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Chinese Investment in Peru: A Comparative Analysis

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Abstract

Chinese investment in Latin America has exploded in recent years, leading observers to worry that Chinese companies may transplant poor labor and environmental practices to the region. In this Discussion Paper, GDAE's Amos Irwin and Kevin P. Gallagher evaluate the economic, environmental and social impacts of Chinese mining in Latin America and compare that performance to other major foreign and domestic firms in the same sector. Based on new quantitative inspection data from Peru, the researchers find that the Chinese company Shougang Hierro Peru has not performed significantly worse than its foreign or domestic counterparts. In fact, a US-based firm has been among the most egregious violators of Peruvian and global standards as of late.

Chinese investment in the region is so recent that only one mining company has been operating long enough to assess its impact. Shougang Hierro Peru has been widely denounced for its environmental and social record, which has been decried in the literature as far worse than that of comparable foreign-owned companies. Much of this literature blames a "culture clash," concluding that Chinese companies operate irresponsibly in Latin America because they are predisposed to poor labor and environmental standards.

Using new government data and historical archives, Irwin and Gallagher find that while Shougang performed poorly on many indicators, when compared to other foreign and domestic mining companies its poor performance has not stood out in recent years. Rather, the Peruvian government has continually failed to force mining companies to comply with their investment commitments, respect government and global standards, or negotiate with their unions.

They conclude that the Shougang case study does not necessarily determine that future Chinese mining companies will be more likely to bring poor environmental or labor practices to Latin America than other foreign and domestic competitors. High social and environmental costs are endemic to mining in Latin America. Consistent with the broader literature on the subject, this study shows that nation-states like Peru cannot count on foreign or domestic firms to self-regulate. To truly maximize the benefits from natural resource extraction, and to mitigate the risks, nations need to stiffly regulate, monitor and discipline firms operating in the sector—regardless of the firm's origin.

Introduction and Background

Chinese companies have traded, loaned, and invested more in Latin America and the Caribbean (LAC) in the last five years than ever before. Previous studies have assessed the impact of the China-LAC trade boom that took off after 2000 and the wave of China-LAC loans since 2008. (Wise and Quiliconi 2007; Jenkins and Dussel Peters 2009; Gallagher and Porzecanski 2010; Hearn and León 2011; Gallagher, Irwin et al. 2012) In this paper, we take up the even more recent wave of Chinese foreign direct investment (FDI) in LAC, which has just begun to receive invaluable scholarly attention. (Sanborn and Torres 2009; Gonzalez Vicente Forthcoming)

As of 2010, Chinese investment in LAC has grown to quite significant levels. A number of studies have dismissed this investment as insignificant, citing figures from the Chinese Ministry of Commerce (MOFCOM) showing that less than half of a percent of China's outward direct investment (ODI) has gone to LAC.[1] (Mesquita Moreira and Estevadeordal 2010, 25; de la Torre, Aedo et al. 2011, 35; Kotschwar, Moran et al. 2011; MOFCOM 2011) However, scholars have shown that MOFCOM's geographically disaggregated ODI data is extremely misleading because it reports tax havens and "first stops" for investment flows, rather than their ultimate destinations. (Rosen and Hanemann 2009, 4; Salidjanova 2011, 16) In fact, researchers and mining officials estimate that Chinese ODI in LAC from 2005-2011 totals somewhere in the neighborhood of $25-50 billion, contradicting MOFCOM's insignificant figures. (Gallagher 2010; Scissors 2011; Tang "Impacts", 3; Tang "Analysis", 4) The Economic Commission for Latin America and the Caribbean (ECLAC) reports that Chinese companies invested $15 billion in Latin America in 2010 alone, comprising more than 13% of total FDI in the region. (ECLAC 2010, 99) The mounting share of Chinese investment directed to Latin America has also captured the eye of China scholars. (Cala 2010)

Previous scholarship on China-LAC relations has focused on its global political, security, and macroeconomic implications. A number of Western sources have sounded alarm bells over the security implications of Chinese expansion in the region. (Ellis 2011, 4) The Chinese government's first-ever white paper on Latin America and the Caribbean, published in 2008, raised concerns that China's calls for South-South solidarity could augment political instability in the region. (PRC 2008) Other work debates whether China has been locking up or expanding and diversifying Latin American hydrocarbon and mineral reserves. (Pierson 2009; Jiang 2009a; Cala 2010; He 2010, 16; Moran 2010)

While scholars should certainly monitor the global impact of Chinese investment in Latin America, the most potent effects will undoubtedly fall upon the Latin Americans themselves. Ruben Gonzalez-Vicente reminds us that "Whereas many [China-Latin America] papers present valid arguments and important findings, they also portray China as conflicting with the interests of the West, rather than placing the main focus of analysis on the developing world's own interests." (Gonzalez Vicente 2009)

[1] This entire discussion of ODI to LAC excludes the Cayman and British Virgin Island tax havens.

Most work on China's impact on the region has focused on the readily available trade data, and has ignored China's overseas investment because of the inadequacy of the MOFCOM data. The main body of literature on China's LAC impact has centered on the macroeconomic impact of China-LAC trade. (IBRD 2005, 9; Gallagher and Porzecanski 2010; Mesquita Moreira and Estevadeordal 2010) Unfortunately, China-LAC investment is still too small, too recent and too poorly documented to lend itself to macroeconomic impact evaluation.

Popular wisdom holds that Chinese companies in LAC will differ the most from other foreign investors on their social and environmental impact. Many harbor fears that Chinese companies will transplant poor domestic practices to their overseas investments. (Friedman 2006; Moody 2007) Cheng Siwei, Vice Chairman of the Standing Committee of the National People's Congress, denounced Chinese companies operating abroad for "irresponsible practices [that have] prevented Chinese companies [from] expanding their business overseas." (Xinhua 2007) In Africa, Chinese companies seem to be fulfilling these expectations of poor performance. (Brautigam 2009, 300) Still, scholars agree that Chinese companies adapt to higher standards in countries with better regulatory systems. (Myers 2011) (Moody 2007; Gonzalez Vicente 2009, 2; Sanborn and Torres 2009; Myers 2011)

Though the mining and energy sector has attracted more Chinese investment than any other in LAC, the investment is so recent that only one Chinese mining company has been operating long enough for us to assess its impact. That company is Shougang Hierro Peru, a Peruvian state-owned iron mine acquired by the Chinese conglomerate Shougang in 1992. Shougang Hierro Peru was China's first major investment project in LAC and one of the first outside China.

Scholars have evaluated Shougang's labor rights record, deeming it extremely poor. They depict the mine's labor problems in terms ranging from "more intense… than with other mining companies" to "a nearly two-decade long revolt from mine workers." (ECLAC 2010, 122; Moxley 2010) Xiaohuan Tang, general manager of Jinzhao Mining in Peru, agrees that "Shougang did not develop a good reputation in Peruvian society." (Tang No date "Proactivity", 5)

The literature generally attributes these labor problems to China's cultural differences, suggesting an inevitable clash of civilizations. Peruvian and Western scholars, government officials and company officials alike attribute Shougang's struggles to "cultural differences," a "cultural problem," "China['s]… Latin American culture shock," or "a cultural quantum leap for China." (Moody 2007; Sanborn and Torres 2009, 198; ECLAC 2010, 122; Kotschwar, Moran et al. 2011) By "culture," they mean corporate culture among Chinese SOEs, which they judge to be ignoring environmental damage and denying labor rights in favor of unconstrained economic growth.

While many have recorded Shougang's conflicts with organized labor, few have done so from a comparative perspective. Some sources have conjectured that Shougang is far worse. (Sanborn and Torres 2009, 198; Parish Flannery 2012) Others have noted the lack of comparisons and recommended a comparative study. (Willer 2000; Gonzalez Vicente

Forthcoming, 3) A recent study by Kotschwar, Moran et al. does compare Shougang's environmental and social impact with that of foreign mining companies. (Kotschwar, Moran et al. 2011) The authors broke new ground but did not attempt to access Peruvian data on firm performance. Instead, they based the comparison largely on Western corporate social responsibility codes to which Chinese companies do not subscribe.

Methodology

The goal of this paper is to place Shougang's environmental and social impact in perspective by comparing it to that of other foreign mining companies in Peru. We conducted nine weeks of research in Peru, tracking down data from the Ministry of Energy and Mining (MINEM), the Ministry of Labor and Promotion of Employment (MTPE), the new Supervisory Agency for Energy and Mining Investment (OSINERGMIN), the Ministry of the Environment's even newer Environmental Evaluating and Auditing Agency (OEFA), the regulatory body of the Lima stock market (SMV), Shougang Hierro Peru's unions and Shougang Hierro Peru itself. To investigate the reliability of these data sources and corroborate our findings, we interviewed government officials, Chinese and other foreign mining company executives, NGO representatives, academics, union leaders, Shougang's workers, and community residents.

After preliminary analysis of the data showed that Shougang's quantitative performance looked better than it sounded in interviews, we launched a follow-up investigation to find out why. As we continued our interviews, we began asking union officials, mining companies, and others for their reactions to our findings. We visited the *El Comercio* archives in Lima, where we read every article written about the mine in Peru's major newspapers since the mid-1980s, well before Shougang purchased the mine. We also searched Chinese newspapers and journal articles on Shougang Hierro Peru to incorporate some Chinese perspectives on the issue, something no previous reports have done.

Our study is methodologically unique in three principal ways. First, we base our quantitative comparisons upon government data to which no previous studies have had access. Second, we conducted extensive research in newspaper archives to place our findings in historical context. Third, we consulted Chinese newspaper and journal articles on Shougang Hierro Peru, which offer as yet unreported direct quotes from Shougang's Chinese managers and Chinese perspectives on the nature and origins of Shougang Hierro Peru's problems.

We compare Shougang's environmental standard performance to that of the other foreign mining companies on four quantitative indicators. First, we evaluate overall performance by comparing the average annual fines each company has received from MINEM for serious environmental violations. Second, we assess overall compliance effort by comparing the extent to which each company met the spending requirements of its Environmental Remediation and Management Plan (PAMA). Third, we measure everyday inspection performance using OSINERGMIN's standardized environmental inspection ratings. Finally, we examine everyday effort to meet standards by comparing compliance with the inspectors' company-specific recommendations.

To assess labor standard performance, we present four indicators based on government data. First, we evaluate overall performance by comparing the average annual fines each company has received from MINEM for serious labor standard violations. Second, we assess safety performance by examining each company's average annual fatailities and serious accidents, as reported by MTPE. Third, we measure micro-scale compliance levels using OSINERGMIN's labor standard inspection ratings. Fourth, we make rough estimates of wages and benefits, a complex issue due to the prevalence of subcontracting. We use information provided by Shougang's union, Shougang itself, and SMV financial statements to evaluate common claims about Shougang's wages.

Finally, we use interview data to compare Shougang's multiplier effects on the local community to those of other companies. We assess the extent to which they employ locals directly and indirectly, buy local products, and generally support the local economy. Since the government does not collect data on multiplier effects, we were unable to construct a quantitative comparison, but a wide range of interviewees painted a consistent picture of how Shougang's behavior in this area differs from that of other foreign mining companies.

It is well established that Peru's environmental and social standards do not measure up to internationally recognized norms. The World Bank maintains that multinational companies perform worse in Peru than in developed countries, since Peru's low standards and lax enforcement allow them to get away with it. (IBRD 2005, 91) Western and Peruvian NGOs have criticized Peru's regulatory system for putting MINEM in charge of both promoting mining investment and enforcing environmental regulations. (IBRD 2005, 75; NGO Official 2011)

While we recognize that Peru's standards are lower, they are sufficient for this study because we are comparing across companies within the same system. Since all companies show noncompliance by Peruvian standards, we can compare their relative compliance levels without making claims about their absolute levels of compliance.

The data we use in this study is unlikely to be biased due to government corruption or other political factors because the data was not collected or analyzed by the government. MINEM contracts its inspections, audits, and impact evaluations out to mostly OECD-based independent consulting firms including Knight Piesold, BSI Inspectorate, Shesa Consulting and SGS Labs. Deloitte, PriceWaterhouseCoopers and Ernst & Young.

The only existing comparative study on Shougang draws its conclusions largely on Western corporate social responsibility (CSR) standards, suggesting that these standards may allow a more rigorous comparison than domestic regulations. Indeed, CSR platforms have made great contributions in recent years by mainstreaming the expectation that corporations will voluntarily demonstrate their responsibility toward the environment, labor, and community. Kotschwar, Moran et al dedicate the bulk of their study to the foreign companies' CSR credentials, including EITI, ICMM, and UN Global Compact.

They do not compare performance with respect to domestic regulations.

Unfortunately, CSR performance data are difficult to compare. The United Nations Global Compact repeatedly emphasizes that it "provid[es] a *complement* rather than substitute for regulatory regimes. It is not designed to monitor or measure the performance of companies (emphasis in the original)." (OECD 2011) Critics complain that the Global Compact and other voluntary CSR programs allow corporations to boost their social image by reporting all of their strengths and none of their weaknesses. ("Communication" 2011; Knudsen 2011) In addition, Shougang has fewer incentives to subscribe to CSR certification and ratings programs. Publicly traded OECD-based companies participate in CSR programs to obtain and maintain funding from OECD-based investors and creditors. (Knudsen 2011; Yanacocha Official 2011) Both Chinese and Western mining company officials agreed that Chinese companies are unwilling and unable to join many CSR programs because they do not depend on OECD-based funding and cannot fulfill some financial requirements. (Chinese Mining Official 2011; Yanacocha Official 2011) This is not meant to denigrate the value or integrity of international CSR organizations, but merely to point out that participation in Western CSR credential programs should not be taken as proof of higher standards.

Company Backgrounds

We sought the greatest possible variety in large foreign companies in Peru for our comparison group. MINEM and OSINERGMIN officials agreed to supply us with the files on labor and environmental inspections and fines for four companies. For our three comparison cases, we selected Antamina, Doe Run and Yanacocha because these companies offered the most similarities to Shougang in terms of foreign ownership, size, type and length of operations. We also take into account whether the operations are greenfield or brownfield, or whether they built their operations from scratch or acquired them from previous owners.

Shougang Hierro Peru is quite unique in that it is a large, foreign-owned complex with a long history that both mines and processes iron. Shougang operates an open-pit iron mine, as well as concentrating and processing plants that produce iron ore filter cake, iron pellets, and iron sinter. In 2010, it employed 1,907 direct employees and 2,331 contracted and other indirect workers. It is the only iron mine in Peru and one of the oldest mining facilities. Eager to produce steel, in 1952 the Peruvian government signed a concession contract with an American joint venture called Marcona Mining Company. (Serna Guzmán, Perry Cruz et al. 2007, 8) Ever since, the community of Marcona has looked back on the 1960s Marcona Mining era as a sort of golden age. (Willer 2000) In 1975, after leftist military generals took power in a coup, they nationalized Marcona Mining and renamed it the Peruvian Iron Mining Company (henceforth Hierro Peru). Hierro Peru lost its supply contracts with foreign steel manufacturers, watched its profits flow out to other state-owned mines, added hundreds of administrators to the payroll in rampant clientelism, fell victim to hyperinflation and low iron prices, and found itself draining $50 million a year from the state budget by the early 1990s. ("Dos" 1992; Willer 2000; Shougang Union Official 2011) In 1992, seeking both to rid the Peruvian state of assets that had become liabilities and to roll out a neoliberal agenda, President Alberto Fujimori made Hierro Peru a model case for privatization. The Shougang Corporation won the bidding, acquired 98.52 percent of the shares in 1993 and has been managing the mine ever since.

Compañía Minera Antamina is a large, foreign-owned greenfield polymetallic mine. Today, Antamina is owned by four major mining companies from the developed world: BHP Billiton (England/Australia, 33.75%), Xstrata (Switzerland, 33.75%), Teck (Canada, 22.5%) and Mitsubishi (Japan, 10%). ("About" 2012) It is slightly larger than Shougang, with 2,227 direct employees in 2010 as well as 4,370 subcontracted and indirect workers. Antamina operates an open-pit mine and a polymetallic concentrating plant, producing concentrates of copper, zinc, molybdenum, lead and silver. Unlike Shougang, the complex does not include plants that process these metals into pellets or other intermediate products. Also unlike Shougang, its owners acquired the concession as a greenfield or undeveloped project, rather than a brownfield mine already in production. While U.S. mining giant Cerro de Pasco bought the land in 1952, it was still exploring the concession when the leftist regime nationalized it in 1970. The state-owned mine made little progress in evaluating Antamina's copper deposits over the next 25 years. In 1996, Fujimori sold this undeveloped, partially explored concession to two Canadian firms, which began production under the name Antamina in 2001. ("Quien" 2010)

Minera Yanacocha is an extremely large, foreign-owned greenfield gold and copper mine. Yanacocha comprises five open-pit mines, four copper leaching pads, and three gold recovery plants. ("Yanacocha" 2010) Today, it is owned by a strange partnership of foreign, domestic, and non-mining companies: Newmont Mining Corporation (51.35%, United States), Compañía de Minas Buenaventura (43.65%, Peru), and the World Bank's International Finance Corporation (5%). In 2010, Yanacocha employed 2,953 direct and 8,175 indirect or contracted workers, about four times as many as Shougang or Antamina. Like Antamina, Yanacocha's foreign owners acquired it as a greenfield concession. Denver's Newmont Mining Corporation and a French partner bought the concession in 1982 and uncovered the Yanacocha gold deposit four years later. Newmont recognized the enormous potential for profit and wasted no time in gaining the state's approval and building the facilities. Though the original discovery occurred a century later than Shougang and Antamina, Yanacocha began production the same year as Shougang and quickly became the world's largest gold mine.

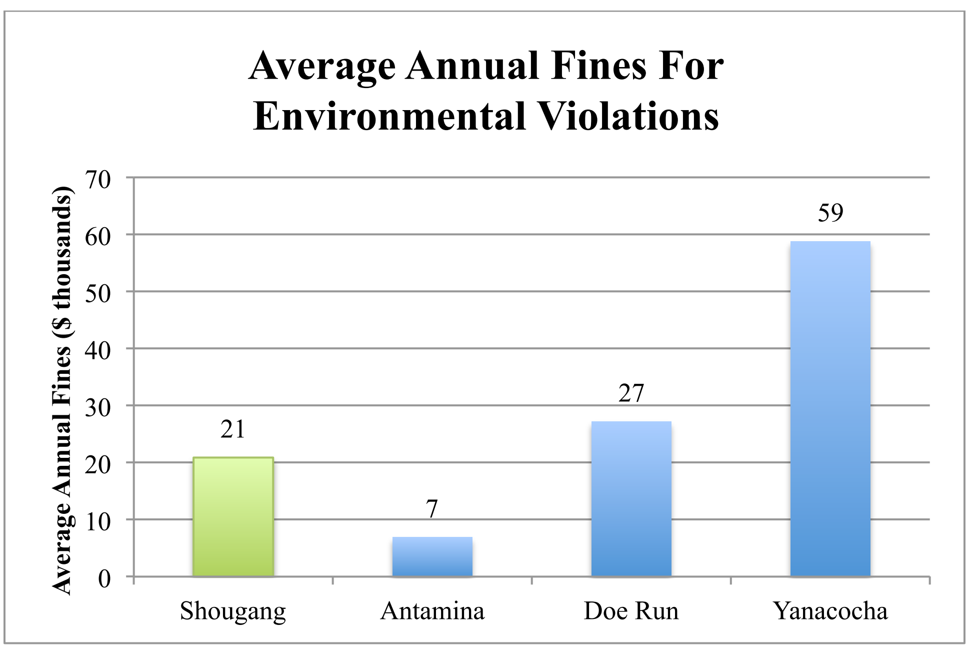
Doe Run Peru is a foreign-owned, brownfield complex that both mines and processes a range of ores. The owner is Doe Run Company, a U.S. subsidiary of RENCO. It comprises the La Oroya processing complex for copper, zinc, lead and other metals and the Cobriza mine to guarantee a minimum copper supply for the complex. The complex and mine employed over 3,000 direct workers until the company's operations were shut down when the Peruvian state revoked its concession. Multiple Peruvian mining officials and scholars recommended Doe Run as the most appropriate comparison case for Shougang due to its similar size, foreign ownership, and history. (Former MINEM MInister 2011; Peruvian Professor 2011) Like Shougang, its foreign owner acquired it through state privatization as a brownfield concession in 1997. In 1922, foreign mining giant Cerro de Pasco built the Metallurgical Complex of La Oroya to process polymetallic output from the region's mines. In 1974, the Peruvian government nationalized it. In 1997, by which point the complex had become technologically obsolete and environmentally hazardous, the government privatized it. (DGAA 2006a, 6; "La Oroya" 2008) The American firm Doe Run Company won the auction with a similar bid to that of Shougang for Hierro Peru—$120.5 million for the complex and a $107.9 million investment commitment. (Canales Rivera and CEPEMA 2008, 6) The Peruvian government has revoked Doe Run's concession for failing to comply with its PAMA, and Doe Run is currently appealing the state's decision.

Environmental Impact: Evidence

Like most mining operations in Peru, Shougang is far from a model of corporate social responsibility. However, our analysis suggests that Shougang is not significantly worse than its counterparts. Shougang did not stand out for environmental standard violations, though it fell below average on some indicators. It performed about average on overall fines, better on PAMA spending, slightly below average on 2008 standard compliance, and significantly below average on implementing environmental auditors' recommendations.

Shougang paid less in average annual environmental fines than Doe Run or Yanacocha, though more than Antamina. We received data on fines from MINEM's General Bureau for Environmental Issues (DGAA). Since DGAA passed this responsibility on to OSINERGMIN in 2007 (who passed it to OEFA in 2009), DGAA could only provide us with information on fines up to 2007. We simply divided the amount of the fines by the years each mine had been in operation to calculate each company's average annual environmental fines (Figure 1).

Figure 1: Average Annual Environmental Fines

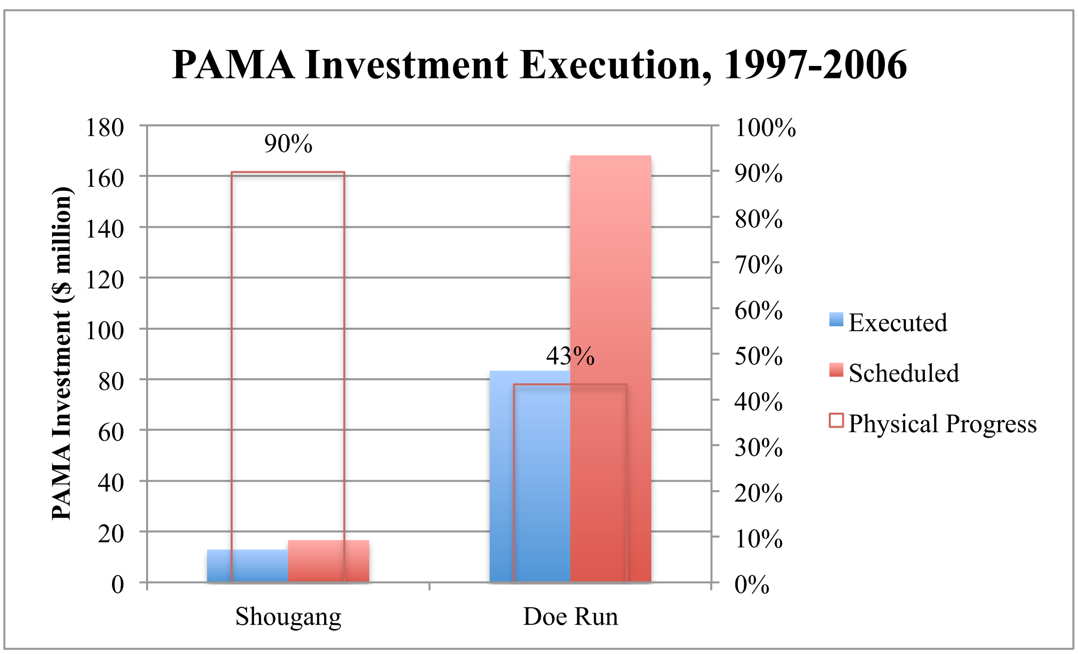


Yanacocha paid the most because of a massive mercury spill in 2000 that the company delayed in reporting; aside from this fine they were charged for two environmental standard violations. Shougang paid eight fines and Doe Run both paid eight fines for violating environmental standards, and Doe Run paid another three for PAMA violations. Antamina paid three fines for environmental standard violations. Thus, in terms of major violations of environmental standards, Shougang is roughly average.

Shougang outperformed Doe Run on PAMA investment spending, though Doe Run had committed to make a far larger investment. When the Peruvian government privatized state-owned brownfield mining concessions with existing environmental hazards, it required the new investors to commit to mitigate these hazards through a formal PAMA contract. Antamina and Yanacocha, as greenfield projects, do not share these responsibilities. In Shougang's PAMA, the company committed to spend \$16.6 million from 1997 to 2006 to rehabilitate its crumbling infrastructure, which meant constructing a new tailings deposit, reducing dust and gases, protecting against oil spills, and treating household waste water. (BO Consulting 2007, 68) As of 2006, Shougang had spent \$12.7 million, or 77% of its original commitment, and physically completed 90 percent of the projects

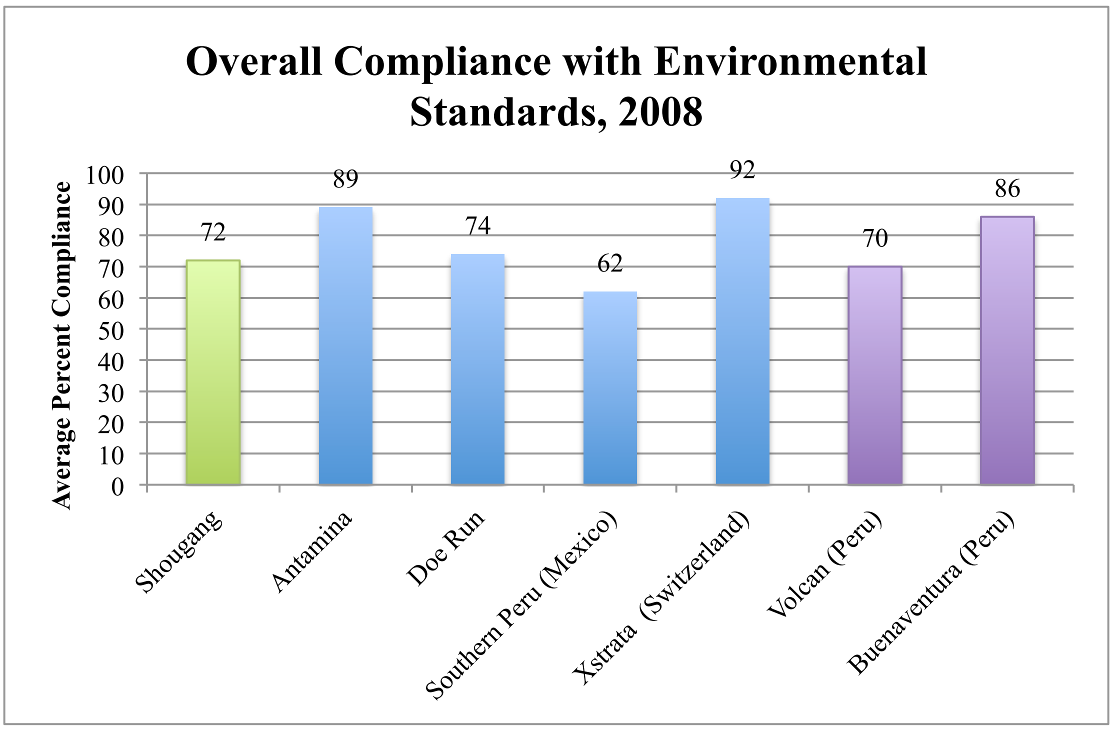
Figure 2). Doe Run committed to spend approximately \$168 million from 1998 to 2006. Its PAMA sought to mitigate the complex's hazardous emissions by constructing a new sulphuric acid plant, an effluent treatment plant, domestic and industrial wastewater treatment plants, an arsenic trioxide plant, and a monitoring station. (Canales Rivera and CEPEMA 2008, 6) With six months left in its initial ten-year PAMA, Doe Run had executed \$83.3 million or 50 percent of its originally scheduled investment, and it had made only 43% physical progress. (Cletech 2006, 38) It cannot be denied that Doe Run faced a much greater PAMA investment burden than Shougang. Still, Shougang fulfilled a greater percentage of its scheduled investment than Doe Run.

Figure 2: PAMA Investment Spending, 1997-2006



In terms of everyday compliance with environmental standards, we find that Shougang received slightly lower ratings than the other companies. We base this comparison on compliance percentages assigned by their third-party, government-contracted environmental auditors' reports to OSINERGMIN. Each company's overall compliance is a simple average of its scores in nine to twelve individual areas, including toxic, industrial, and domestic waste management, emission regulation, and community relations. Since the government has been shifting the agency responsible for these reports as well as the reports' formats, it was not possible to acquire quantitative data for every year of operation.[2] Therefore, we compare the companies' compliance percentages in OSINERGMIN's 2008 yearbook. (APOYO Consultoria 2009) We separate the results from these two sources because while OEFA only gave us the files for four companies, OSINERGMIN's yearbook contains data for a few new comparison cases. OSINERGMIN's 2008 data shows Shougang to be the second lowest of five companies, but not particularly extreme (**Figure 3**).

Figure 3: Overall Compliance, 2008 Environmental Audit



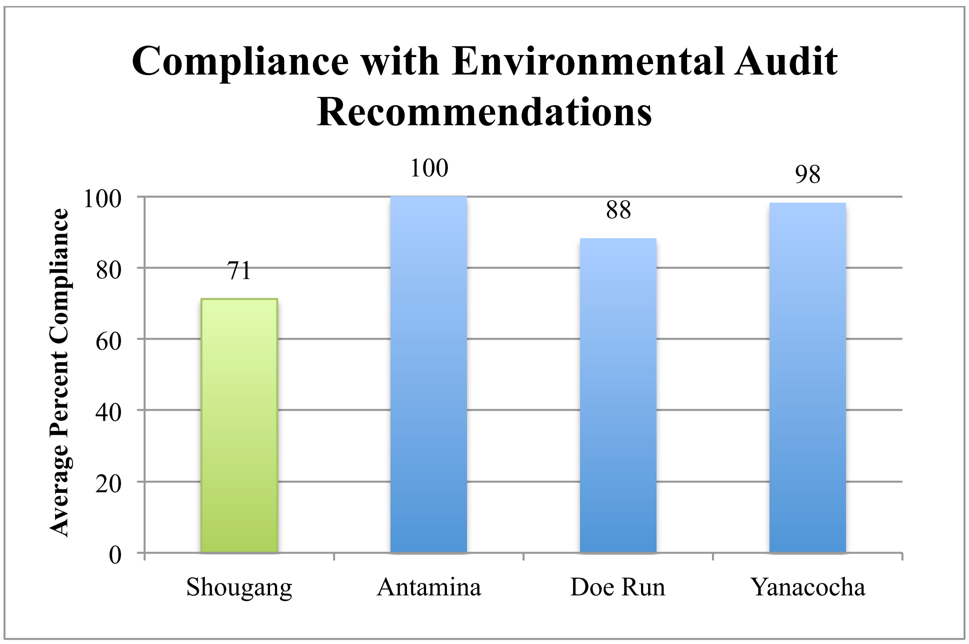
The companies at the far right are the two largest Peruvian mining companies, Volcan and Buenaventura. Interestingly, they appear to be in the same league as the foreign

[2] MINEM's DGAA abdicated responsibility to OSINERGMIN after 2007 and transferred its files to OSINERGMIN in 2008. OSINERGMIN passed the buck to OEFA in 2009 and again forwarded its records. DGAA gave us access to the tens of thousands of pages of records it could locate, but these only contained data from 2004 to 2007. OSINERGMIN provided me with a transparent, well-organized, and quantitative yearbook from the one year it managed audits, 2008. OEFA also gave us access to thousands of pages of its archives, containing data from 2009 to 2010. We were thus unable to locate pre-2004 data. Unfortunately, DGAA's 2004-2007 archives offer only vague evaluations of each company's compliance and cannot be reliably compared.

giants, roughly speaking. The best and worst performers are two large OECD-based companies, the Swiss company Xstrata and the Mexican company Southern Peru Copper Corporation. In short, Shougang does not stand out in the 2008 data.

Finally, we find that Shougang does stand out in its lack of compliance with environmental auditors' recommendations. We culled these percentages from tens of thousands of pages of DGAA (2004-2007) and OEFA (2009-2010) archival files, so we are averaging hundreds of compliance scores for the period 2004-2010.[3] These recommendation compliance percentages differ from standard compliance percentages in that recommendations are company-specific orders based on the previous inspection. They vary across companies and across time in seriousness, urgency, complexity and difficulty. While it is unclear how Shougang's recommendations compared to those of other companies, it is clear that Shougang has complied less readily with these recommendations than the other companies (Figure 4).

Figure 4: Average Percent Compliance with Environmental Audit Recommendations



It is important to note that these recommendations are minor compared to the previous indicators. They range from implementing pollution control systems to labeling garbage cans. Although auditors report them consistently, government reports ignore them. (APOYO Consultoria 2009)

Labor Impact: Evidence

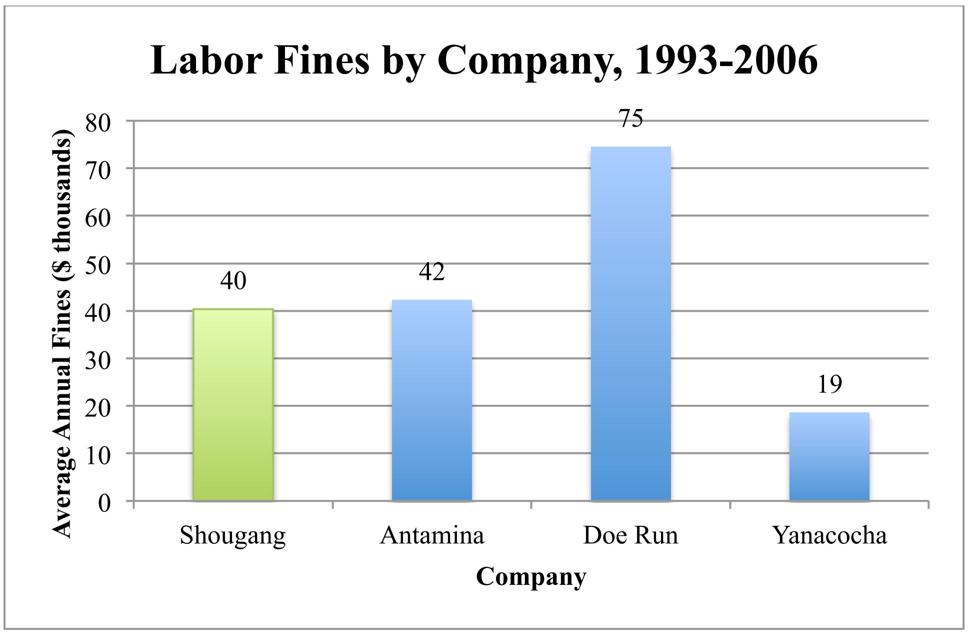
When compared to the other firms in our sample, Shougang does not stand out for labor standard violations. At the same time, its rate of serious accidents is abnormally high. It

[3] The data represent 275 scores over five years for Shougang, 30 scores over three years for Antamina, 97 observations over four years for Doe Run, and 134 observations over four years from Yanacocha.

comes in roughly average on overall labor code violations from 1993-2006, somewhat below average on its fatality rate since 2006, and leads the foreign companies in serious accidents since 2006.

DGAA gave more fines for labor standard violations to Doe Run and Antamina than to Shougang (**Figure 5**). Shougang received eight fines for worker fatalities and five fines for health and safety standard violations. Antamina received six fines for fatalities and two fines for health and safety violations. Doe Run received thirteen fines for fatalities and six fines for health and safety violations. Yanacocha received eleven fines, all for fatalities. Shougang does not appear to be the outlier that its reputation would suggest.

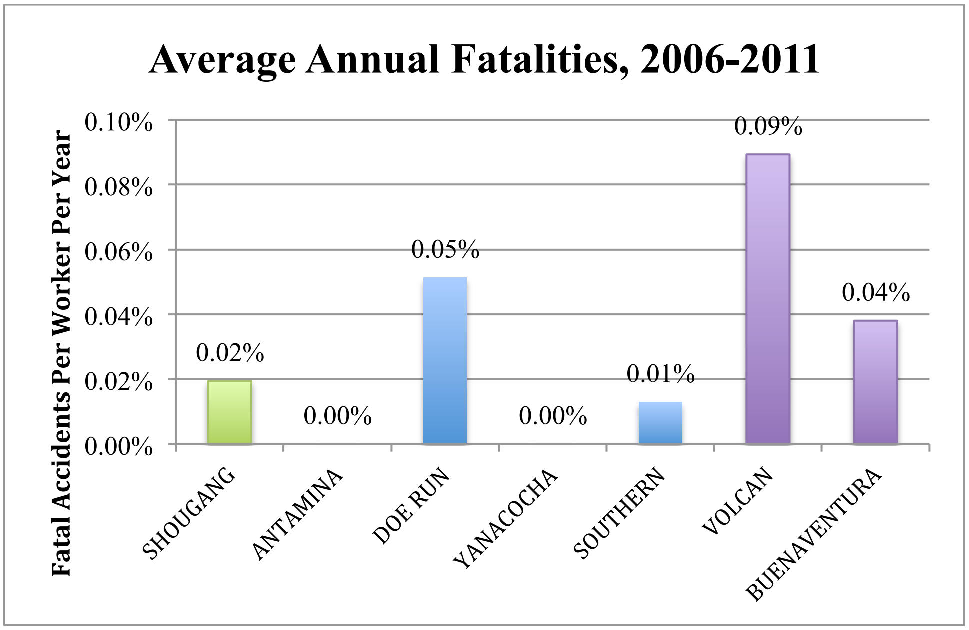
Figure 5: DGAA Labor-Related Fines, 1993-2006



MINEM's mining fatality database, which covers 2006-2011, reveals that recently Antamina and Yanacocha have improved while Doe Run and Shougang have not (**Figure 6**).

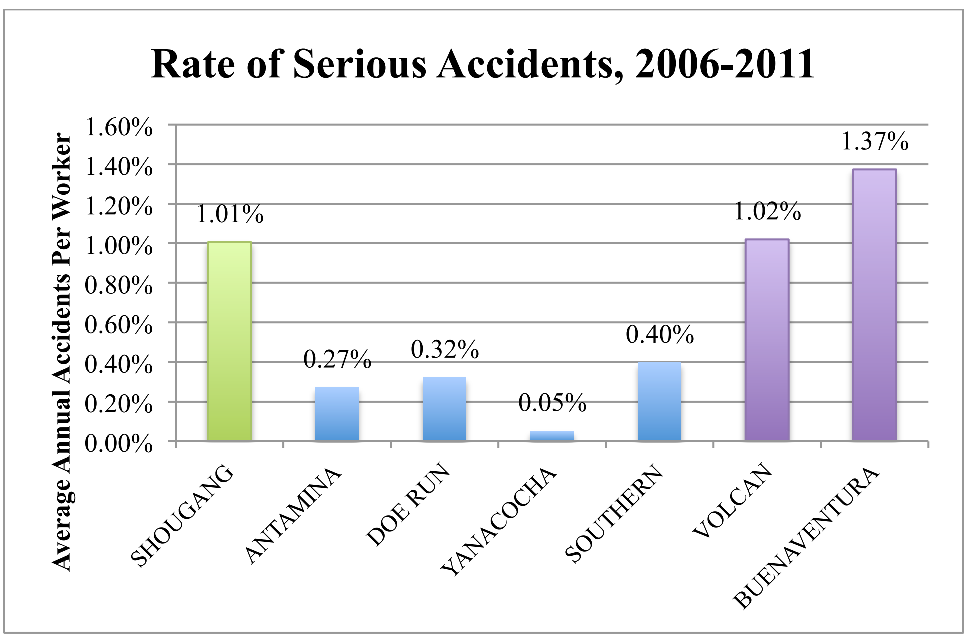
This database is publicly accessible through MINEM's website. It includes one other large, OECD-based mining company and the major Peruvian companies from **Figure 3**. We observe that Shougang performs below average for foreign firms, but by no means does it stand out. Its fatality rate is less than half that of Doe Run and well below that of the domestic mines, Volcan and Buenaventura. Antamina and Yanacocha have reduced their fatality rates essentially to zero since 2006. An ex-Minister of Energy and Mining maintained that Antamina and Yanacocha improved largely because the government played "hardball" with them, threatening to revoke their concessions if they did not improve. (Former MINEM MInister 2011)

Figure 6: Average Annual Fatalities, 2006-2011



Shougang does stand out in DGAA's data on serious accidents (Figure 7). DGAA classifies accidents as minor, disabling, and fatal. We compare disabling accidents across the wider set of companies from **Figure 3** and **Figure 6**.

Figure 7: Rate of Serious Accidents, 2006-2011



Clearly, Shougang does stand out among foreign companies in this area. While it improves slightly upon the major Peruvian companies Volcan and Buenaventura, it suffers more than twice as high a disabling accident rate as the other companies. Though Shougang did not stand out for fatalities or disabling accidents, here it is something of an outlier. Interviews suggest that while Shougang complies with labor standards in general, its ancient machinery endangers workers. As a union official put it, “Shougang doesn’t invest much money in safety measures like buying new machinery—much of it is 20 years old. They do just enough to get by.” (Shougang Union Leader 2011)

Wages and Contractors

Our findings agree with claims that Shougang’s wages are lower than its counterparts, but this differential is both smaller and less central to worker welfare than others have suggested. Outside sources have lambasted Shougang for its low average salaries. Emmott and Kotschwar et al both report the same figure to demonstrate Shougang’s low wages: $14 per day. (Emmott 2005; Kotschwar, Moran et al. 2011) They agree that the industry average hovers around $30 per day, and Kotschwar et al add that Antamina and Yanacocha pay some of the highest salaries in the industry.

While Shougang may not pay quite as much as other foreign companies, they pay far more than these sources suggest.[4] The workers’ union provided us with the official 2010-2011 wage scales it negotiated with the company (**Figure 12**). Experienced workers earn $22-27 per day in wages alone while recent hires earn $15-17 per day. The average daily wage comes to approximately $20. (Sanborn and Torres 2009, 196) This figure does not include bonus and benefits payments that may bring Shougang’s salaries up to the industry average. Shougang and striking workers have cited average salaries of $29-35 per day in newspaper articles. (Gou 2005) ("Remuneraciones" 2002; "Shougang" 2004) The unions confirmed that bonuses and benefits are substantial, but it is unclear whether they would add $10 to the average daily wage to place Shougang at the national average. According to these data, wages are far closer to average than other sources have suggested.

While Shougang’s mining wages may seem like an important social justice issue to outside observers, Peruvians see them as middle-class privileges. A former Antamina manager pointed out that these are not manual-labor shaft miners, but rather highly-skilled operators of million-dollar open-pit mining equipment. Officials from Antamina, Chinalco, and MINEM argued that demand is so high for these workers that “no company can afford to pay little,” concluding that Shougang’s wages “must be very close to the level of other companies.” (Chinalco Manager 2011; Former Antamina Official 2011; Former MINEM MInister 2011) My estimate of Shougang’s average $20 base wage, excluding benefits and bonuses, is 2.5 times greater than Peru’s minimum wage. ("Ejecutivo" 2010) Shougang’s union officials acknowledge that their main concern is not the level of the average wage, but rather the inequity in the dual wage scale for old and new hires and the subcontracting.[5] (Shougang Union Delegation 2011)

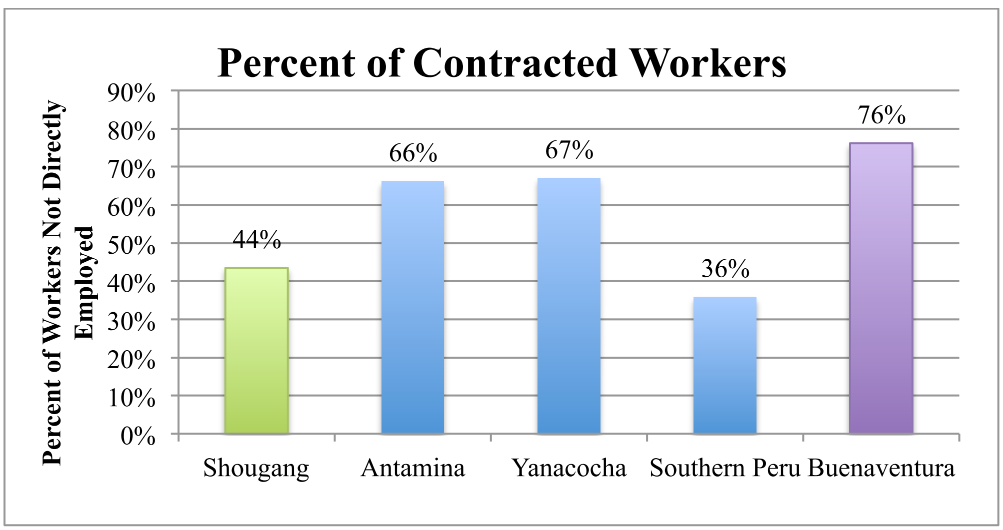
[4] Perhaps it is important to clarify that these averages only include the *obreros* (manual laborers, henceforth “workers”), not the better-paid *empleados* (office workers and managers, henceforth “employees”).

[5] The workers also receive standard year-end profit-sharing bonuses. Peruvian mining law requires companies to pay workers 8% of their net profits. As iron prices have soared over the last decade, Shougang’s bonus payments have followed suit. According to SMV financial statements, on average over the last five years, Shougang’s workers and employees have received an extra $20 per day from these bonuses. (2012). "Mercado de Valores: Emisoras: Memorias." Superintendencia del Mercado de Valores

A hidden, more disturbing issue is the mining companies' use of low-paid subcontractors. While the *New York Times* and Kotschwar et al focus only on formally employed workers, NGOs and unions in Peru are most concerned about subcontracting. Peruvian law allows mining companies to hire subcontractors to manage non-mining aspects of the mine. Companies can also hire "intermediaries" from poorly regulated outside firms; intermediaries work alongside formal workers but are hired and paid by the outside firms. Mining companies have been shifting up to 80% of their labor force to intermediaries and outside contractors in order to avoid minimum wages, legal liability, and firing restrictions. Ex-Vice Minister of Environmental Management Jose de Echave writes that subcontracting "has played a pivotal role in the poor quality of mining employment" due to contractors' "poor training of the workers and inadequate safety measures." (de Echave 2007) Contractors earn about half of the wages of the lowest-paid formal workers, with none of the benefits, bonuses, unionization rights, or job security. ("Trabajadores" 2007; Sanborn and Torres 2009, 196)

While Shougang may pay its formal workers less than other foreign mining companies, it also uses fewer subcontractors. We compared the percentage of contracted workers across four foreign and one Peruvian company using data from SMV and Antamina's 2010 Sustainability Report (Figure 8).

Figure 8: Percent of Workers Not Directly Employed By the Company



Shougang uses fewer contracted workers than Antamina and Yanacocha. This is not necessarily a good thing. A former Antamina manager claimed that Antamina ensures that its contractors pay their workers well and argued that the company uses more contractors because it provides more services to its employees. (Former Antamina Official 2011) Given Shougang's lower use of contractors, its average wage for indirect and direct workers combined may exceed those of Antamina and Yanacocha. Still, the quantity of jobs may be more important than the quality of the wages. Though companies pay far lower wages to their contractors than to their formal workers, these low contractor

Retrieved 15 Mar 2012, from http://www.smv.gob.pe/Frm_Memorias.aspx?data=2621C038EC1F2286F1B 4681A9C105FF3BFF6119339. Of course, if iron prices crash, these windfall bonuses will dry up.

wages still exceed those available in other sectors. An ex-Minister of MINEM stressed the fact that many mining conflicts begin when communities realize how few jobs are available for locals at the new mines. (Former MINEM MInister 2011)

Interviews suggested that Shougang did not stand out in using contractors illegitimately when compared to other foreign firms. Mining companies in Peru routinely attempt to save money by illegally hiring contractors for "principal labor" that is central to the production process. In 2007, the MTPE's National Director of Labor Inspections, Jorge Villasante, cited Shougang as one of the "best examples" of a mining company misusing contractors, "as illustrated by the high number of union complaints."[6] (Torres Azucena 2007) However, Shougang's union leaders acknowledged that while Shougang does "use contractors in order to avoid paying high salaries and benefits… It's the same with all companies and not any worse than other mining companies." (Shougang Union Official 2011) As we illustrated, Shougang also uses fewer subcontractors. Shougang's union appears to protest the subcontracting situation more than others not because Shougang's violations are more egregious, but rather because the union is simply more active in supporting workers' rights. Since MINEM remains in denial about this problem, we have no data on which to judge the companies.

Backward Linkages

Shougang has fewer backward linkages throughout Peru as a whole but may have deeper local links than do its counterparts. Union, government, and company officials agreed that every mining company imports all its heavy machinery, since Peru does not manufacture mining equipment. When it came to secondary products and services like food preparation, dust masks, equipment repair, waste removal, cleaning and construction services, we found a consistent pattern. Shougang bought more local goods and hired more local service providers, such as cheap, local caterers. Antamina and Yanacocha bought better-quality goods and services, hiring multinationals like Sodexo Peru to provide food services. Antamina and Yanacocha bring more revenue to Peru as a whole because they pay more for these products and services. However, most of their service providers come from Lima, deepening regional inequality. Shougang sources its cheaper, lower-quality goods and services from small, local firms to minimize costs. In Antamina and Yanacocha's defense, they have been encouraging their Lima service providers to purchase local inputs like uniforms, shoes, milk and vegetables. While Shougang's service providers may be local, they often bring little local benefit because they simply import food and other products from Lima when they are not locally available. Thus, it is unclear what impact Shougang's penny-pinching has on backward linkages with local communities.

In one final complication, it is important to note that backward linkages can carry some negative impacts for mining communities. The miners spend more money in town, which is positive for the local vendors. However, the influx of cash inflates prices for other local

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[6] Shougang became a test case in a political fight over contractors—the MTPE declared Shougang's practices illegal but was immediately overruled by MINEM. Navarro, P. (2007). "Sobre la contratación indirecta." El Comercio: B2.

buyers. A Shougang union official pointed out that as workers enjoyed rising profit bonuses, locals began complaining that “The workers are buying new cars and other things, causing the prices to go up.” (Shougang Union Official 2011) An ex-Vice Minister of the Economy remarked that “It can be bad having this new money because it brings prostitution, drugs, and other crime… inequality and rising prices can make the community hate the mining.” (Former Vice-Minister of the Economy 2011)

Like Western companies, Shougang employs local workers rather than importing them from China. Although Chinese mines in Africa have received criticism for importing Chinese workers, Ruben Vicente-Gonzalez notes that, “Contrary to the case of their operations in Africa, Chinese SOEs [in Latin America] do not introduce Chinese contract workers in their projects.” (Gonzalez Vicente 2009, 107; Pomfret 2010) As in other foreign companies, today only a handful of Shougang’s managers are foreigners.

Union Relations

If Shougang has performed better than its reputation suggests, it is worth asking if Shougang’s union relations are really as poor as they are portrayed. As mentioned previously, the *Asia Times* calls Shougang’s union relations “a nearly two-decade long revolt.” (Moxley 2010) ECLAC concludes that labor problems “are more intense with Shougang than with other mining companies in Peru.” (ECLAC 2010) We examined data on annual strikes to find out.

Shougang does truly stand out in annual strikes. We collected annual reports by the MTPE’s General Statistics and Computer Systems Office on strikes in the mining sector. The reports recorded both numbers of strikes (Figure 9) and total man-hours lost (Figure 10) for the period 2001-2011.

Figure 9: Total Company Strikes as a Percentage of Total Mining Industry Strikes, 2001-2011

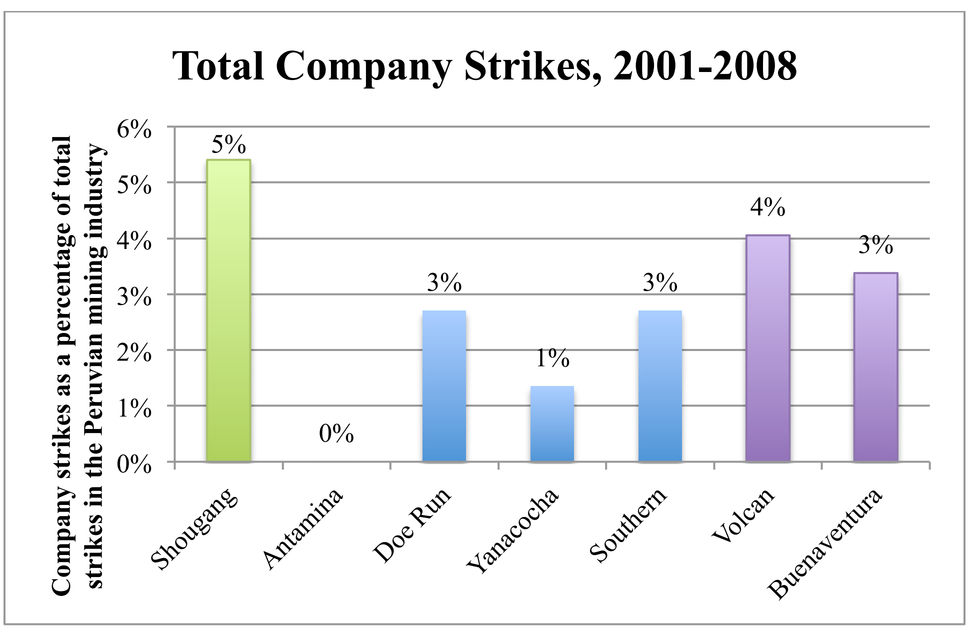
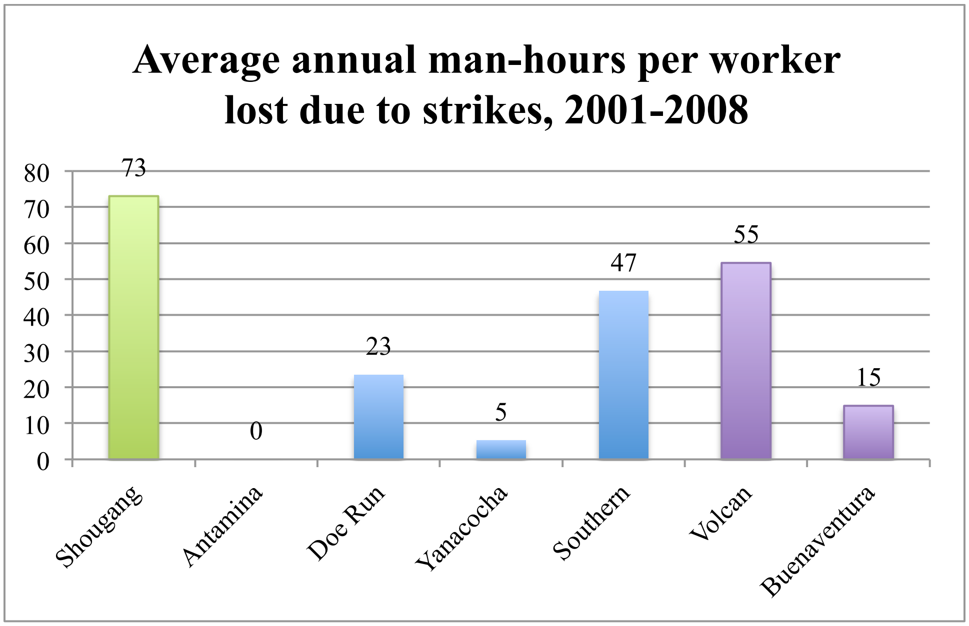


Figure 10: Average annual man-hours lost per worker, 2001-2008



The above figures illustrate that although Shougang did not stand out for labor or environmental violations, it has experienced an abnormally large amount of strikes. Doe Run, which performed worse than Shougang on almost every indicator of labor standards, lost 70% fewer man-hours to strikes. Roughly one in twenty strikes by Peruvian miners from 2001 to 2008 occurred at Shougang.

Synthesis

Though the literature has widely considered Shougang to be far worse than comparable foreign mines, Shougang does not stand out as having a particularly negative performance on quantitative environmental or social indicators. Its two largest failures were lack of compliance with environmental auditors' recommendations and an abnormally high rate of serious accidents. The company also performed somewhat below average on 2008 environmental standard compliance and 2006-2011 fatalities. It came out average or better on some of the most important measures, including PAMA spending and fines for both environmental and labor violations. On other issues, including wages, subcontracting, and community multiplier effect, little hard data is available, but Shougang appears to be less of an outlier than previous reports have suggested. The only clear way in which Shougang stands out from other foreign mining companies is its high rate of strikes.

The quantitative comparison also shows that the brownfield projects for the most part underperformed the greenfield projects. Doe Run and Shougang were the lowest performers on environmental standard compliance (**Figure 3**), environmental recommendation compliance (Figure 4), recent fatalities (**Figure 6**) and serious accidents (Figure 7). As the next section shows, Shougang's predecessor made poor environmental and labor conditions a challenge to overcome rather than a choice to be made.

Analysis

This section of the paper attempts to unpack the reasons for variation between Shougang and its counterparts. Here we also conduct a more specific comparison with a US-based firm, Doe Run.

If Shougang does not stand out for environmental or labor standard violations, why does its union constantly go on strike, and how has the company acquired such a dismal reputation? The answer lies in Shougang's decades-long conflict with the unions, conflict that in turn stemmed from Shougang breaking its investment commitments and refusing to negotiate with the unions. Shougang's problems can be traced to a large extent back to the poor Chinese and Peruvian institutional frameworks of the 1990s. Poorly planned state-owned enterprise reforms in both China and Peru allowed a corrupt Shougang official and a Peruvian autocrat to commit Shougang Hierro Peru to an unreasonable financial burden. When the parent company Shougang crashed back in China, Shougang Hierro Peru defaulted on these commitments. The Peruvian government's weak contracts and regulations forgave Shougang for its default after a slap on the wrist, but the unions and community did not.

By comparing Shougang with the similarly situated American mining company Doe Run, we show the power of this historical baggage but also of positive public relations. We compare Shougang's managerial decisions to those of Doe Run. Doe Run has maintained popularity among workers and community members while recording an even worse social and environmental impact than Shougang. While Shougang's unions orchestrated annual strikes that cost the company millions of dollars, Doe Run's unions took to the streets in favor of their employer, protesting the government's decision to shut it down.

Popular wisdom holds that Shougang ruined its labor relations by firing workers when it took over Hierro Peru in 1993. Sources from the *New York Times* to Peru's *El Comercio* report that Shougang's labor problems began immediately when company managers arrived in Marcona, because they slashed the workforce in half and brought in Chinese workers to replace them. (Combe 1996; Munita 2010; Kotschwar, Moran et al. 2011; SNMPE Official 2011; Parish Flannery 2012)

In fact, Shougang did not fire those workers and this was not the source of the union conflict. The workers had already been laid off months earlier by the Peruvian government. (Serna Guzmán, Perry Cruz et al. 2007, 56; Shougang Union Official 2011)[7] An American consulting firm informed the Fujimori administration that half of the mine's bloated payroll would have to go to make the company profitable. ("Hierroperú" 1992; Ferchen 1999, 13; Willer 2000; "Marcona" No date) In October 1991, a year before anyone in Peru learned the name Shougang, MINEM began firing half the mine's workers. ("Privatización" 1991; "Fuerte" 1991; Serna Guzmán, Perry Cruz et al. 2007) By the time Shougang entered the bidding process, the workers were already unemployed. ("Hoy" 1992; "Se realizó" 1992) Recognizing the benefits of attracting new investment to renovate the mine and make it profitable, the workers' union supported

[7] Dirig Sind 2

privatization and acknowledged the need for the firings. ("Personal" 1992; "Huelga" 1992)

Still, Shougang's takeover was managed poorly from both Peruvian and Chinese sides. MINEM had failed to remove the unemployed workers from company housing, so Shougang unceremoniously evicted them. (Peruvian Professor 2 2011) Then Shougang brought somewhere between 160 and 350 Chinese workers to work in the mine. (Lizana Salvatierra 1995; Wu 1999, 4; Gonzalez Vicente 2009, 190; Arnson and Davidow 2011, 27) When Peruvians burned the company's three Chinese arches in protest, Shougang hastily shipped these workers back to China. (Gonzalez Vicente 2009, 190) Chinese sources note that "when Shougang arrived, the Peruvians were not at all grateful." (Deng 2010) Shougang flew union leaders to China to woo them with visits to its parent company, but the leaders responded "ungratefully" by "proposing increased benefits to match what they had seen at Shougang's plants in China." (Wu 1999)

Contrary to popular belief, this early mismanagement was not the source of Shougang's union problems. Both Chinese and Peruvian sources remark how smoothly the first three years passed. To this day, union officials praise Shougang for accepting their annual list of demands from 1993-1995. ("Shougang Hierro" 1993; Shougang Union Delegation 2011) Shougang tripled the workers' daily wages. (Shougang Hierro Peru 1996) Chinese sources label the first three years a "honeymoon." (Jun 1996, 2; Deng 2010, 2) Both sides boast that Shougang "turned the mine around" from a $32 million loss in 1992 to a $5 million profit in 1993. ("Shougang Hierro" 1993; Wang 1996; Gou 2005)

Pinching Pennies

If the multi-year honeymoon demonstrates that "culture shock" did not doom Shougang upon arrival, what triggered its downfall? First, Shougang broke its investment commitment. When Shougang bought Hierro Peru, it paid $118 million and committed to invest an additional $150 million in the mine by 1995. (Serna Guzmán, Perry Cruz et al. 2007, 127) This was a phenomenal offer—five times the asking price ($22 million) and almost three times the required investment commitment ($60 million). ("Hoy" 1992) Shougang invested only $38 million, choosing to pay a $12 million fine instead. The government set a new investment target for 1999, and again Shougang fell short and paid the fine. (Serna Guzmán, Perry Cruz et al. 2007, 35)

The union soured toward Shougang not because this commitment was to the community, as previous studies suggest, but because it was counting on Shougang to modernize the mine. Most assume that Shougang angered the union because it had promised to invest in the community. (Romero 2010; Kotschwar, Moran et al. 2011; Parish Flannery 2012) Even Shougang's fiercest Peruvian critics did not expect Shougang to spend a dime of the $150 million on the community; it was all destined for the mine. ("Shougang" 1995; Anaya Valer 1996; Combe Mindreau 1996) The union was desperate for newer, bigger machines and buildings to ensure safety, increase productivity, and expand employment. ("Inversión" 1992) When Shougang defaulted on this commitment, it was betraying the entire purpose of the privatization. Unemployed workers and their families waited around expectantly until 1995, when it became clear that Shougang would not expand the mine and hire them back. Then they left—Marcona's population dropped from 28,000 in 1993 to 12,600 in 1995. ("Shougang" 1995) To this day Marcona looks and feels like a half-ghost town.

Shougang sealed the end of its relationship with union and community in early 1996 by stonewalling union negotiations. After agreeing to the union's list of demands for three successive years, in 1996 Shougang suddenly rejected everything. (Shougang Union Delegation 2011) Chinese sources agree that 1996 was the "turning point." They explain that Shougang conducted careful research on union laws in October 1995 and determined that it could reduce costs significantly by taking an oppositional stance toward the unions. (Wang 1996; Wang 1997; Deng 2010) When the union went on strike, Shougang fired the four head union officials, one of whom went on to join the Peruvian Congress and serve as Minister of Labor. Shougang also hired a private police force to suppress the strike. (Wang 1996; Wang 1997; Shougang Union Official 2011) Needless to say, this strategy cemented the enmity of the union and community.

Shougang's broken promises explain not only its poor labor relations but also its higher accident rates. MINEM and the unions expected the investment commitment to renovate the mine, making it more efficient and safer for its workers. Many of the machines are decades old, which union leaders cite as a major cause of accidents. (Shougang Union Official 2011) This is not entirely Shougang's fault, since the state had been neglecting Hierro Peru's facilities since nationalization in 1975. The unions had been going on strike throughout the 1980s with the same demands about renovating facilities and modernizing machines. (Comunidad Minera de Hierro Peru 1985; Gou 2005) That they would continue to make the same demands after privatization is hardly "unexpected," as some sources describe it. (Romero 2010; Ellis 2011, 17) However, Shougang had committed to undertake these investments, so its broken promises have compounded the problem of neglect.

The Death of a Parent

Why at that particular moment in time was Shougang so desperate to reduce costs that it would suddenly, violently, and without explanation ruin its relationships with the unions and community? Shougang changed in Peru because it was collapsing in China. In 1995, the same ill-conceived economic reforms in China that had enabled Shougang to buy Hierro Peru in the first place finally brought the company to its knees. Only one scholar, Ruben Gonzalez-Vicente, has recognized the importance of this crisis to Shougang's subsequent labor problems. (Gonzalez Vicente Forthcoming, 12)

Shougang had been granted license to invest vast sums in grand schemes abroad, and those schemes were failing. Shougang had undertaken a radical experiment in the 1980s with "profit contracting," in which the Chinese state severely restricted lending to Shougang and demanded increasing profits, in exchange for allowing the company keep a share of those profits. Shougang performed so well that ten years into the contract, Chinese leaders decided to grant their "national champion" new privileges. They allowed it to establish its own bank to raise money from depositors and then invest that money overseas with little oversight. All of the hard-budget incentives that had whipped

Shougang into shape suddenly softened. (Steinfeld 1998, 211; Ferchen 1999, 30) Shougang's chairman, Zhou Guanwu, took advantage of his freedom to fulfill a vision of truly global scale—transplanting California Steel Works to his home province of Shandong and feeding it with Peruvian iron ore. ("Informan" 1992; Steinfeld 1998, 213)

Unfortunately for Zhou and for Peru, Zhou's experiment suffered a hard landing. China was already flooded with steel, causing steel and then iron ore prices to fall. (Steinfeld 1998, 213) Edward Steinfeld argues that free money causes Chinese SOEs to invest inefficiently in unproductive assets; Shougang was a disastrous case in point. It was forced to shut down ten investment projects, including Zhou's prize steel plant. (Steinfeld 1998, 219) Suddenly, Shougang had no "urgent impulse" to seek iron ore abroad. (Gou 2005) Matt Ferchen observes that "Given the dramatic cutbacks in Shougang's domestic operations, it's surprising that any investment at all continued in Peru." (Ferchen 1999, 29)

Even if the parent company hadn't collapsed, Shougang had made corrupt promises it couldn't keep. Zhou's son, Zhou Beifang, paid five times the second-place offer and the asking price for Hierro Peru and committed almost three times the investment. ("Corporación" 1992; Serna Guzmán, Perry Cruz et al. 2007, 15) Zhou Beifang allegedly arranged the phenomenal overpayment in exchange for a kickback to his personal bank account. ("En China" 1995) In 1995, the Chinese authorities sentenced him to death for "serious economic crimes" and forced his father to resign. (Faison 1997) But the damage had been done—according to the Chinese media, Shougang spent its first ten years channeling all profits to pay back the $118 million bank loan it took out to buy the company. (Gou 2005) Meanwhile, the Peruvians were waiting eagerly for Shougang Hierro Peru's $150 million investment. The company had no money to invest, no capacity to borrow from its parent, and no particular *raison d'être* in the eyes of Shougang's new leaders.

At this point, Shougang Hierro Peru began a long tradition of poor communication. The company did not explain its predicament to the unions, the government, or the media or attempt to bargain down the investment commitment because it would not admit the corruption behind its $150 million offer. When Peruvian newspapers reported the corrupt Hierro Peru deal as "the biggest scandal in Chinese history," Shougang actively denied the troubles of its parent company in all 1995 Peruvian newspapers. ("Supuesta" 1995; "En China" 1995) Even in March 1995, company officials were still insisting that Shougang was on track to fulfill its commitment. ("Shougang cumplirá" 1995) Even though Shougang never publicized its parent company crisis to the Peruvians, company officials publicly blamed the union for going on strike at such a sensitive time for the company. (Wu 1999, 2; Gou 2005) Though Shougang suppressed its financial troubles, it expected the government and union to understand them.

The Peruvian state is also clearly at fault for signing a weak contract that did not force Shougang to respect its terms. An ex-Minister of MINEM acknowledged that "Shougang is the classic example of a company that we have had constant problems with because the original contract was bad." (Former MINEM MInister 2011) The contract did not specify any penalty for violating the investment commitment. (Anaya Valer 1996) It granted

Shougang control over electricity and water services for the municipality because the local government lacked the capacity to take over at the time. (Gonzalez Vicente 2009, 174; Sanborn and Torres 2009, 195) There was nothing in the contract about workers, the environment, or local development. (Willer 2000)

Brownfield Comparison: Doe Run

Shougang's past mirrors that of a similarly troubled but differently managed brownfield investment—Doe Run Peru. Like Shougang, the American company Doe Run won a privatization bid to take over a troubled state mining operation. The state privatized the Doe Run metallurgical complex because it had become one of the most polluted places on Earth, and the state could not afford to invest in the necessary cleanup and pollution mitigation technologies.

Doe Run Peru also mirrored Shougang Hierro Peru in failing to honor its investment commitments. While Doe Run Peru complied with a number of provisions including slag deposits and ferrite conditioning tanks, it defaulted on the most significant commitment—the $90 million sulfuric acid plant. (DGAA 2006b; Canales Rivera and CEPEMA 2008, 128)

Doe Run did not experience a parent company crisis like Shougang, but it claimed that falling metal prices robbed it of the earnings it needed to meet its commitments. However, instead of silently defaulting, Doe Run Peru petitioned MINEM for a 4-year extension on the sulfuric acid plant due 2007, citing a lack of funds. MINEM granted the extension. Doe Run Peru asked for a second and third extension and the third time MINEM refused. It is unclear to what extent Doe Run Peru was actually struggling financially. Many argue that Doe Run Peru's parent company in the United States, Doe Run, could easily have injected new capital to keep it afloat. Others blame commodity prices.

In another parallel to Shougang, the state struggled to punish Doe Run Peru because the poorly written contract did not include an enforcement mechanism. When Doe Run failed to meet its extended deadline, MINEM revoked Doe Run's concession. But according to bankruptcy procedure, Doe Run Peru's assets would have been transferred to its largest creditor, Doe Run in the U.S. In order to prevent Doe Run from escaping scot-free, MINEM levied a hefty fine on Doe Run Peru for failing to meet the commitments, more than the company owed to Doe Run in the U.S. The state was then able to seize Doe Run Peru's assets as its largest creditor. Doe Run's umbrella corporation, RENCO, filed an arbitration suit in international court in protest. ("Renco" 2011) This case has not yet been resolved, but Peru may lose on the basis of its poorly written initial contract.

The greatest contrast between the cases of Shougang and Doe Run lies in the companies' deliberate labor strategies. As we have shown, even though Shougang complied better with Peru's labor and environmental standards, Shougang's workers went on strike more. While both companies defaulted on crucial investment commitments and violated labor standards, Doe Run has always framed itself as the unions' great supporter. When it bought the complex, it wooed the union with the argument that the privatization had prevented the complex from closing. It did not fire union leaders or hire private police forces to break strikes, and has strategically acceded to some union demands. Shougang, by contrast, stonewalled communication with the unions and continues to reject their annual proposals. Doe Run's socially minded framing, and Shougang's complete lack of it, have largely determined their relationship with workers and the community.

In sum, Shougang started out on relatively good terms with the unions and community. In 1995, its parent company in China suffered a massive crisis. Shougang responded by abandoning investment and cutting off negotiations with the unions. As the facilities disintegrated and the company continued to reject the unions' demands, it developed an abysmal environmental and societal reputation. The Peruvian state also deserves some blame for Shougang's reputation. It sold Shougang a mine half-filled with unemployed workers and outdated machines, then failed to hold Shougang accountable to its commitments because of the incomplete contract and insufficient regulatory system. In sum, the conflict with Shougang is a unique case that resulted not from cultural predispositions but from poor management by the Chinese and Peruvian governments, Shougang's parent company in China, and Shougang itself.

Conclusions

Chinese investment in Latin America has exploded in recent years, leading observers to worry that Chinese companies may transplant poor labor and environmental practices to the region. Chinese investment is so recent that only one mining company has been operating long enough for us to assess its impact. The existing literature on this company, Shougang Hierro Peru, declares this company's environmental and social record to be far worse than that of other comparable foreign-owned companies. Much of this literature blames a "culture clash," concluding that Chinese companies will struggle to operate responsibly in Latin America because they are predisposed to poor labor and environmental standards.

We analyzed new government data and the historical record on Shougang and similar companies to assess these allegations. We found that while Shougang performs below other foreign companies on some indicators, it does not stand out as having an unusually negative environmental or social record. The main exception here is its high rate of disabling accidents, which we attribute to the company's outdated facilities and disintegrating equipment. Despite this record, Shougang has significantly worse relations with its unions and workers when compared to other foreign firms.

We investigated the reasons for its unusually poor labor and community relations through interviews and extensive newspaper research. While Shougang began its ownership of the mine on relatively good terms with the unions and community, in 1995 a massive scandal rocked its parent company in China and cut off its access to capital. Shougang defaulted on its investment commitment in late 1995 and rejected the unions' list of demands in 1996. Its actions sparked strikes and, when Shougang responded with firings and violence, degenerated into utter hostility. The company thus ruined its environmental and labor reputation, both by allowing its facilities to disintegrate and by angering the unions and local population. At the same time, the Peruvian government made serious mistakes on the contract and regulation of its first major privatization case. It failed to prevent Shougang from defaulting on its commitments, violating standards or stonewalling the unions. The state also deserves some blame for Shougang's troubles because of the abysmal state in which Shougang acquired the mine. In sum, Shougang is a unique case that should not be taken as evidence that Chinese companies will inexorably devastate Latin America's environment and society.

Going Forward

Today, Shougang is taking steps to correct one of its two great sins—the investment failure. It is investing $1 billion in an effort to more than double production from 8 to 18 million tons per year. ("Cuidado" 2011) MINEM has already approved the environmental impact evaluation for the mine's expansion. Shougang's investments in the mine in 2009 and 2010 are three times higher than in the preceding years. Shougang plans to add a new processing plant and pellet plant. (Andina 2008) If copper and zinc prices continue to rise, it will begin processing mine tailings to recover these metals as well. ("Cuidado" 2011)

Union officials have expressed cautious optimism for the project. One union leader noted approvingly that over the five years of the expansion project, the company plans to add 400 workers to its payroll. (Shougang Union Leader 2011) The company has not yet won over the unions or the community with these grand plans. Some jaded workers argue that the expansion will not cause the company to treat workers better but rather to more rapidly exhaust the mine's reserves. (Gonzalez Vicente 2009)

In order to take advantage of this opportunity, Shougang must rethink its hard-line approach to unions. It cannot win over popular support without respecting the unions. If Shougang reverses its decades-old strategy of rejecting all union demands and returns to its original honeymoon strategy, it can both rebuild union relations and save money—strikes cost the company roughly half a million dollars per day, far more than the cost of the unions' list of demands. ("Medio" 2006; Deng 2010) There is great potential for financial and social progress if Shougang can simultaneously frame the positive social benefits of the mine expansion and change its approach in union negotiations.

Shougang's Lessons for New Chinese Projects

There are two main reasons that the new Chinese arrivals to LAC will be no more likely than other foreign companies to adopt such a destructive labor strategy. First, these companies are quite diverse. Cynthia Sanborn shows that the new Chinese companies now entering Peru range from large, centrally-owned SOEs to mostly private-owned Hong Kong firms. (Sanborn and Torres 2009) With great variety in size, international experience, and private versus public ownership, these firms neither obey the same rules nor strive toward the same goals (Figure 11). (Gonzalez Vicente Forthcoming, 40)

Figure 11: Chinese Companies Operating in Peru (Tang "Proactivity")

Companies	*Projects*	*Company Type*	*National Rank*
Chinalco	Toromocho	Central Gov.	43
Minmetal	El Galeno	Central Gov.	30
Jiangxi Copper	El Galeno	Provincial Gov.	112
Shougang	Marcona	Provincial Gov.	46
Zijin Group	Rio Blanco	Semi-Private	283
Tongling Nonferrous	Rio Blanco	Provincial Gov.	158
Xiamen C&D	Rio Blanco	Provincial Gov.	147
Nanjinzhao Group	Pampa de Pongo	Private	274
China Sci-Tech	Marcobre	Private HongKong	
Junefield	Exploration	Private Hongkong	
Jiangxi Exploration	Exploration	Provincial Gov.	
Shandong Exploration	Exploration	Provincial Gov.	
Anhui Exploration	Exploration	Provincial Gov.	
Hebei Exploration	Exploration	Provincial Gov.	

Second, new Chinese projects in Peru have invested heavily in framing their socially responsible contribution to the workers and community. The leading project, Chinalco's Toromocho copper mine, has actively pursued the social responsibility label, including certificates and a glitzy website.[8] Chinalco and Minmetals have gone so far as to hire Western CEOs to navigate the mining approval process. (Chinalco Manager 2011) Both Peruvian and Chinese mining officials have confirmed that these companies have adopted North American CEOs as an explicit strategy to get their operations approved. (Deng 2010; Chinalco Manager 2011) While we cannot judge their success in advance, they are far more capable of and interested in framing the issues of labor and community relations than Shougang ever was.

[8] http://www.chinalco.com.pe/

Shougang's Lessons for Peruvian Mining FDI

There may not be any clear lessons from Shougang that apply only to Chinese companies, but there are certainly lessons that apply to Peru's mining FDI in general. First, the improving regulatory framework has helped to keep companies honest. Kotschwar et al. conclude that the progress of the national regulatory framework has forced companies to improve their social and environmental impact. (Kotschwar, Moran et al. 2011) Many commented on the regulatory system's positive impact on Shougang. An NGO leader maintained that today, "new legislation and better regulation have forced the company to make adjustments to survive." (NGO Official 2011)

Second, while the Peruvian regulatory framework has improved greatly since the 1990s, two salient labor issues are subcontractors and government resolution of union negotiations. Since MINEM and MTPE have not agreed on the appropriate use of subcontractors, their conflict leaves unions, mining communities and NGOs outraged at the widespread outsourcing of what used to be decently-paid company jobs. Second, MTPE, which is supposed to be the ultimate mediator in union-company disputes, is not an effective mediator because locals see it as being in league with the companies. In Shougang's case, the unions point out that regional office of MTPE ignores the union's list of demands and simply forces the company to give a slightly higher raise and one-time bonus. (Shougang Union Delegation 2011)

Finally, the underlying problem facing all mining companies in Peru is the population's lack of confidence in the government ministries that regulate these companies. Unlike workers, nearby communities often have no stake in the mining operations. When they feel that a company is damaging the environment, they attempt to shut down its operations. These communities do not trust the environmental impact evaluations, third-party audits, or other inspections that private consulting firms prepare for MINEM. At the same time, local government and community officials have no means of challenging problematic mining operations. The government must give these communities a potent legal channel through which they can air their grievances. While community accountability will result in the end of some mining concessions, it is necessary to provide this avenue inside the system rather than forcing citizens to take matters into their own hands.

Acronyms

ECLAC	Economic Commission for Latin America and the Caribbean
CSR	Corporate social responsibility
DGAA	General Bureau for Environmental Issues
FDI	Foreign direct investment
LAC	Latin America and the Caribbean
MINAM	Ministry of the Environment
MINEM	Ministry of Energy and Mines
MTPE	Ministry of Labor and Promotion of Employment
MOFCOM	Chinese Ministry of Commerce
ODI	Outward direct investment
OEFA	Environmental Inspection and Evaluation Body (MINAM)
OSINERGMIN	Regulatory Body for Mining and Energy Investment
SNMPE	Peruvian National Society for Energy, Oil and Mining

Appendix A: Worker Salary Scale

ESCALA SALARIAL OBREROS 2010 - 2011

Resolucion Directoral N° 050-2010-GORE-ICA-DRTPE.
Resolucion Directoral N° 030-2010-GORE-ICA-DRTPE.

H	G	F	E	D	C	B	A
OFICIAL.	AYUDANTE. MAYORDOM.	MUESTRERO. ENGRASAD.	AP.PALERO. AGENTE. PLANCH. B. OPERARIO. TORNERO B. PINTOR B. SOLDAD. B. MECANICO. B.	ELECT. B. CHOFER II. OPERAD.IV. CARPINTERO MEC. MANT. GASFITERO ALBAÑIL. ENLLANTAD. TUBER. MEC. PERFOR. B.	PLANCHAD.A. TORNERO A. PINTOR A. CHOFER I. ESPECIAL. II. OPERAD. III. CHOF. BUS. MECANIC. A. SOLDAD. A. PERFOR. A. GRUERO. MEC. AUTOM. INSTRUM. B. ALMACENE.	ESPEC. I. OPERAD. II. ELECT. A. PALERO B. ESP. CARGA.	INSTRUM. A OPERADOR. I MAEST. ESP. ESP. DISPARO. PERF. ESP.
Inic. 59,71 Med. 60,20 Tope. 60,69	61,70	62,71	63,75	64,80	65,87	66,96	68,06
Inic. 62,81 Med. 63,33 Tope. 63,85	64,90	65,97	67,06	68,17	69,30	70,44	71,60

Figure 12: Pay scales for experienced and new workers at Shougang Hierro Peru

SHOUGANG HIERRO PERU S.A.A.

NUEVA ESCALA SALARIAL OBREROS 2,010 - 2,011

	IV	III	II	I
	AYUDANTE	AYUD. PERF. PRIMAR. AYUDANTE PALA MANTENIMIENTO III OPER. MINA BENIFIC.	TRACTOR. MOTO NIVEL OPERAD. DISC, PELET OPERADOR GANTRY ESPEC. DE DISPARO OPER. PERFORAD. SEC. OPER. CHANCADORA MANTENIMIENTO II	PERFORISTA ESPEC. OPERADOR MOLINO OPER. CASA CONVEY. MANTENIMIENTO I
2009-2010	40,45	40,95	41,45	41,95
2010-2011	43,55	44,05	44,55	45,05

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(1992). "Huelga de hambre inician 70 " Super Idolo.
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