining-Annex43.pdf>.

295 FEDERICO GAMARRA CHILMAZA, INT’L LABOR ORG., *ESTUDIO SOCIOLABORAL EN LOS CERROS POBLADOS DE LA RINCONADA Y CERRO LUNAR PUNO* 45 (2005), available at <http://redsocial.pe/II-SOCIOLABORAL.pdf>.

possibility to capture all the rents produced from an eventual discovery. Furthermore, taking into consideration the poor levels of law enforcement and policing, without legal remedies in hand to protect and enforce the vertical boundaries of their properties, landowners may feel pressured to embark on mining ventures themselves and, in haste, even trespass into their neighbors' lands.²⁹⁶ Consequently, all these factors would turn the "center of the earth" rule into a "rule of capture."²⁹⁷

However, a mining rush would engender over-drilling (landowners lack the capital and technology to determine where to explore in the most cost-effective manner);²⁹⁸ resource waste (the sum of all individual investments in exploration); and pollution (unnecessary clearance of surface lands to explore and more human impact due to individual exploration efforts).²⁹⁹ Together, all of these inefficiencies would translate into fewer profits for landowners (compared to the current baseline scenario) and obviously would result in less tax revenue for the government. Further, this mining race would require more government policing, more permit issuances, and more law enforcement and government oversight, thus creating an enormous burden to the public budget. The American experience in mineral development reveals that

²⁹⁶ See ANTHONY SCOTT, THE EVOLUTION OF RESOURCE PROPERTY RIGHTS 290 (2008) ("[In England] miners could not keep to themselves: their activities gave rise to interferences with their neighbors' workings: flooding their mines, dissipating their oil discoveries and undermining their surface operations."). See also *id.* at 18 ("In the absence of effective rules there will inevitably be uncertainty as to whether current control over a natural resource can be maintained. With control perceived as temporary, the private incentive is to deplete assets quickly even if this is socially more costly than necessary.").

²⁹⁷ On the rule of capture, see *supra* note 23.

²⁹⁸ See Lacy, *supra* note 286, at 10 ("[T]he evaluation of a mineral deposit [should] have, as accurately as possible, a model of the mineralized zone geometry—shape, size, quality, variability, and limits. Physical, chemical and geological characteristics may vary greatly within a single deposit and from deposit to deposit. Critical data can be collected in a variety of ways, including drilling, surface and/or underground mapping, geophysical or geochemical surveys, or studies of rock mechanics properties, mineralogical types and relations. Underground geological data are costly to obtain but critical for proper evaluation and mining.").

²⁹⁹ See Duruigbo, *supra* note 21, at 442 ("A significant downside of private ownership, however, is that in the course of the development of the minerals on his land, a private owner is unlikely to take into account the externalities of the development, such as environmental degradation, conversant with the fact that the costs would be shared by the society as a whole.").

privatization does not necessarily result in more efficient resource management, ultimately requiring agency intervention through regulation to correct market failures.³⁰⁰

C. Summary

This Part has shown that the implications of the proposed transition from public to private ownership of natural resources have been overstated by privatization proponents, both with regard to the efficiency and social justice arguments. They forget that in the public ownership system landowners already hold quasi property rights over subsurface minerals as gatekeepers of the resource. They also ignore that the causes of mining conflict are not exclusively attributable to the mining tenure regime. Therefore, privatization is a simplistic or panacea-type solution to the complex problem of social unrest in Peru. As R.L. Ackoff states, “[P]anacea proneness is a diluted form of fundamentalism rather than a method of serious diagnosis.”³⁰¹

Indeed, single governance-system blueprints such as government ownership, privatization, or community property cannot be applied to all problems.³⁰² In this line of reasoning, Elinor Ostrom contends that contradictory positions advocating for either centralization or privatization cannot be both right: “institutions are rarely either private or public—‘the market’ or ‘the state’. Many successful [common pool resources] institutions are rich mixtures of ‘private-like’ and ‘public-like’ institutions defying classification in a sterile dichotomy.”³⁰³ Accordingly, the

³⁰⁰ In the United States, for example, in response to the mining rush, federal, state, and local laws restricted the ability of a landowner to mine even on wholly private lands. *See, e.g.,* Sprankling, *supra* note 14, at 1011–12. (“[F]ederal statutes prohibit any surface or subsurface coal mining on private property unless the owner obtains a special permit—much like federal regulation of oil and gas drilling. The surface owner who cannot meet the permit standards will be unable to remove coal. In fact, surface coal mining may be completely barred on certain types of private land, including: (1) environmentally sensitive regions; (2) lands with historical, cultural, or scientific resources; (3) areas that present natural hazards; and (4) lands used for food production or as watersheds. Thus, despite the center of the earth theory, an owner may be legally unable to extract the coal immediately under the land surface.”).

³⁰¹ *See* Elinor Ostrom, Marco A. Janssen & John M. Anderies, *Going Beyond Panaceas*, 104 PROC. NAT’L ACAD. SCI. 15176, 15176 (2007) (statement of R.L. Ackoff).

³⁰² *See id.*

³⁰³ OSTROM, *supra* note 277, at 14–15.

following Part discusses several middle ground alternatives to the centralization and privatization solutions.

IV. GOING BEYOND PANACEA SOLUTIONS

The extant literature posits different recipes to attain resource blessings: reliable and strong institutions; honest leaders and public servants; good governance policies; civil activism; checks and balances; and economic diversification.³⁰⁴ Other institutional reforms appear to be necessary in the Peruvian case in light of the causes of mining conflicts described above in Part II.C.³⁰⁵ I do not overlook the compelling need to conduct long-term reforms; however, countries lacking such institutions cannot implement them all overnight. This Part thus focuses on policy alternatives to address social unrest in Peru from a realistic standpoint. Some of them can be applied nationwide; others can be tailored to specific regions.

A. *Reconfiguring Subsoil Ownership by Forgoing Common Variety Minerals*³⁰⁶

³⁰⁴ See, e.g., Stevens, *supra* note 111, at 17; Ebru İlhan, *Resource Curse or Resource Blessing: Effective Management of Resource Wealth in Democratizing Countries*, 6 TURK. POL'Y Q. 137 (2007), available at <http://www.turkishpolicy.com/images/stories/2007-03-caucasus/TPQ2007-3-ilhan.pdf>. See also Gøril Havro & Javier Santiso, *To Benefit from Plenty: Lessons from Chile and Norway*, (Org. for Econ. Cooperation & Dev., Dev. Ctr., Policy Brief No. 37, 2008), available at <http://www.oecd.org/dataoecd/23/12/41281577.pdf>; COLLIER, *supra* note 1, at 56–57, 93–94.

³⁰⁵ Necessary reforms include improving communication strategies for environmental and social topics, enhancing law enforcement for mining activities, fostering longer periods of government office for public servants, empowering indigenous leaders, eliminating mandatory easements, and facilitating access to justice for indigenous peoples. See, e.g., WORLD BANK, *supra* note 151; Recharte, Delgado & Olivera, *supra* note 151; and Arellano-Yanguas, *supra* note 4, at 82.

³⁰⁶ Another way to refocus control and management of mineral resources is to vest them in local governments. Under this scheme, subnational governments would negotiate the issuance of mining rights directly with mining companies, subject to a national tax. This model has the following advantages. First, local decision-making circumvents the problems associated with top-down approaches that neglect local activities such as agriculture and grazing and disregard local priorities. Second, local people's involvement in management of mineral exploitation helps legitimize mining activities in the area, as local authorities can reap the benefits directly and monitor compliance. This reduces the belief that deals are unfair. Third, conflicts can be tackled more directly as local authorities would be in charge of the mining sector. Nonetheless, vesting mineral resources

In some jurisdictions the “center of the earth” maxim takes into account mineral substances.³⁰⁷ Germany, for example, uses a substance criterion to establish ownership of mineral resources—pursuant to the Federal Mining Act, only mineral resources classified as *grundeigen* (land-owned) run with the land and are protected as private property.³⁰⁸ This first category includes minerals such as sand, gravel, basalt, lava, quartz, and clay. Conversely, mineral resources classified as *bergfrei* (free from land property) are considered *res nullius* or ownerless resources: their exploitation is subject to an administrative permit, which allows authoritative control of mining activities.³⁰⁹ This second category comprehends minerals such as fuel minerals, iron, gold, copper, geothermal energy, and salt. The reason for this categorization is “to safeguard the supply of mineral resources in the interest of the national economy, independently of the consent of the individual landlord and from the actual dimensions of the individual real estate. Therefore, mining law suspends the landlord’s access to such resources.”³¹⁰

As in Germany, in the United States the Mining Law of 1872

in local governments would deprive the national government of significant mineral rents necessary to finance national welfare policies. Although a tax may solve this, it would not equal the fifty percent share of mineral rents that the national government currently receives. In addition, this scheme does not address the fact that most regional and local governments lack the legitimacy, transparency, and accountability to bargain with mining companies, and have shown little effectiveness in handling mineral rents in the past. Even worse, local actors do not always have the incentives to organize collective action. For the above reasons, reallocating mineral resources at the subnational level cannot be introduced as a nationwide policy in the short run. It requires capacity building, transparency and accountability, and enhancement of municipal governments’ bargaining competences.

³⁰⁷ Other countries complement the “center of the earth rule” with a “depth criterion.” For example, the 2002 Dutch Mining Act establishes that all minerals located in the earth’s upper layers at depth up to one hundred meters belong to the landowner, while all minerals located deeper than 100 meters are owned by the state. This rule often excludes fuel minerals from landowners, as they tend to be located deep in the subsoil. See Anita Ronne, *Public and Private Rights to Natural Resources and Differences in their Protection?*, in PROPERTY AND THE LAW IN ENERGY AND NATURAL RESOURCES, *supra* note 12, at 65–66.

³⁰⁸ See *id.*

³⁰⁹ See Johann-Christian Pielow, *Mining Law in Germany*, in INTERNATIONAL AND COMPARATIVE MINERAL LAW AND POLICY, *supra* note 44, at 1046–48 (pointing out that in Germany, however, everyone has, in principle, a right to at least apply for such mining permits even if they are not granted).

³¹⁰ *Id.* at 1047.

has been gradually narrowed in its scope and today it does not comprehend common variety minerals such as stone, sand, gravel, cinders, and pumice.³¹¹

The substance-based rule is appealing for two main reasons. First, it tackles the main argument against privatization of mineral resources: it vests non-strategic mineral substances in the landowner, while the state maintains control of strategic ones by using a substance list. Thus, this rule enables the exploitation of important mining fields and the creation of mineral rents without being exposed to the holdout problem.

Second, it avoids the access controversy arising between traditional resource users and formal lessees of lower market value minerals. By forgoing these mineral resources through a substance list criterion, the government can successfully avoid unnecessary clashes between competing resource users. In the example of the ashlar stone quarry in Arequipa, this would eliminate the confrontation between traditional owners (i.e., the historical users of the ashlar stone quarry) and formal titleholders (i.e., the mining company holding the formal entitlement).

This differentiated treatment of mineral substances is broadly justified in Demsetzian terms given that “more valuable resources tend to have more precise property rights because the greater benefits from definition and enforcement offset the higher costs of doing so.”³¹² In other words, the transaction costs involved in defining and enforcing property rights may well be necessary or efficient for those mineral substances of greater value, but not for others of lesser value. In this line of reasoning, given that the economic relevance of common variety minerals is relatively insignificant in the Peruvian case,³¹³ the political transaction costs required to pass this reform seem low. To facilitate political support, this redefinition of property rights in land would require grandfathering current mining leases.

Yet the adoption of the substance-based rule poses some challenges. First, it would require coming up with an exhaustive

311 Morris, Meiners & Dorchak, *supra* note 103, at 760.

312 Libecap, *supra* note 256, at 264 (citing Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. PAPERS & PROC. 347 (1967)).

313 While the value of mineral commodities exported in 2010 was US\$21 billion (which represented 61% of Peru’s total exports that year), the value of non-metallic substances exported in 2010 was only US\$251 million (0.71% of Peru’s total exports). See MINISTERIO DE ENERGÍA Y MINAS, *supra* note 2, at 7.

list of substances that vest in the landowner. This may be burdensome because the value of mineral substances is not fixed in time and place: a specific mineral substance could become valuable over time, therefore requiring periodic revisions to the list, subject to the technological and economic swings which influence the mineral quality of ore deposits and its recoverability.³¹⁴ The way out is to spare from landowner's control certain "critical" mineral substances using historical data on production and exports. In Peru, for example, this list should include gold, silver, copper, zinc, and tin. All other minerals should vest in landowners.

Second, the earth's crust is not a homogeneous rock mass and, even though every element may have an average crustal concentration, in very few specific areas does any element exist in exactly that average concentration.³¹⁵ Precisely, the non-fuel mining industry is devoted to exploring those areas where particular substance concentration—relative to other substances—is sufficiently high to make it economically viable to exploit or recover.³¹⁶ This means that a rule vesting gold in the state would not bring along full certainty over subsoil ownership, given that gold particles are widespread in the subsoil in different concentrations (as opposed to an oil field). That is to say, every ton of subsoil dug by a landowner contains minerals that are land-owned (e.g., gravel) and state-owned (e.g., gold). To address this issue, a rule establishing a threshold mineral concentration for each substance would be necessary. In this way, if a landowner wishes to exploit a mineral deposit, he would have to show that the concentration of state-owned minerals is below that threshold.

Third, a substance-based rule could be relatively easy to

314 See, e.g., COLLIER, *supra* note 1, at 68 (“[T]echnical progress periodically confers value on minerals that were previously not worth extracting.”).

315 See Lacy, *supra* note 286.

316 See *id.* (“The useful elements in the earth's crust do not normally occur in sufficient concentrations and in the proper chemical combinations to allow for them to be commercially extracted from the earth for man's use at the present time. They must be found in a relatively concentrated state and in a specific chemical form in order to be utilized. Such concentrations of the proper chemical compounds, enriched within the geochemical cycle in the earth's crust we refer to as valuable mineral deposits. Concentration is brought about through various geological processes. Chemical elements, including the ore metals, are unevenly dispersed through the lithosphere and are continuously being cycled and redistributed under the influence of the earth's dynamic geological processes.”).

disregard, either voluntarily or not. Note that this problem is not inherent to the rule itself, but has to do with legal compliance in general, as shown by informal mining activities conducted in private and public lands all over the country. More policing and stronger law enforcement would enhance the mining sector.

Notwithstanding the challenges it poses, the substance-based rule has the potential to overcome the holdout problem in the privatization scheme and the latent conflict between conflicting land uses of a mineral field in the public ownership model. Hence it should be considered as a possible nationwide reform.

B. *Attaining More Transparency and Accountability*

The administrative procedure for the award of mining leases on a first-come, first-served basis, directed by the national government in Lima, creates the view that a particular development model is imposed on local communities, without regard for their particularities and existing land uses. Even worse, the economic boom has been followed by an avalanche of new mining leases issued by INGEMMET over the past five years. To reduce the perception that communities have been ignored by the national government and that mining companies are colluding with the administration, it is imperative to vest the issuance of mineral rights with more transparency and accountability tools. Here I discuss the auction system as an alternative model.

An auction system would require the mining companies interested in a particular mining lease to bid for it and not simply claim it administratively. The winner would be the company that offers the highest royalty to the government in case of an eventual discovery. Bidding for a mining lease not only renders the system more transparent, but also ensures better royalties for the government as companies would have to compete. An auction helps overcome the asymmetric information problem between governments (who know little about the value of their natural assets) and mining companies.³¹⁷ Government agencies have already gained some experience in the organization of auctions for certain mining leases.³¹⁸

³¹⁷ See COLLIER, *supra* note 1, at 70, 83.

³¹⁸ While INGEMMET schedules an auction when two or more parties have submitted a mining claim for the same area at the same time, PROINVERSION has experience in organizing bidding procedures for the privatization of state-

Further, to make this auction system more efficient and thus justify higher bids, the government could also provide updated information on the legal status of the surface lands where a particular mining lease is envisaged. By providing this information, mining companies would be in a better position to make business judgments.

Some may claim, though, that changing the relatively easy access that mining companies currently have to mining title may deter the exploration industry as this procedure would create more red tape. While this statement requires additional empirical analysis, experience has proven that awarding mining leases indiscriminately, ignoring the views of the extant landowners, fuels social tensions.³¹⁹ So even if an auction decelerates the issuance of new mining leases, given that mining leases are worthless without surface rights granted by landowners, this rule can prove more effective in the long run, assuring the sustainability of investments, expected returns, and mineral rents.

Others may say that this new system would concentrate mining activities in relatively few mining companies who are able to bid for higher royalties. This is not unfair, though, taking into account that mining fields ought to be in hands of the most efficient, capitalized, and experienced corporations. This is the only way to make sure that more mineral rents are created and cutting-edge environmental standards are used.

For the above reasons, it is clear is that an auction mechanism would provide the necessary transparency and accountability that the issuance of mining rights demands nationwide.

C. *Enhancing Distribution of Mining Rents*

An alternative method of reallocating wealth in society is to dispense mining revenues directly to citizens in the form of a cash payment, following the Alaskan model, instead of transferring it to local and regional governments.³²⁰ The Alaska Permanent Fund

owned mining operations and projects. For example, PROINVERSION is currently organizing the auction of the Magistral Mining Project located in the Ancash Region, consisting of a copper deposit covering five state-owned mining concessions. See *Proyecto Minero Magistral*, PROINVERSION, <http://www.proinversion.gob.pe/0/0/modulos/JER/PlantillaFichaHijo.aspx?ARE=0&PFL=0&JER=5026> (last visited Dec. 28, 2012).

³¹⁹ See *supra* Part II.C.

³²⁰ See Michael L. Ross, *How Mineral-Rich States Can Reduce Inequality*, in

was established in 1976 through a constitutional amendment and is widely perceived as a success.³²¹ According to Joan Kasson, “The Fund exists as a result of evolution of thought regarding state ownership of wealth, and how that money should be managed to best benefit all Alaskans, present and future.”³²² Indeed, the Fund is “one of the most remarkable social experiments in modern American history, testing whether a small slice of public resource revenues might benefit Alaska more in the hands of individual Alaskans than in the hands of their state government.”³²³

The Fund was created as a mechanism for equitable distribution and to encourage persons to maintain their residences in Alaska.³²⁴ The constitutional obligation requires that at least twenty-five percent of mineral bonuses, royalties, and related income be channeled to the Fund, thus taking a significant portion of the oil reserves away from the government budget.³²⁵ Alaska distributes an equal share of the accrued interest of the Fund to every person who has been a resident of Alaska for the previous year, with parents responsible for the checks of their children.³²⁶ The Fund is managed by a corporation, “who invests the principal in stocks, bond, and real estate, and whose mandate is to maximize earnings.”³²⁷ Much of the success and prestige of the Fund is due to its singleness of financial stewardship.³²⁸

ESCAPING THE RESOURCE CURSE, *supra* note 101, at 237, 242.

321 See *id.* at 242–43.

322 Joan Kasson, *The Creation of the Alaska Permanent Fund: A Short History*, in THE EARLY HISTORY OF THE ALASKA PERMANENT FUND 11, 13 (Alaska Perm. Fund Corp., Trustee Papers, vol. 5, 1997), available at http://www.apfc.org/_amiReportsArchive/1997_TP5.pdf [hereinafter ALASKA PERMANENT FUND CORPORATION].

323 Clifford John Groh & Gregg Erickson, *The Permanent Fund Dividend Program: Alaska's Noble Experiment*, in ALASKA PERMANENT FUND CORPORATION, *supra* note 322.

324 See Laurence S. Smith, *A Proposed Solution to the Federal Taxation of Alaska Permanent Fund Dividend Payments*, 11 ALASKA L. REV. 97, 99 (1994).

325 See Ugo Fasano, *Review of the Experience with Oil Stabilization and Savings Funds in Selected Countries* (Int'l Monetary Fund, Working Paper WP/00/112, 2000), available at <http://www.imf.org/external/pubs/ft/wp/2000/wp00112.pdf>.

326 See Scott Goldsmith, *The Alaska Permanent Fund Dividend Program*, Presentation at Conference on Alberta: Government Policies in a Surplus Economy (Sept. 7, 2001), available at http://www.iser.uaa.alaska.edu/Publications/presentations/AK_PFD_Program.pdf.

327 See Ross, *supra* note 320, at 242.

328 See Elmer Rasmuson, *A Founder's Reflections on the Early Days of the*

Ross points out some of the benefits of cash transfers: they provide for more equitable rent distribution; allow individuals, who are in better position than governments to decide the optimal way to spend the rents, to make spending choices; prevent corruption and rent-seeking because rents are spared from politicians' control; and can be tied to complementary social goals (i.e., immunizing children or enrolling them in school).³²⁹

As in the Alaskan case, Peru has reached a crucial moment in which its constituency challenges not only the constitutional model of mining tenure, but also the management of mining revenues, especially in the context of a windfall. Local governments have received an enormous influx of revenues from extractive industries over the past decade, but they have been largely incapable of managing and investing those resources in favor of their constituencies. In this context, individuals would certainly make a more efficient use of those resources through cash transfers than the government does with mining revenues. As this paper shows, corruption and incapacity of local governments weigh in favor the cash transfer option.

The Alaskan model could work in some mining regions of Peru, especially those characterized by generalized corruption and poverty. What would be distributed as cash payments per capita is not an exorbitant amount, but would be a good relief for poor families in rural areas who still wait to reap some benefits from the booming economy. Let me give an example. The Ancash Region received most mineral rents in 2010 (US\$276 million) and has a population of 1.1 million. This means that if we were to distribute cash payments to every person living in Ancash, they would have received a check of US\$250 in 2010 (see Table 1). Assuming that a typical household in Ancash has three children,³³⁰ a family of five members would have received a check of US\$1250 in 2010. The cash payment would have been considerably higher in the Moquegua Region, since it has a relatively small population. In

Alaska Permanent Fund Corporation, in ALASKA PERMANENT FUND CORPORATION, *supra* note 322.

³²⁹ See Ross, *supra* note 320, at 243.

³³⁰ The birth rate in Ancash Region was 2.9 between 2005 and 2010. *Perú: Tasa Global de Fecundidad, por Departamento, 2005–2010*, INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA, <http://www.inei.gob.pe/perucifrasHTM/inf-dem/cuadro.asp?cod=11238&name=po23&ext=gif> (last visited Dec. 28, 2012).

this region, the 2010 cash payments would have been US\$505 per capita and US\$2,020 for a family of four.

Table 1: Hypothetical Mineral Rents (*canon minero*) Distribution Through Direct Cash Payments for the Year 2010

Region	Monetary Poverty	Mineral Rents Distributed	Estimated Population ³³¹	Birth Rate	Estimated Cash Payment Per Capita
Ancash	29.6%	US\$276 million	1.1 million	2.9	US\$250
Arequipa	19.6%	US\$122 million	1.2 million	2.1	US\$101
Cajamarca	49.7%	US\$146 million	1.5 million	3.0	US\$97
La Libertad	32.6%	US\$149 million	1.7 million	2.3	US\$87
Moquegua	15.7%	US\$86 million	170,000	2.1	US\$505
Pasco	43.6%	US\$147 million	290,000	3.3	US\$506
Puno	56%	US\$64 million	1.3 million	3.2	US\$49

Nonetheless, the Alaskan model has faced some criticism. First, some claim that this model fosters rent-seeking behavior through new migration waves.³³² Yet it is not clear that people would actually move into mining jurisdictions, given their geographic location and harsh living standards. By contrast, it could help prevent people moving out from the Andes into urban areas in the coast. The fear of a massive exodus to mining regions is exaggerated, as it proved to be in the Alaskan case.

Second, some critics contend that this system would not work in areas lacking well-developed financial systems.³³³ Nonetheless, the successful management of poverty relief programs applied by the government in the Andes may prove this statement wrong.³³⁴

331 *Perú: Población Proyectada por Departamento, 2009 y 2010*, INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA, <http://www.inei.gob.pe/perucifrasHTM/inf-dem/cuadro.asp?cod=11229&name=po17&ext=gif> (last visited Dec. 28, 2012).

332 See Ross, *supra* note 320, at 244.

333 See *id.*

334 In 2005, the government created the National Program of Direct Support of the Most Poor (Programa Nacional de Apoyo Directo a los Más Pobres—JUNTOS) to distribute conditional cash transfers to extremely poor families, subject to school attendance and periodical visits to health facilities. RENOS VAQUIS & ELIZABETA PEROVA, *THE LONGER THE BETTER: DURATION AND PROGRAM IMPACTS OF JUNTOS IN PERU 2* (2011), available at <http://www.juntos.gob.pe/images/noticias/2011/07/JuntosIE-2011.pdf> (noting the expansion

In addition, even remote areas of the country possess public bank agencies (*Banco de la Nación*) that could be used to distribute these payments.

Third, critics argue that this is a complex system to administer because it requires a large and reliable database of all citizens, which may even be subject to fraudulent manipulations.³³⁵ While the risk of fraud and manipulation cannot be eliminated completely, demanding evidence of at least one year of residence in a particular region could suffice. In Peru this is relatively easy to show since identity cards include the place of residence and ought to be reissued upon change of residence. This could create more certainty of actual residence and avoid potential fraud.

Fourth, some authors underscore that those who live closer to the source of the minerals would be likely to demand a larger share of the mineral wealth.³³⁶ Yet creating a differentiated scheme based on residence could solve this problem: the closer you live to the mining project, the bigger your cut. Actually, this is the way mineral rents (*canon minero*) are currently distributed to regional and local governments in Peru, as those authorities located closer to mining operations receive larger rents.

Fifth, others believe that this system would reduce the amount of money available to finance basic public infrastructure. Many rural areas still lack basic public infrastructure, so cash transfers—which are not intended as a long-term solution—would hardly alleviate the serious problems associated with the lack of health, sanitary, transportation, and education facilities.³³⁷ However, in addition to reducing monetary poverty directly, this system could also help incentivize good governance policies because local authorities would try to regain control over rents by recovering their legitimacy within their constituencies.

Finally, to avoid creating a “givings” problem in the case of affluent residents who would also benefit with this measure, the

of JUNTOS “from operating in 110 districts and covering approximately 32,000 households, to covering about 500,000 households in 638 districts”).

³³⁵ See Ross, *supra* note 320, at 244.

³³⁶ See *id.*

³³⁷ See Jeffrey D. Sachs, *How to Handle the Macroeconomics of Oil Wealth*, in *ESCAPING THE RESOURCE CURSE*, *supra* note 101, at 173, 188–89 (noting that cash transfers to households worked well in Mexico and Brazil because the basic rural infrastructure—schools, clinics, transport and power—were already in place).

grant could be conditional to an income threshold or subject to an income tax. The cash transfer is not perfect, but allows ordinary people near mining activities to receive a direct benefit rather than have all revenue flow to political leaders and appointed bureaucrats who are known to drain resources for corrupt purposes.

CONCLUSION

Social inequality, weak institutions, and civil conflicts are social ills that frustrate the conversion of natural resources endowment into a blessing for the majority of the population. To escape them, resource-rich countries ought to adopt significant legal and institutional reforms that prevent mineral rents from being captured by government officials and guarantee that they are used in favor of all. Moving from public to private ownership systems, as proposed by many scholars in resource-rich countries, including Nigeria and Peru, is a radical and unrealistic move. A solution should stem, by contrast, from middle-ground postures capable of surmounting the polarized public-private debate that seems to prevail among commentators.

This paper posits several measures to escape the social ills generally associated with extractive development, none of which require constitutional amendments or entail impossible contracting for property rights. It suggests three concrete policy measures that can be applied either as a nationwide policy or tailored to specific regions. Their goal is to avoid the potential conflicts emerging between traditional and formal use of mineral resources, vest issuance of mining rights with more transparency and accountability, and enhance mineral rent redistribution to eliminate the perils associated with rent-seeking behavior and governmental corruption. The application of these policies would help legitimize mining activities at the local level and advance governability in the country.