Mining company engagement with universities: a CSR approach

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Abstract

Mining companies engage with many organisations to demonstrate their commitment to the communities and countries in which they operate. Corporate social responsibility (CSR) is the mining industry's main framework for engagement with society. Through sustainability reports and publicly available information, mining companies promote their engagement with stakeholders through a diverse range of joint initiatives. The academic literature has focused on understanding mining companies' definition and management of stakeholders, with a focus on indigenous and local communities, and non-government organisations. Although universities are described as important stakeholders in the CSR documentation of mining companies, mining company engagement with universities is under-researched. This is a significant omission given that mining company CSR practices have been shown to shape stakeholder interests and opportunities. This thesis addresses this gap by exploring how, and why, mining companies engage with universities. This engagement has potentially significant consequences for universities. This is particularly so in the context of an important body of academic work that suggests that mining companies' CSR practices are little more than public relations exercises that serve mining companies' own sustainability and long-term survival agendas.

This thesis aims to understand the motives behind mining company engagement with universities, and the forms this engagement takes, through an exploration of mining company engagement with universities in Chile. It does so by analysing one hundred CSR reports produced by the five largest mining companies operating Chile, and by analysing in-depth, semi-structured interviews conducted with nine senior mining executives of these companies.

This thesis finds that mining company engagement in Chile is both diverse and disorganised. Three main motives for mining company engagement with universities are evident: (a) to access university research, training and graduates; (b) to provide universities with philanthropic 'aid'; and (c) to have universities validate mining companies' CSR behaviour and actions. This thesis unveils the complexity of mining company engagement with an important stakeholder, as well as the geographical dimensions of this engagement. This thesis ratifies the academic literature that describes mining companies' CSR practice as a public relations exercise that seeks to legitimise mining operations at different scales.

Table of Contents

List of Figures

List of Tables

List of Abbreviations and Acronyms

CODELCO	Chilean Copper Corporation
CSR	Corporate Social Responsibility
GDP	Gross Domestic Product
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Cooperation and Development
SLO	Social licence to operate

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature:

QUT Verified Signature

Date: February 2018

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Chapter 1: Introduction

The International Institute of Sustainable Development states that mining companies have the potential to contribute to the development of the regions and nations in which they operate (IISD, 2017, p. 3). However, this Institute also mentions that sometimes mining companies can limit or undermine development at the local and national scales (IISD, 2017). Corporate Social Responsibility (CSR) is the mining industry's dominant paradigm for developing strategies to minimise economic, environmental and social concerns about mineral extraction (Jenkins, 2004; Wirth, Kulczycka, Hausner, & Koński, 2016). The rise of the concept of corporate social responsibility (CSR) goes back to the 1950s in response to issues concerning the increasing power of corporations and the social and environmental impacts of their activities (Dashwood, 2007; Dillard & Murray, 2013; Garvin, McGee, Smoyer-Tomic, & Aubynn, 2009). Since then, CSR and the associated concepts of sustainability and corporate citizenship have become a contested concept, being constantly redefined (Blowfield & Frynas, 2005, p. 503), particularly by corporations to promote their own goals and points of view (Haynes, Murray, & Dillard, 2013). The corporate world provides a number of definitions that highlight the voluntary nature of the CSR movement. For example, the Australian Standards Association defines CSR as 'a mechanism to voluntarily integrate social and environmental concerns into their operations and their interactions with their stakeholders, which are over and above the entities' legal responsibilities' (Standards-Australia, 2003, p. 4). Similarly, the World Business Council for Sustainable Development defines CSR as 'the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large'(WBCDB, 2016, p. 3). The mining industry has created transnational industry bodies to deal with these concerns

(Warnaars, 2012), such as the International Council on Mining and Metals, which produce pro-mining industry materials and advocate on behalf of the industry. Leading mining companies adhere to a number of CSR and sustainability initiatives, such as the UN Global Compact (Fonseca, 2010; Jenkins & Yakovleva, 2006), which seeks the voluntary commitment of CEOs to implement 'universal sustainability principles' in their companies (UNGC, 2017). The industry also employs a high number of CSR practitioners (Kemp, Owen, Gotzmann, & Bond, 2011) and sponsors CSR research at different universities in the world, such us the University of Queensland's Centre for Social Responsibility in Mining, so sustainability principles can be understood and applied to the mining industry (UQ-SMI, 2017).

In pursuing CSR agendas, mining companies engage with a number of stakeholders. Alongside local communities and non-government organisations (NGOs), mining companies also acknowledge universities as relevant stakeholders in their sustainability reports and websites (AngloAmerican, 2014; BHP-Billiton-Chile, 2014; BHP-Billiton, 2015; Rio-Tinto, 2015). These reports show a diverse range of engagement initiatives with universities, which are presented as a comprehensive plan of engagement with the higher-education sector. Within this context, CSR is not just a framework for mining companies' engagement with different stakeholders but instead is the mining industry's approach to balancing the demands of diverse stakeholders with the need to maximise profit (Jenkins, 2004).

This means that both CSR discourse, and company engagement with society, is constrained by business interests (Banerjee, 2010). Mining company engagement with universities is shaped by these interests, which may or may not sit comfortably alongside moral obligations (Kapelus, 2002) or the pursuit of sustainable development (Dashwood, 2014). CSR has been critiqued as a public relations exercise created to remediate the

industry's public image through 'greenwashing', 'pinkwashing', and 'bluewashing'[1] (Welker, 2014, p. 14). In this way, CSR has been critiqued as limiting and marginalising stakeholder interests (Banerjee, 2010). This thesis seeks to understand why mining companies engage with universities and how this engagement occurs.

Research gap and research question

This study addresses an under-researched dimension of mining company engagement with society. To date, academic work has mainly focused on understanding mining companies' definition and management of stakeholders (Dobele, Westberg, Steel, & Flowers, 2014; Mzembe, 2016). Current literature has focused on engagement with communities (Anguelovski, 2011; Bice, 2013; Cook, Sarver, & Krometis, 2015; Imbun, 2007; Harvey & Bice, 2014; Kapelus, 2002; Kemp, 2010; Kemp & Owen, 2013; Littlewood, 2014; Mayes, 2015; Mayes, McDonald, & Pini, 2014), including indigenous communities (Babidge, 2013; Banerjee, 2010; Coronado & Fallon, 2010; Haalboom, 2012; O'Faircheallaigh & Ali, 2008) and NGOs (Lauwo, Otusanya, & Bakre, 2016; Phillips, 2012). There has been little explicit focus on engagement with universities.

Gawel's (2014) study of business collaboration with universities is one of the few to explore the relationship between universities and companies through a CSR lens. Her study is based on different industries in Poland, where she found that personal relations and mutual trust are key components in the industry engagement with universities (Gawel, 2014). Shah and Ramamoorthy's (2014) exploration of several cases of corporate

[1] Greenwashing refers to 'a range of communications that mislead people into adopting overly positive beliefs about an organisation's environmental performance, practices, or products' (Lyon & Montgomery, 2015, p. 225). Pinkwashing is defined as 'the practice of using the colour pink and pink ribbons to indicate a company has joined the search for a breast cancer cure and to invoke breast cancer solidarity, even when the company may be using chemicals linked to cancer' (Lubitow & Davis, 2011, p. 139). The term bluewashing, deriving from the colour of the United Nations flag, refers to greenwashing concerning humanitarian issues such as poverty eradication, disaster relief and human rights (Berliner & Prakash, 2015).

philanthropic support to universities in India provides a rich background on the moral incentives behind the provision of transnational corporate support to different stakeholders in India, but provides a limited consideration of the CSR dimension of business–university relationships more generally. The primary research objective of this thesis is to understand the motives behind mining company engagement with universities as part of their CSR strategies and to explore the forms this engagement can take. It does so by answering the following research question: Why and how do mining companies engage with universities?

Research relevance

Understanding mining company engagement with universities from a CSR perspective is important especially in the context of the push, in the Chilean context, for mining companies and universities to increase engagement with each other (Valenzuela, 2011). It is imperative to understand how mining companies perceive engagement with universities so both parties benefit. Understanding why mining companies engage with universities is important because these motives frame not only mining company strategies for engagement with universities but also mining company and university capacities to support sustainable development. Unless mining company and university engagement is clearly linked to local and regional development, it is unlikely to generate long-term and mutually beneficial relationships and outcomes.

Each mining operation is unique in its social, cultural, political, economic and environmental contexts. These specificities, along with the organisational strategies, structures and personnel of particular mining companies can affect mining company engagement with universities. At the same time, country-specific "economic, cultural and political systems" can inform the corporate adoption of specific approaches to CSR (Turkina, Neville & Bice, 2015, p 14). Further, not all universities are similar and their capacities to contribute to the mining industry can be perceived as unequal by mining

companies. Altbach (2004) argues that the global higher education system is very diverse encompassing both very prosperous and well-positioned universities and very marginal and poorly-funded universities. Globalisation is adding new dimensions to existing inequality in higher education, which is exacerbated by market driven and profit-making policies and ideologies (Altbach, 2004). With this in mind, this thesis argues that mining company engagement with universities is shaped by mining companies' perceptions of this unequal positioning of universities.

Research context and approach

Mining companies occupy positions of particular importance in developing countries as generators of economic growth and associated social wellbeing (Hilson, 2012; Wirth, et al., 2016). This study examines mining company engagement with universities in the Chilean context, a country with vast mineral resources and mining activity, particularly in the Antofagasta Region. Chile is a rich setting for this study as Chile contains both national and transnational mining companies who engage with local, national and international universities. Chilean mining companies do not invest much on research and development in partnership with Chilean universities (Valenzuela, 2011), yet their CSR reports are full of references to a range of universities and they universally acknowledge universities as 'stakeholders'.

As this study is of an exploratory nature, a qualitative methodology is applied (Marshall & Rossman, 2015). The study draws on two complementary sets of data: nine in-depth semi-structured interviews with senior mining executives who have worked for mining companies in Chile and been involved in mining company engagement with universities, and content analysis of one hundred mining company reports.

Overview of thesis structure

This thesis is presented in seven chapters. This first chapter provides the background to the problem, research gap, research question, and research context and approach. The second chapter reviews the academic literature in relation to mining company engagement, CSR, and related topics. The third chapter details the research methodology used for this study. The fourth chapter provides background to the study context and an overview of the five main mining companies operating in the Antofagasta Region of Chile. The fifth and sixth chapters present the research findings. Chapter 5 reflects on mining company perceptions of the role of universities as providers of education, research and graduates to mining companies. This chapter explores mining companies' perspectives of universities as mining company stakeholders and the complexity of mining company engagement with universities as providers, including the geographical dimension of engagement and discrimination of universities based on prestige and geographical location. Chapter 6 focuses on understanding the role of universities as CSR recipients (universities receive philanthropic support from mining companies) and as validators of mining companies by providing technical studies to assess or evaluate the impact of mining operations, mainly related to environmental and societal impacts. This chapter demonstrates that these two types of engagement between mining companies and universities are linked to mining companies' interest in achieving social legitimacy. The final chapter, Chapter 7, focuses on the complexity of the engagement between mining companies and universities and the implications for practice and further research.

Chapter 2: Literature Review

This chapter provides an overview of the academic literature relevant to the understanding of why and how mining companies engage with universities. That is, this chapter explores the literature related to mining company engagement with society in general, with a particular focus on CSR literature. Particular emphasis is given to the literature examining mining company engagement with stakeholders. This is relevant in terms of understanding universities as stakeholders.

Mining and society

The literature on mining company engagement with society has increased significantly in the last twenty to thirty years, particularly after the publication of anthropology-based studies such as the work of Ricardo Godoy in 1985. He encouraged researchers to focus their efforts on the systematic understanding of the complex socio-political and ideological dimensions of mining (Godoy, 1985). Since then, literature on mining company engagement with states has extended to the inclusion of mining companies' connection with local communities and broader society (Ballard & Banks, 2003). For mining companies, the practical significance of the current literature on mining company engagement with society relies on a deeper understanding of the complexity of the social and political relationships that surround mining projects, which could affect the viability of mining businesses (Poulton et al., 2013). Today, mining company access to the financial profits of mineral resources is not only based on the logistic and economic viability of mining projects but it is also dependent on an understanding of the negative social and environmental impacts (Poulton, et al., 2013).

An important issue in mining company engagement with society, particularly in developing countries, is the extent to which local communities and the host country as a whole

receive a suitable share of benefits from the activities of these industries (Reed, 2002; Ticci & Escobar, 2015). Reed (2002) explains that, under the current neo-liberal order, the market determines what fair benefit sharing or value is. He argues that some sort of theory of distributive justice should be used to define what an appropriate level of benefit sharing is. Reed (2002) suggests that in practice today private corporations are the most important institutions in modern society that could determine the standards of distributive justice. In this way, corporations are motivated to increase or elevate these standards by pragmatic motivations (dealing with stakeholder pressure or public good will, for example) or by ethical motivations (the right thing to do) (Kapelus, 2002; Reed, 2002).

Mining and CSR

The literature is in agreement that mining companies are world leaders in embracing the concept of corporate social responsibility (CSR) as their moral approach to engagement with society. In the academic literature, definitions of CSR are divergent. They include Milton Friedman's definition, in which the 'only social responsibility of the firm is to increase its profits' (1962, p. 133); descriptions of CSR as something other than complying with the economic, technical and legal requirements of the firm (Davis, 1973, p. 312) or, arguments that CSR 'encompasses the economic, legal, ethical, and discretionary expectations that society has of organisations at a given point in time' (Carroll, 1979, p. 500; Carroll & Shabana, 2010); stakeholder-based definitions in which CSR is 'the notion that corporations have an obligation to constituent groups in society other than stockholders and beyond that prescribed by law and union contract' (Jones, 1980, p. 59); and critical perspectives which for example position CSR as just another neoliberal approach of corporations to maximise profits (Banerjee, 2010).

Corporations, with the support of governments and international development agencies, have developed CSR strategies and frameworks not just as a way to fulfil corporate obligations

to societies and environments, but also as a way to engage with the world (Jenkins & Yakovleva, 2006). CSR provides mining companies with a mechanism through which to balance diverse community demands and the need to protect the environment, with the always-present profit-making nature of corporations (Jenkins, 2004).

The CSR framework developed by Carroll (1979) is one of the most frequently applied CSR frameworks at the theoretical and practical levels. This framework (in the shape of a pyramid) involves four main components of CSR (economic, legal, ethical and philanthropic) that respond to different society expectation regarding organisations (Carroll, 1991). In his review of the development of the Pyramid of CSR, Carroll (2016) explains that there are obvious tensions and trade-offs when organisations deal with economic, legal, ethical and philanthropic responsibilities. The most conflicting of these responsibilities is the economic responsibility of corporations because expending organisational resources on other stakeholders could minimise profits and benefits for shareholders and employees (Carroll, 2016). As Carroll (2016) suggests this is not a valid suggestion because CSR activities do not necessarily decrease profitability. The business case for CSR is central to much debate about, and the adoption of, CSR (Bice, 2017). Kurucz, Colbert, and Wheeler (2008, p. 85) point out that there are four types of business cases for CSR: 'cost and risk reduction, competitive advantage, reputation and legitimacy, and synergistic value creation'. According to Kurucz, Colbert, and Wheeler (2008), the cost and risk reduction approach assumes that, by mitigating the threats that stakeholder's demands can potentially represent, the corporation protects its viability. The competitive advantage case for CSR sees stakeholder demands more as opportunities than as threats for the organisation. By strategically managing resources toward stakeholder demands, the corporation builds its own competitive advantage over competitors. The reputation and legitimacy approach to CSR focuses on value creation by increasing reputation and legitimacy through alignment of stakeholder interests. This view includes concepts such as social licence to operate, socially

responsible investment, social impact hypothesis, among others. As Kurucz, et al. (2008, p. 90) explain, the concept of 'social licence to operate' is particularly relevant to the mining sector. It assumes that corporations must exercise power responsibly, through CSR initiatives, or face the risk of having that power revoked by stakeholders. Finally, the synergistic value creation approach aims to create value on different fronts by integrating multiple stakeholder interests. Concepts like value-based networks, virtuous circles, and societal learning are included in this approach.

These different explanations of the business case for CSR provide potential corporate rationales for mining company engagement with universities such as: the mining company need to reduce risks around societal opposition to mine operations; the achievement of competitive advantage through having access to university training and knowledge; and/or the development of local or national legitimacy by engaging with universities. However, and as Crane (2008) argues, understanding CSR is not just a technical exercise but a normative one. Much of the literature around CSR focuses on how to deploy CSR as a management tool or strategy. But there is also a need to understand the moral implications of CSR and the way corporations use their power to pursue their interests (Bakan, 2005). As Gray (2013, p. 155) clarifies, it seems there is a whole body of literature aiming to persuade us that a 'self-evidently profitable company will also be a self-evident socially responsible one'.

Some authors suggest that CSR is not only driven by 'narrow business interests' but that it also limits stakeholder interests (Banerjee, 2010). Banerjee (2010) sees CSR as an ideological movement legitimising corporate power and marginalising groups of people. Along the same lines, Welker (2014) proposes that CSR enables the company to achieve particular organisational values and interests, offering the company a moral instrument through which its authority is prolonged over the community. She argues that CSR encourages a sense of the corporation as a moral entity, focuses on the identification of where its boundaries and

responsibilities are, and offers a mechanism to comply with identified responsibilities. Welker (2014) argues that by understanding a mining company as an enacted organisation, specific context, culture and social interaction gives a different meaning to CSR. Welker's (2014) research focuses on how people enact corporations in different ways and how these enactments imply struggles over the interests, boundaries and responsibilities of mining companies. Welker (2014) provides a comprehensive analysis of the contextual nature of CSR practice and how staff struggle to 'enact corporations' in many different ways. Welker's work not only encourages attention to mining company staff engagement with people at universities but, at the same time, encourages a comprehensive understanding of the economic, environmental, cultural and contextual nature of mining company engagement with universities. Welker's point of view is relevant for this study because it promotes the understanding of mining company engagement with universities as mining company staff enactments to define the moral boundaries and interests of the corporations they work for.

Critics of the 'CSR movement' maintain there is not a moral motivation and that CSR is just a public relations exercise that serves mining companies' own sustainability or long-term survival (Banerjee, 2010; Jenkins, 2004; Kapelus, 2002; Welker, 2014). Public reporting is a CSR tool at the heart of mining company CSR discourse. As Hamann (2003) points out, company public reports are important tools for mining companies to show the public and their shareholders their commitment to sustainability efforts. However, there is more emphasis on mining company reporting than on CSR performance (Hamann, 2003). Nevertheless, mining company public reporting is an important tool for understanding the representation of mining company engagement with universities. If universities are part of mining company CSR practice, engagements with universities are likely be found in mining company public reports. One of the criticisms of these reports is that corporations manage their content (Jenkins, 2004). Since CSR is a voluntary act, reporting is voluntary as well (Devin & Lane, 2014). This reflects

the contradictory nature of CSR. CSR exists because corporations need controlling (Gray, 2013) but, at the same time, CSR is a voluntary act that suggests that corporations can control or regulate themselves (Gray, 2013). If CSR is a corporate response to social pressures deriving from a history of social, economic and environmental damage caused by some firms, why would we think the same corporations can rectify this damage? (Haynes, et al., 2013).

Another critique of CSR is that corporations cannot replace governments when it comes to social welfare and development because a corporation's basic functions are driven by economic goals (Banerjee, 2010). Importantly, the social outcomes of CSR practices are not fully understood (Haynes, et al., 2013). This leads to a very relevant question in the current debate over CSR debate: are corporations really encouraging economic and social development by undertaking CSR initiatives? This issue has become an important part of the CSR research agenda in the last ten years. Of particular interest is whether or not multinational companies are truly contributing towards development in developing countries (Campbell, 2012; Hilson, 2012; Jamali & Mirshak, 2007). Supporters of CSR argue that CSR initiatives are positively linked to economic and social development (Eweje, 2006; Ite, 2007). However, critics of CSR argue that CSR as 'currently practised is unlikely to play a significant role in reducing poverty in developing countries, despite the enthusiasm of many development agencies' (Jenkins, 2005, p. 540).

An understanding of the issues around mining company deployment and practice of CSR strategies is essential for understanding mining company engagement with universities. CSR provides a unique lens through which mining company engagement with universities can be understood, not just in a moral dimension, but also in a very practical dimension.

As explained above, organisational engagements and day-to-day CSR practice are carried out by people. At many different levels and units, mining company staff engage with university staff. Mining company employee beliefs and attitudes regarding the moral

boundaries of the companies they work for, as well as the perceptions of the role universities play, are relevant elements for this study. Welker (2014, p. 28) argues that corporate decisions are made by people involved in complex issues, involving dialogue and negotiation, rather than by a 'metaphysical corporate actor' that accurately works towards corporate profit-maximisation. This is important because when corporate managers face decisions involving ethical judgement (including engagement with universities) they could invoke profit-maximisation to justify their decision and, further, attribute their decisions to a dominating 'corporate essence' (Welker, 2014, p. 4). Welker (2014) brings a new perspective to CSR by focusing on corporate staff and scenes of struggle when it comes to deploying CSR initiatives, as well as the resistance to CSR that may occur in different units of the company. Welker (2014, p. 4) approaches corporations as 'inherently unstable and indeterminate, multiply authored, always in flux, and comprising both material and immaterial parts'. Without denying profit as a motivation, she explains that people enact corporations in many different ways in a constant struggle over the corporation's responsibilities, interests and boundaries. This is supported by Jamali and Mirshak's (2007, p. 260) study of CSR approaches and philosophy among local mining companies and multi-national mining company subsidiaries in Lebanon, which finds that, despite these companies positive CSR discourse, the actual approach to CSR is very 'amateurish and sketchy' and it is shaped by specific contextual realities. They argue (2007), that the specific contextual realities and beliefs, points of view and practice of mining company' staff, define mining company engagement with universities. This present research study aims to examine the specifics of mining company engagement with universities.

Stakeholders

The literature on mining company engagement with 'stakeholders' is useful for this study because mining companies engage with universities as stakeholders. Mining projects affect a

large number of actors, with divergent beliefs and interests, creating a potential risk scenario for mining companies in which a project's viability may be jeopardised (Poulton, et al., 2013). Literature on stakeholder theory defines a stakeholder as 'any group or individual who can affect or is affected by the achievement of the organization's objectives' (Freeman, 1984, p. 84). Under this definition, almost any group or individual, including universities, can claim to be affected by a specific corporation, particularly in today's globalised world. As Poulton, et al. (2013) postulate, mining companies face constant dilemmas in order to balance the cost and time-consuming process of considering all (or most) stakeholders' demands with the risks involved in ignoring them.

Universities as stakeholders

Academic work highlighting some of the most important issues that mining companies face when engaging with stakeholders have implications for this study. For example, the work of Dobele, et al. (2014) on the management of stakeholder relationships in the Australian mining industry, provides evidence of the importance of corporate commitment at different organisational levels for a successful stakeholder relationship. This is an important issue to consider because commitment (or not) of the higher levels of the mining company could have an impact on how mining companies engage with universities. Of particular interest is the findings on the significance of stakeholder 'non-centric' relationships with the company (Dobele, et al., 2014). As Dobele, et al. (2014, p. 145) argue, a stakeholder network has a 'life of its own' independently of mining company involvement or non-involvement. This rationale assumes that universities, as mining company stakeholders, have their own lives and they are embedded in a complex network of stakeholders of multiple organisations. Therefore, universities' relationships with mining companies are, at the same time, framed by other relationships. This has implications for the management of mining company engagement with

universities because mining companies engage with many different stakeholders. In this regard, Dong, Burritt, and Qian (2014) provide evidence that mining companies give priority to different stakeholders in different countries. They studied the influence of different stakeholder groups on the Chinese mining industry's CSR practice, where the highest importance is given to the Government as stakeholder. Dong, et al. (2014) provide evidence of important differences with Western-based mining companies, in which the focus is on customers and affected communities. This raises questions about the importance of location, culture and political views on how mining companies prioritise their stakeholders.

Kepore and Imbun (2011) analyse the importance of stakeholder engagement discourse as a fundamental facilitator of the number of CSR projects carried out in one particular community. This implies that the way in which mining companies refer to and engage with stakeholders, including universities, influences the engagement outcome. Similarly, Mzembe (2016) studied processes and practices that Malawi mining companies utilise to engage with stakeholders. Mzembe (2016) highlights the importance of specific context, community dynamics and NGO influence on stakeholder engagement agendas. The aforementioned studies do not discuss universities as mining company stakeholders. However, their findings about other forms of stakeholder engagement are used to inform this study of mining company engagement with universities as stakeholders. At the same time, in this thesis it is not assumed that mining companies engage with different stakeholders in the same way. The academic literature on mining company engagement with stakeholders seeks to examine particular interactions with different stakeholders. For example, Bodruzic (2015) studied the role governments should play in CSR projects of multinational mining companies. She argues that the Canadian Government is involved in these projects based on Canadian commercial interests, rather than a real interest in promoting international development. On a similar note, Boon (2009) devoted his thesis to understanding how the 'home' and 'host' government can help to

make mining company CSR initiatives more effective. Boon's (2009) study of the Peruvian mining industry highlights the local context and power relationships, which is reaffirmed by the work of Kotilainen, Prokhorova, Sairinen, and Tiainen (2015).

An important part of the literature on mining company engagement with different stakeholders is dedicated to 'local communities' and, in particular, to 'indigenous communities' (Babidge, 2013; Banerjee, 2010; Coronado & Fallon, 2010; Haalboom, 2012; O'Faircheallaigh & Ali, 2008). As local communities are the most affected and therefore have the most credible claims, mining companies make CSR efforts to claim that local communities are benefiting from their operations as a way to legitimise mining operations, protect them from other external claims, and continue with their business (Kapelus, 2002). Company-community relations are at the heart of mining company CSR discourse, particularly around the issue of sustainable development (Hamann, 2003). As Hamann (2003) describes, perceived benefits of mining activities at the national level sometimes is in contradiction with the negative impacts of mining projects in the most immediate communities. Definition of 'community' has become a key task of mining companies' CSR teams (Hamann & Kapelus, 2004; Mayes, et al., 2014). As Kapelus (2002, p. 281) notes , any definition of a community is 'always a construct, an imposing of order that does not necessarily fit the lived experience of the people in question'. Limits of a community are difficult to define (who is in and who is out), as is who should represent the community (Kapelus, 2002). In this sense, mining company definitions of 'communities' have implications for mining company engagement with universities. Mining company discourse on engagement with local communities could assume that universities located closer to mining operations should be part of mining company community development plans. In the same way, universities located further away from mining operations may not be necessarily part of mining companies' CSR policies. Definition of 'communities' is a discriminatory process that could affect the way in which a mining company engage with universities.

Mining company engagement with university

Welker (2014) exposes the tensions and lack of coordination between corporate headquarters and a mine site, and this is also supported by Muller (2006). She (2014) points out that extractive industry CSR practice can intensify existing economic inequalities and political uncertainties. Similarly, Bice (2013) proposes that mining companies can have decentralised CSR management approaches, which create gaps between headquarters and management at the community level. This suggests that mining company engagement with universities may be different at the headquarter level than at the mine operation level. The geographical dimension of mining company engagement with communities is addressed by many authors, such as Diale (2014); Imbun (2007); Kapelus (2002); Sharma and Bhatnagar (2015). Based on an investigation of the mining industry in South Africa, Kapelus (2002) addresses the issue of whether or not CSR really brings development to local communities. Others, such as Cook, et al. (2015, p. 186) argue that 'industry-aided' solutions can bring substantial development to disadvantaged communities. This is a fundamental issue for mining company engagement with universities. Even though this study does not aim to evaluate mining company impacts on universities, an important factor informing mining company engagement with universities may be precisely this development discourse.

Anguelovski (2011) examines dialogue processes between mining companies and communities. She explains how communities may resist spaces created to address issues or concerns about the mine operation. Similarly, Kemp and Owen (2013), drawing on data from West Africa, argue that the community-relations function must be better positioned within mining companies to achieve genuine dialogue and, therefore, sustainable development. Harvey and Bice (2014) point to the importance of developing relations of trust with local communities. Mayes, et al. (2014) argue that the meaning of 'community-engagement' and how mining companies can redefine and transform local communities is based on a neoliberal approach to

CSR. The forms of mining company discourse and actual dialogue with stakeholders affect mining company engagement with universities.

The concept of 'social licence to operate' (SLO) is a term widely adopted by the mining industry (Moffat, et al., 2016; Cooney, 2017) to express societal consent for mining companies' right to operate (Owen, 2016; Moffat, et al., 2016; Cooney, 2017; Prno & Slocombe, 2012; Thompson & Boutillier, 2011). The SLO concept changed the view that obtaining and maintaining a legal approval (government approval) is the only relevant consent needed to carry out mining activities (Cooney, 2017). For the global mining industry, SLO means that relationships with communities are now acknowledged as part of the industry's risk management strategies (Humphreys, 2000; Prno & Slocombe, 2012). This concept rests on the idea that if corporations are 'good citizens', then communities will give them a 'green light' to keep operating (Owen & Kemp, 2013) and it will minimise the risk associated with social opposition (Moffat, et al., 2016; Thompson & Boutilier, 2011). Some academics argue that SLO is not an 'unwritten social contract' (Moffat, et al., 2016, p.480) but it is the acknowledgement of a series of community demands and expectations on how a business should operate (Gunningham, et al., 2004). Moffat, et al. (2016, p. 482) explain that a social licence gives the impression of a mutually beneficial relationship between stakeholders and companies but, in real terms, mining companies have endorsed the concept much more strongly than communities and other stakeholders. This is because companies and communities have very divergent views of the world and different values (Moffat, et al., 2016). This situation is reinforced by the asymmetric nature of power relations between different parties (p.483). As Parson and Moffat's (2014) research suggests, mining companies talk about sustaining and maintaining a SLO, with little mention of it being acquired or denied, giving the impression that SLO pre-exists or can be lost. With mining companies' self-proclamation of holding a SLO, it is very unlikely that there is a shift in power relations (Parson & Moffat, 2014).

It is yet to be understood if mining company engagement with universities responds to their need to obtain the SLO. It is also uncertain if mining companies believe that the SLO could be more readily obtained by engaging with universities located closer to mining operations than with universities located away from mining projects, or both. As Mayes (2015) notes, for the mining industry, the SLO is not just a concept relevant at the local level but is rather a multi-scalar mechanism to legitimise the mining industry globally. With financial and investment decision-making processes made away from mining operations by a number of different shareholders and stakeholders, it is difficult to understand the value and meaning of SLO. In Harvey's view, only 'in-reach' initiatives are the ones that will provide companies with social licence to operate (Harvey, 2014, p. 7). He (2014, p. 8) suggests that 'outreach' initiatives are a company's commitments to deliver social investment programmes disconnected from the firms' capabilities, which ultimately positions mining companies as development agencies creating a paternalistic relationship with the community. On the other hand, 'in-reach' initiatives are those relations with the community that are linked to the internal business and mining workforce practice (Harvey, 2014). This evokes questions about whether or not mining company engagement with universities is linked to in-reach or outreach initiatives.

It is uncertain why and how mining companies engage with universities from a CSR perspective, as there is a limited body of work undertaking empirical analysis of this topic. One study that does examine company engagement with universities is the academic work of Gawel (2014). She explores the CSR dimension of one particular form of company-university engagement based on different industries in Poland. The mining sector is not included. The author explores how the sharing of corporate management experiences is used by universities to prepare case studies for teaching purposes. Gawel (2014) argues that this type of corporate engagement with universities (as stakeholders) can be seen as the implementation of CSR strategies by assisting in the development of university education. Gawel (2014) goes beyond

the simple mentioning of cases of corporate philanthropic support to universities as examples of CSR activities, such as in the work of Shah and Ramamoorthy (2014). Instead, Gawel (2014) provides evidence of the engagement processes involved in this relationship by explaining that for the successful implementation of these types of CSR projects between the corporate world and academia, personal relationships and mutual trust are crucial enablers. The scope of Gawel's (2014) work does not extend its conclusions to the mining sector and to other types of mining company engagements with universities. However, this is one of the few studies proposing that company engagement with universities can be based on a CSR perspective. The work of Gawel (2014) is an important contribution to the general understanding of the nature of corporate engagement with universities from a CSR perspective as it provides evidence of some important issues faced during the engagement process. The consequences of this proposition are important because it brings a moral element in the company engagement with universities.

The literature on communities is very relevant for this study because it provides theories of how mining companies practice CSR. Most of the time, mining company engagement with universities is carried out by mining company community-relations staff who could deploy similar CSR practices when engaging with both communities and universities. However, universities are different from communities. Although, universities are part of communities, they are institutions. Universities do not experience the same impacts of mining as do people living close to mining operations. In addition, universities may want to develop a commercial relationship with mining companies. This unique nature of universities as institutions must be considered for the purpose of this study.

Summary

This chapter summarised academic work examining the underpinning motives of mining company engagement with society. The current literature supports the idea that mining-

company engagement with society is based on a CSR perspective. This CSR perspective informs the identification of stakeholders, including universities. The examination of mining company engagement with universities is thus effectively undertaken through a CSR lens. This literature review has identified a number of CSR-related motivations, namely: cost and risk reduction, competitive advantage, reputation and public relations, corporate legitimacy, and obtaining the SLO.

Chapter 3: Research methodology

This chapter details the research methodology applied in this thesis. This thesis explores the nature of mining company engagement with universities from a CSR perspective. It does so by answering the following research question: Why and how do mining company engage with universities? The primary research objective of this thesis is to understand the motives behind mining company engagement with universities as part of their CSR strategies and to explore the forms this engagement can take. This type of research question is best addressed using a qualitative methodology (Edmondson & McManus, 2007).

Research design

Qualitative research

A range of different quantitative and qualitative methodologies have been applied by CSR researchers in the past, including for example survey methods (Baughn, Bodie, & McIntosh, 2007; Sugino, Mayrowani, & Kobayashi, 2015), complex case studies (Gifford, Kestler, & Anand, 2010; Himley, 2013) and literature reviews (Kurucz, et al., 2008; Söderholm & Svahn, 2015). However, most CSR research uses qualitative methods. For example, CSR research employs ethnographic methods (Warnaars, 2012; Welker, 2014), including interviews (Mutti, Yakovleva, Vazquez-Brust, & Di Marco, 2012; Ventura & Saenz, 2015; Viveros, 2016; Yakovleva & Vazquez-Brust, 2012), focus groups (Warnaars, 2012), participant observation (Warnaars, 2012; Welker, 2014), workshops (Mason, Paxton, Parsons, Parr, & Moffat, 2014), and analysis of documents and reports (Devin & Lane, 2014; Murguía & Böhling, 2013; Warnaars, 2012; Wirth, et al., 2016), among others.

According to Marshall and Rossman (2015) a qualitative methodology is appropriate when a study aims to research a little known phenomenon. In particular, a qualitative approach enables investigation of complex social phenomenon where the focus is on understanding 'how'

and ‘why’ (Edmondson & McManus, 2007). Thus, this research study adopts a qualitative methodology, which allows the researcher to be alert to different perspectives (Van de Ven, 2007).

Adopting a qualitative methodology in CSR research provides rich descriptions of people’s perceptions and points of view regarding their realities (Kvale, 1996). Participant observation, which involves data collection through active involvement of the researcher in the group of people under study (Fine, 2015), is widely used in social science research and it would be an appropriate choice for this study. Participant observation may have allowed the researcher to directly witness mining company engagement with universities by, for example, being at mining company-university meetings. However, having access to these types of observations can be difficult as mining companies and/or universities may not feel comfortable with the researcher’s presence, meeting participants might change their behaviour because they are being observed, or not sharing their real points of view for fear of being negatively judged. At the same time, this type of research would also be impractical due to the time and resources limitations of this study. The remainder of this chapter describes the methods used for this study, site selection, translation issues, data collection, data analysis and ethical considerations.

Site selection

Chile is an appropriate setting for this study because it is a country that has grown and developed around the mining industry (Korinek, 2013) and has aspirations to become a world hub for mining knowledge, research and innovation (CMDChile, 2014). Details of the Chilean context are provided in chapter 4. Because mining company engagement with universities in Chile is emergent, company motives for engagement with Chilean universities are arguably less normalised and taken-for-granted than they are in some other countries. Further, Chile provides a context in which uneven development is evident and where expectations regarding mining

companies' positive contribution to social and economic development are high. The content analysis of mining company sustainability reports, which is one of the methods used in this research and that is explained in the next section, covers a period of ten years, from 2005 to 2015. A period of ten years provides enough data to determine certain patterns of each mining company engagement with universities. As a Chilean national, I am knowledgeable in different aspects of the Chilean culture and society. My employment history has given me a high level of familiarity with and access to the Chilean mining industry and university systems.

Methods

Following Bice (2014), this study adopts two key methods: in-depth interviews and content analysis of sustainability reports. Semi-structured interviews offer a means of obtaining participants' perspectives on complex interactions and allow interviewees to explain their lived world, and the meaning of their experiences (Kvale, 1996). At the same time, interviews are useful for uncovering participants' perspectives and describing complex interactions but are dependent on cooperation of key individuals (Marshall & Rossman, 2015).

It is for these reasons that semi-structured interviewees were selected as the main method to obtain thick descriptions (Geertz, 1973) to access social perspectives and realities. Before interviews, data was collected from CSR reports of the five key mining companies in Chile. This data was used to provide background context but also as data source in its own right. It is recognised that although content analysis is widely used in management and business research these reports may be incomplete or created to suit a particular audience (Thorpe & Holt, 2008). For that reason, documentary analysis supplements other sources of data (Thorpe & Holt, 2008).

Data Collection

Data were collected using two methods: documentary analysis of mining company CSR reports and semi-structured interviews with senior mining company executives.

Mining Company Reports

In order to understand Chilean mining company engagement with universities, an analysis of one hundred mining company reports was carried out. The type of reports analysed were those aiming to inform society of mining companies' economic, environmental and social performance. Most of these reports can be found under the search terms of 'sustainability reports' or 'CSR reports'. Similar information was also found in 'annual reports' and 'community development reports'. These documents were found on mining companies' websites. A list of reports analysed is contained in Appendix One. For the sample to be representative of the mining industry in Chile, the five main mining companies were selected: CODELCO, Antofagasta Minerals, Anglo American, BHP Billiton, and Barrick. Together, these companies represent more than 80% of national mineral production in Chile (Consejo-Minero, 2017, pp. 17-19). These companies were also selected to represent both public and private firms. CODELCO is a state-owned company and the biggest copper producer in the world. Antofagasta Minerals is a private-company that is majority-owned by one Chilean family from the city of Antofagasta. On the other hand, BHP Billiton, Anglo American and Barrick are all transnational corporations. In total, one hundred reports were analysed.

The search was restricted to reports published between 2005 and 2015. The reports were used to map Chilean mining company engagement with universities. A digital search was conducted for the term 'universi' allowing 'university', 'universities' (English) and also 'universidad' and 'universidades' (Spanish) to be found. Search outcomes that referred to the university from which mining company staff graduated were not considered as relevant data.

Even when this data could be useful to understand any degree of connection between mining company executives' Alma Maters and actual engagement with these universities, this data is not consistent among all mining company reports included in this study. The majority of the mining company reports analysed provide academic details of some executives while others make no reference at all, making it difficult to have enough and consistent data for further analysis.

Analysis of the data gathered from these reports was undertaken to understand what types of engagements occurs between mining companies and universities, as well as understand which universities mining companies engage with.

Interviews

Interviews were carried out in order to obtain rich data that allow the researcher to describe the perspectives and belief of mining company executives. This research involved interviewing nine executive-level representatives who were working (or had worked) for mining companies in Chile, and who had been involved in mining company engagement with universities. Semi-structured interviews were undertaken to understand participants' personal experiences and opinions of mining company engagement with universities. Potential participants were sourced through the researcher's professional network. Interviewees were not speaking on behalf of their current or former employers nor were they representing these organisations. As such, organisational approval to participate was not required. The aim was to uncover participant's experiences and views (Marshall & Rossman, 2015). Participants were asked the following key questions:

- Can you tell me about your experience in mining company engagement with universities? Why do you think mining companies pursue this engagement?
- In your experience, how do mining companies choose universities they engage

with? Do university location, ranking or staff matter?

- What kind of benefits do you think mining companies and universities get out of it? What are the challenges in this engagement?
- Are there any down sides for mining companies or universities?

Sampling approach and access

The target population for this study was senior executives who were working or had worked in any mining company located in Chile. Interview participants must have been involved in engaging with universities on behalf of their organisations. All interviewees held senior level positions including vice-president, manager of external affairs, manager of human resources. A purposive and snowballing sampling strategy was implemented (Rapley, 2014). The researcher directly approached thirty-two potential participants via email and phone calls. Their suggestions of other people who may be interviewed (snowballing sampling) were considered if they met the target population characteristics.

The size of the target population is small as few mining company staff engage with universities. People involved in mining company engagement with universities are restricted to certain areas of companies. At the same time, a limited number of people carry out the interactions between mining companies and universities in Chile (Valenzuela, 2011). This explains the relatively small number of people who were interviewed for this study.

Interview design and conduct

Because interviewees were likely to reside in Chile or elsewhere as part of a global mining industry, interviews were conducted via Skype or Teleconference. Interviews lasted for around 40 minutes. Participants were given the option to conduct the interview in either English or Spanish. All interviewees selected Spanish as their preferred language for interviews. Interviews were digitally recorded, transcribed and translated by the researcher.

In line with QUT ethics procedures, potential participants were provided with details of the research project and its objectives, associated benefits and risks, and privacy and confidentiality measures. If they agreed to participate, participants were then asked to sign the prior-informed consent form. This form was available in Spanish and English. Potential participants were able to contact the researcher or her supervisors to clarify any doubts at any time. Prior-informed consent forms were signed, scanned and sent to the researcher before each interview was conducted.

Translation issues

The inclusion of translation in the research process matters insofar as it can introduce bias because people speaking different languages may build different ways of seeing social life and that there is no single 'correct' translation of a text (Larkin, Dierckx de Casterlé, & Schotsmans, 2007; Temple & Young, 2004). However, as Steyaert and Janssens (2013) argue, what is important is that the methods of translation are visible and reflected in the research process. In part, decisions about translation are determined by the resources available to the researcher and his/her epistemological position (Temple & Young, 2004). Due to time and financial constraints, translation was carried out by the researcher. This has advantages and disadvantages. Temple and Young (2004) argue that the dual role of researcher and translator could give the researcher important opportunities to pay attention to cross cultural meaning and interpretations and that the translation process gives the researcher the opportunity to stop and think about meaning. However, this dual role is constrained by the socio-cultural positioning of the researcher (Temple & Young, 2004). In this study, my the dual role as researcher and translator had a limited impact on the validity of translation because I gave priority to meaning rather than literal translation.

As Santos, Black, and Sandelowski (2015) explain, that even if the researcher doing the

data collection is a native speaker of the interviewees' language, issues related to the introduction of new material and researcher interpretation during the translation processes may occur. They recommend engaging in translation as soon as possible in the research process. In this study, translation occurred during the data analysis stage. This means that data were analysed in the source language (Spanish) and then categories and concepts created by this analysis were translated into the target language (English) (Santos, et al., 2015). Quotes from interviewees that were used in the thesis were translated to English during the thesis writing process. It is also important to mention that, when required, Spanish colloquialisms, slang and jargon have been retained and explained in English. To assist in meaning-making, clarifications, where required, have been inserted in square brackets into interview quotes.

The mining companies' CSR reports analysed in this study were written in English and Spanish. Reports written in Spanish were not translated to English. The same process carried out for the translation of interviews was undertaken for mining companies' CSR reports such that only relevant data were translated into English.

Finally, it is important to mention that not only am I a native-Spanish speaker, but I also have experience in the translation of documents from Spanish to English and vice versa. In particular, I have provided translation services to university clients. I am Chilean and fluent in Spanish which allowed me to translate or approximate the meaning of colloquialisms, slang and jargon that are embedded in the Chilean culture.

Respondents

In order to avoid potential identification of participants' identities, interview transcripts were deidentified. Each interviewee was assigned with a pseudonym. Interview data is reported in this thesis using these pseudonyms listed in the following table.

Table 3.1. Participant pseudonyms

Pseudonym	Key role(s)	Gender
Alejandro	Human Resources	Male
David	Community relations	Male
Francisco	Human Resources	Male
Jaime	External affairs/ philanthropy	Male
Javiera	Human Resources	Female
Matías	Community relations	Male
Mauricio	External affairs	Male
Miguel	External affairs	Male
Sergio	External affairs	Male

Data Analysis

Interview data were analysed in an open coding process in order to identify low-level categories, and later an axial coding process was carried out in order to define higher-level categories (Given, 2008). The interpretation stage involved the development of links that bring together themes by selecting the most useful data segments to support an emerging story (Marshall & Rossman, 2015). Table 3.2 shows the different themes, their categories and sub-categories identified in the coding process.

In a similar process, data gathered from mining company CSR reports were analysed and presented to provide the types of engagements reported by mining companies and the universities involved. Findings were iteratively compared with CSR and mining-company literature in a search for alternative explanations and to generate a list of the contextual realities and beliefs, points of view and practices of mining company staff.

Table 3.2. Key themes

Themes
Universities as mining company providers
Universities as providers of university graduates
Universities as providers of research
Universities as providers of education and training
Universities as CSR recipients
Universities as CSR validators

Ethics

This research study follows Queensland University of Technology' Human Research Ethics Committee Guideline (project ethics approval number is 1600000251). Interviewees were provided with information about this research project and a consent form. All people interviewed provided a signed copy of this consent form before interviews were carried out. All participants agreed to be interviewed in a voluntary way. They were allowed to withdraw from this project or not to answer any question that made them feel uncomfortable. Participants were advised that all information provided was of confidential nature. All data obtained during interviews is stored in a secure location.

Summary

This chapter detailed the qualitative research methodology used to address the research question. It provided evidence that the methodology selected is appropriate considering time and resource constraints of this project. It also discussed why Chile was selected as the site for this project and provided a detailed description of the research process, including data collection and analysis. This chapter also addressed translation issues and research ethics. The

following chapter provides more information on the research setting of this study, as well as the findings of the analysis of mining companies' CSR reports.

Chapter 4: Understanding the Chilean context through mining company reports

This chapter provides background information on the Chilean mining industry and its engagement with universities. It does so by providing contextual information taken from public sources and from analysing CSR reports (from 2005 to 2015) of the five most important mining companies operating in Chile. The first section describes mining and mineral extraction in Chile. The second section provides general background on mining company engagement with universities in Chile. The third section identifies different types of engagement mining companies undertake with universities, as well as listing the universities these mining companies engage with. This section also provides insight into mining company representations of engagement with universities in Chile.

Mining and mineral extraction in Chile

Mineral extraction has been part of the Chilean culture, society and economy for centuries (Lagos & Blanco, 2010). In 2014, Chile accounted for close to one-third (31.1%) of world copper extraction and production. Copper extraction and production activities constituted 11.2% of the Chilean national GDP and 9% of the national government income (Consejo-Minero, 2015, pp. 1-2). The mining industry has transformed Chile and its economy (InvestChile, 2016). Public and private mining investments have had a significant impact at the national and regional level, particularly in the northern regions of the country such as Antofagasta, Atacama and Tarapacá. The most important mining region in Chile is Antofagasta, which accounts for more than half of the nation's copper production (Consejo-Minero, 2015, pp. 6-7). Figure 4.1 shows the geographical location of the Antofagasta Region and the mining activity occurring there, and in the whole country.

There are five main mining companies operating in Chile in the Antofagasta Region:

the publicly-owned CODELCO, Antofagasta Minerals, and the transnational mining companies' Anglo American, BHP Billiton and Barrick. However, while mining has undoubtedly brought economic prosperity to the Antofagasta Region, social indicators are still very poor there, especially in relation to education and health (Lagos & Blanco, 2010). The sustainability reports of the main mining companies operating in Chile suggest their commitment to CSR more generally and to stakeholder engagement more specifically. Consistent with global trends, the Chilean mining industry embraces CSR as its main narrative for engagement with society. Concepts like sustainable development, community engagement, stakeholders, and social licence to operate are commonly invoked by the Chilean Mining Council (Consejo-Minero, 2017) and most public and private mining companies operating in Chile. Influenced by their international headquarters and increasing accountability pressures, transnational mining companies operating in Chile acknowledge expectations that they should contribute to economic and social development in the mining regions in which they operate. Most private mining companies operating in Chile, such as Anglo American, Barrick and BHP Billiton, have created their own philanthropic foundations to channel their local CSR efforts. At the same time, the publicly-owned CODELCO invests in local development through projects with local and regional governments on areas of interest such as education, health, and indigenous communities.

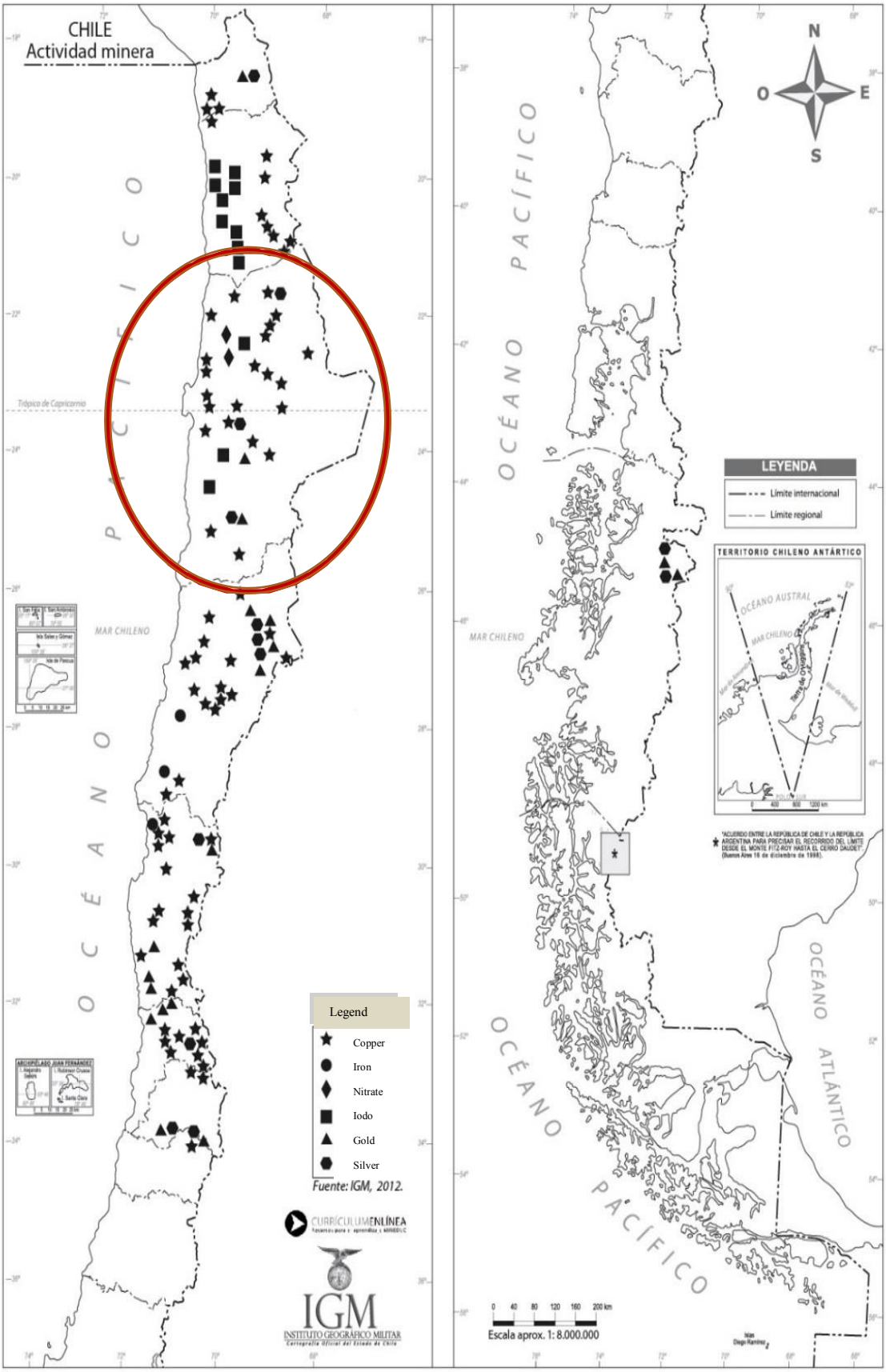

Figure 4.1: Map of Chile's mining activity, highlighting the Antofagasta region (IGM, 2017).

Mining company engagement with universities in Chile

In Chile, general university-industry engagement is very poor relative to other OECD countries (OECD, 2007); Chilean mining company engagement with universities is no exception. Other mining countries, like Australia and Canada, have developed strong industries based on mining innovation and commercialisation (Korinek, 2013). Mining industry collaboration with universities plays an essential role in this process. By comparison, the Chilean mining industry is struggling to add value to mineral extraction and exporting (Valenzuela, 2011). One of the reasons for this is that the Chilean university system is underdeveloped in terms of its capacity to provide innovation for the Chilean mining industry (Valenzuela, 2011).

This is exacerbated by the fact that few universities are located in close proximity to key mining regions, including the Antofagasta Region. In this key mining region, there are only two universities that claim to belong to the Region: Universidad de Antofagasta and Universidad Católica del Norte (Mineduc, 2017). In the cases of the Tarapacá Region and the Atacama Region, which are both very active in terms of mining activity, there is only one local (regional) university in each region. In contrast to this, 32 are based in Santiago (the Metropolitan Region), including the most prestigious and higher ranked Chilean universities. Figure 4.2 shows the distribution of universities by region in Chile.

The Chilean university system has certain characteristics that make industry-university engagement difficult, particularly at the regional level. The Chilean university system is dominated by teaching-based institutions, with few universities adopting research as a central focus of their work. It has even been argued that when compared to globally-ranked and research intensive universities in other parts of the world, Chile does not have any universities that could be classed as research intensive universities (Altbach & Balan,

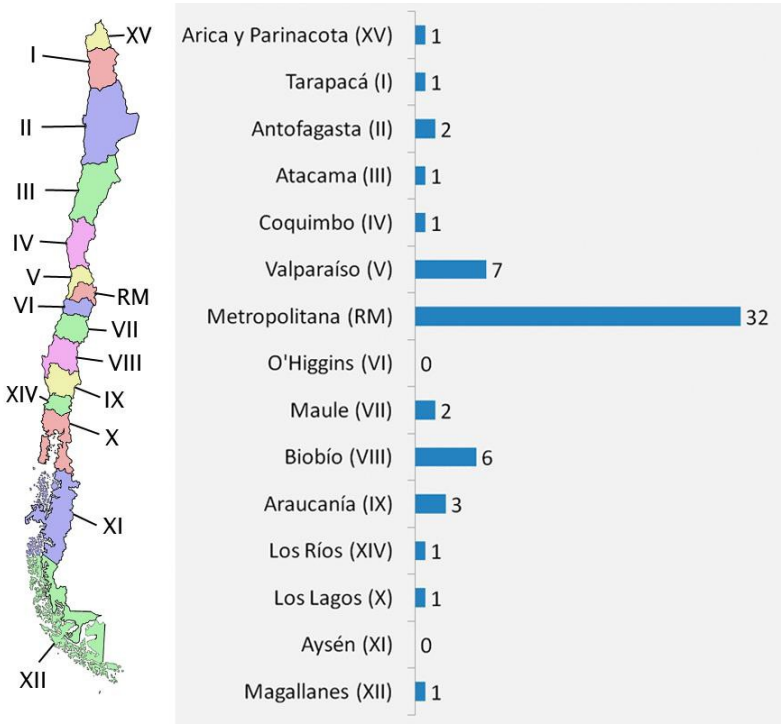

Figure 4.2: Number of universities located in each Chilean region (Mineduc, 2017)

(2007). Universidad de Chile and Pontificia Universidad Católica de Chile could be considered the universities undertaking the most research in the country. Both of these universities are located in Chile's capital Santiago, which is located far from where most of the mineral extraction in the country occurs.

Cuadrado-Roura and Aroca (2014) argue that centralism in Chile has had a big impact on the development of the Chilean higher education system, particularly the uneven development of universities in the country. The most prestigious public and private universities are located in the capital, Santiago, giving them an advantage over their regional counterparts in terms of access to private and public resources (Cuadrado-Roura & Aroca, 2014). Public regional universities have suffered a long history of neglect by the central government, which is exacerbated by poor policies for education and research (Altbach & Balan, 2007). Historically, most universities in Chile have relied on student tuition fees. Research funding is very limited and not widely available (Altbach &

Balan, 2007). This has constrained the way universities engage with different industries, including mining and the extent to which they can engage in research, which is perceived to be value adding by industry.

As a result, Chilean mining companies are not proactive in engaging with universities as research partners or sources of new knowledge (Fundacion-Chile, 2016). The innovation undertaken by mining companies in Chile is mainly adaptive (Gana, 1992; Korinek, 2013). Chilean mining companies typically look for new solutions to their problems outside Chile and, later, adapt them to the local realities and contexts of their Chilean mining operations.

The Chilean Government has acknowledged the lack of engagement between mining companies and universities by creating a number of incentives to leverage industry-university collaboration for research and innovation in the last two decades. These initiatives include new research funding, incentives for intellectual property protection and commercialisation, funding for human capital development, and bringing international centres of excellence in mining into the country (Valenzuela, 2011).

In December 2014, the Chilean Government, through the Commission for Mining and Development of Chile and the National Council for Innovation and Competitiveness, made public a long-term plan for the development of the mining sector called ‘Mining: a platform for Chile’s future’ (CMDChile, 2014). In this document, the Chilean government stated its 20 year vision, in which ‘mining in Chile will transit from an industry based on the country’s natural resources advantages to a more complex industry that acts as a platform so Chile can integrate into global value chains and knowledge-based societies’(CMDChile, 2014, p. 25). In particular, this document details that ‘the mining sector will be a centre for the attraction of Chilean talent and foreign scientists, engineers and other discipline experts’ (CMDChile, 2014, p. 25). Although, the document refers to ‘research centres’, it does not explicitly identify universities as essential players in producing the next generation of

Chilean talents or, as Kunc and Bas (2009) and Tiffin and Kunc (2011) suggest, as organisations that have the potential to play a fundamental role in the development of research and innovation clusters and alternative industries.

How do Chilean mining companies represent their engagement with universities?

This section provides an insight into Chilean mining company engagement with universities by analysing CSR reports of the main five mining companies in Chile. Table 4.1 shows details of the mining companies included in the analysis, their ownership status, size in terms of annual revenue and number of employees, number of operations in Chile, number

Table 4.1: Mining companies analysed
Statistics source: Consejo Minero (2016).

Mining Company	Ownership	Size	Operation locations in Chile	Number of reports analysed
CODELCO	100% public owned	Revenue: USD$ 8,724 million Employees: 65,421 (direct and contractors)	8 operations across 4 regions	13
BHP Billiton	100% private-owned Mostly foreign investment	Revenue: USD$ 10,575 million Employees: 15,325 (direct and contractors)	3 operations across 2 regions	24
Antofagasta Minerals	100% private-owned. Mostly national investment	Revenue: USD$ 3,278 million Employees: 19,478 (direct and contractors)	4 operations across 2 regions	24
Anglo American	100% private-owned Mostly foreign investment	Revenue: USD$ 3,448 million Employees: 12,875 (direct and contractors)	4 operations across 3 regions	32
Barrick	100% private-owned Mostly foreign investment	Revenue: USD$ 1,224 million Employees: 2,433 (direct and contractors)	1 operation in 1 region	7

of regions in which these operations are located, and the number of CSR reports analysed for each mining company in this research.

As shown in Table 4.2, analysis of Chilean mining companies' CSR reports revealed thirteen different types of mining company engagement with universities.

Table 4.2: Types of engagement between mining companies and universities based on CSR reports from five mining companies, 2005 to 2015.

Types of engagement	Description
Universities as stakeholder	A specific university or universities in general are acknowledged as stakeholders of the company.
Community engagement	Engagement with universities as part of 'community engagement' initiatives, including memberships (being a member of a university board), or participating in university events or cultural activities.
Awarded by universities	Mining companies being formally acknowledged or awarded by a university.
Scholarships	Mining companies provide scholarships to individuals to study at a particular university or at any university.
Philanthropic funding	Providing direct funding to universities for university projects (mainly infrastructure).
Training	Commissioning staff training through universities, including graduate programs.
R&D	Engaging in research and development activities with universities for the improvement of mining companies' core operations: exploration, extraction, processing, comminution, lixiviation, asset management, etc.
Services/new technology	Hiring universities for provision of consultancy services or to acquire new technology or know-how.
Environmental management	Engaging with universities to carry out research projects or initiatives to improve mining companies' environmental management, for example, projects aiming to secure biodiversity in areas close to mining operations.
Impact studies	Hiring universities to carry out studies that evaluate the environmental or societal impact of mining operations.
Community Development	Collaborating with universities for the planning or implementation of mining companies' initiatives for the development of communities. The most recurrent form of this engagement is through universities' provision of training to communities.
Graduate recruitment	Engaging with universities to access new university graduates.
Local Employment	Engaging with universities to increase local employment.

Some of these engagements, such as recognising 'universities as stakeholders' or 'community engagement' are statements of acknowledgement of universities as interested parties for the mining company. In their CSR reports, mining companies include reference

to university acknowledgements or university awards to mining companies, as a form of promotion. At the same time, mining companies demonstrate their commitment to supporting universities by providing scholarships and philanthropic funding. This last type of engagement refers to funding provided to universities for the development of projects or initiatives that are most often selected by and for the direct benefit of the university and do not have any relation with the mining industry core business.

Mining companies also have a transactional relationship with universities and make reference to training, research and development, and the provision of services and new technologies as engagements carried out in collaboration with universities to solve issues aligned with mining companies' core business. Universities are also recognised as providers of consultancy and research services related to mining company environmental management, which aim to minimise negative mining company environmental impacts. This engagement can be distinguished from the conduct of impact studies by universities, which aim to evaluate mining company environmental performance. In this context, universities provide consultancy services with the express purpose of assessing mining companies' regulatory compliance. Mining companies' CSR reports also refer to university as providers of services to communities on behalf of mining companies, mainly in the form of training and capacity building. Finally, mining company CSR reports describe engagements with universities with the aim of recruiting and attracting new graduates. This recruitment of university graduates is also designed to increase local employment.

This analysis of CSR reports reveals that mining company engagement with universities occurs at different geographical scales (e.g. local/regional, national and international universities). These reports show that across these mining companies engagement occurs with 14 local/regional universities, 14 national universities (mainly located in Santiago), and 11 international universities. However, analysis of each mining

company and its engagements with universities demonstrate that there are substantial differences among mining companies in the way they engage with universities and which universities they choose to engage with. The following sections provide an overview of each of the five mining companies and their engagement with universities.

CODELCO

Codelco is the Chilean state-owned mining company. It is the world leader in copper production, with 10% of the world market and world copper reserves (CODELCO, 2017a). CODELCO operates seven mines in Chile. CODELCO employs 18,605 direct employees, 21,357 employees of operations and services contractors, and 25,741 employees of investment contractors (CODELCO, 2017a). In 2016, CODELCO's sales reached USD$ 11,537 million (CODELCO, 2017a). CODELCO main markets are in China (43%) and other Asian countries (21%) (CODELCO, 2017a). In terms of CODELCO's sustainability strategy, the company updated its Corporate Sustainability Policy in December 2016 to apply six new commitments to all company's activities (CODELCO, 2017a). These commitments include the 'creation of trust relations with communities, providers and other stalekolders' (CODELCO, 2017a). As a significant contributor to the Chilean National budget, the CODELCO CSR strategy highlights the company's contribution to the country and its people by providing these financial resources. At the same time, with approval of the Chilean Government, CODELCO has allocated direct funding to some iconic projects like 'Calama Plus', a public-private project that aims to make Calama (the closest city to CODELCO's mine operations in the Antofagasta Region) a more sustainable and friendly city (CODELCO, 2017b).

Out of the five mining companies analysed, CODELCO is the company that had fewest sustainability reports available to the public. This is mainly the case because other mining companies operating in Chile divide their communication to stakeholders by mine

operations. CODELCO produces one report for the whole of the company.

Within its corporate reports, CODELCO clearly states that universities are among the company's stakeholders and claims to engage with universities as part of its broader community engagement intitiatives. Universidad de Chile is also the only university that receives any philanthropic funding from CODELCO.

Of the five mining companies analysed, CODELCO reports engagement with the highest number of universities in terms of reseach and development initiatives. However, most of these engagements occur with international universities; CODELCO reports engaging with a highest number (seven) of international universities, the majority of which are from Europe and the United States of America.

CODELCO reports engaging with eight Chilean universities, the majority of which are based in Santiago. Universidad de Chile is the university with which CODELCO engages in the most diverse ways (i.e. the highest number of types of engagements). CODELCO states that it engages with universities to carry out environmental management programs; the regionally-based Universidad de Antofagasta is offered as an example of this. By contrast, Pontificia Universidad Católica de Chile and Universidad Adolfo Ibáñez, both located in Santiago, are engaged for the purposes of conducting impact studies of CODELCO's mining operations.

In the decade of CSR reports analysed, CODELCO made reference to two awards received by the company from universities. One of these awards, from Universidad de Chile's Faculty of Forestry Sciences, was awarded to CODELCO for being a strategic partner in obtaining government funding for a project related to the restoration of degraded areas. The second award was given to CODELCO by the Santiago-based Universidad del Desarrollo [University of Development]. In this case CODELCO was awarded first place in the 'Corporate Transparency Ranking' developed by Chile Transparente and Universidad

del Desarollo.

Based on its CSR reports, CODELCO relies heavily on international universities for research and development. This is surprising, as given the state-owned nature of CODELCO, it could be expected that the company might choose to work with local universities as providers of research and development. This highlights the need to understand why mining companies choose to engage with the particular universities that they do.

Table 4.3: CODELCO engagement with universities classified by types of engagements and location of universities

CODELCO	Universities as stakeholders	Community engagement	Awarded by university	Scholarships	Philanthropic funding	Training	R&D	Services/new technology	Environmental Management	Impact studies	Community Development	Graduate recruitment	Local Employment
Universities in general	◊	◊		◊			◊		◊		◊	◊	
Universities in Santiago													
P. Universidad Católica de Chile										◊			
Universidad de Chile		◊	◊		◊		◊	◊					
Universidad Adolfo Ibáñez										◊			
Universidad del Desarrollo			◊										
Universidad de Santiago de Chile							◊						
Regional universities													
Universidad de Talca							◊						
Universidad de Concepción								◊					
Universidad de Antofagasta									◊				
International universities													
The University of Queensland (AU)								◊					
University of Nottingham (UK)							◊						
UC Berkley (USA)							◊						
University of Louisiana (USA)							◊						
Technishe Universitat B.F.(GER)							◊						
IRD (FRA)							◊						
U Libre Berlin (GER)							◊						

BHP Billiton

BHP Billiton is one of the world's top producers of minerals including copper, uranium, coal and iron ore (BHP Billiton, 2017). Headquartered in Melbourne, Australia, BHP Billiton's operations are mainly located in Australia and North and South America (BHP Billiton, 2017). Globally, these operations employ more than 65,000 direct employees and contractors (BHP Billiton, 2017). BHP Billiton's Mineral Americas is located in Santiago, Chile. In Chile, the company owns three operations: Escondida, Spence and Cerro Colorado (BHP Billiton, 2017). These operations employ 15,325 direct employees and contractors (BHP Billiton, 2017) . BHP Billiton defines itself as a company committed to 'positively contribute to society' (BHP Billiton, 2017). BHP Billiton invests 1% of pre-tax profits in community projects. Two of the iconic development projects of BHP Billiton in Chile are 'World-class Suppliers Program' and the creation of 'Fundacion Minera Escondida' in 2008 (BHP Billiton, 2017).

Based on the CSR reports analysed, BHP Billiton clearly states that universities are company stakeholders. BHP Billiton reports engaging with twelve universities: five located in Santiago, five located in regions, and two in international locations (Australia and Canada). The universities with which BHP engages with the most are: Universidad Católica del Norte and Universidad de Antofagasta (both located at the regional level) and Universidad of Chile (located in Santiago). BHP Billiton acknowledges Santiago-based Universidad de Chile as the only university to which it provides any philanthropic funding. BHP Billiton reports interacting with six universities as part of their community engagement initiatives. The company reports providing scholarships for individuals to study at university, without providing specific university names. BHB Billiton engages with three universities for training activities and with three for research and development activities. Most of BHP Billiton's engagement with universities is for 'community development'

initiatives.

In the decade of CSR reports analysed, BHP Billiton reports receiving awards from two Chilean universities. The first award was given by the Santiago-based Universidad Pedro de Valdivia for BHP Billiton's participation in the start of the academic year in 2012. The second award was given by the regionally-based Universidad Católica del Norte, which acknoledged BHP Billiton's support to initiatives for the university's Centre of Biotechnology, School of Mining Business, and the Technology Scientific Park.

As Table 4.4 demonstrates, BHP Billiton reports a significant level and diversity of engagements with national universities and less engagement with international universities compared to other comanies. In addition to engaging with universities where their mining operations are located (Universidad Católica del Norte and Universidad de Antofagasta), BHP Billiton also engages with universities located in other regions, including those in the southern part of Chile where there is little mining activity (e.g. Universidad de la Frontera).

Table 4.4: BHP Billiton engagement with universities classified by types of engagements and location of universities

BHP Billiton	**Universities as stakeholders**	**Community engagement**	**Awarded by university**	**Scholarships**	**Philanthropic funding**	**Training**	**R&D**	**Services/new technology**	**Environmental Management**	**Impact studies**	**Community Development**	**Graduate recruitment**	**Local Employment**
Universities in general	◊	◊		◊		◊					◊	◊	
Universities in Santiago													
P. Universidad Católica de Chile						◊	◊				◊		
Universidad de Chile		◊			◊	◊					◊		
Universidad Pedro de Valdivia			◊										
Universidad Diego Portales											◊		
Universidad Santo Tomás		◊									◊		
Regional universities													
Universidad de Concepción		◊											
Universidad de Antofagasta		◊									◊		
Universidad Católica del Norte		◊	◊			◊	◊						
Universidad Federico Santa Maria			◊				◊				◊		
Universidad de la Frontera											◊		
International universities													
University of Western Sydney (AU)		◊									◊		
University of Toronto (CA))											◊		

Antofagasta Minerals

Antofagasta Minerals is the largest Chilean private mining investment and one of the ten biggest producers of copper in the world (Antofagasta Minerals, 2017). In Chile, the company operates four mines: Antucoya, Centinela, Zaldivar and Los Pelambres (Antofagasta Minerals, 2017). Antofagasta Minerals employs more than 18,000 direct and indirect employees and had annual revenue of USD$ 3,278 million in 2016 (Consejo Minero, 2016). Antofagasta Minerals considers sustainability as an integral part of the company's decision-making process (Antofagasta Minerals, 2017). In Chile, the company is involved in several community projects (Antofagasta Minerals, 2017).

In its CSR reports, Antofagasta Minerals clearly states that universities (in general) are company stakeholders and explicitly mentions two regional universities: Universidad Católica del Norte and Universidad de la Serena. Antofagasta Minerals reports providing philanthropic funding to three universities: the Santiago-based Pontificia Universidad Católica de Chile and Universidad de Chile, and the regionally-based Universidad de la Serena. Antofagasta Minerals also reports being highly engaged in 'community engagement' initiatives.

Antofagasta Minerals collaborates with thirteen Chilean universities: seven are located in Santiago and six in the regions. Antofagasta Minerals engages with just one international university based in Australia. Universidad de la Serena is the university that Antofagasta Minerals engages with in the most diverse ways (i.e. highest number of types of engagements). Antofagasta Minerals reports high levels of engagement with universities in terms of their 'community development' initiatives. Compared to other companies analysed, Antofagasta Minerals engages the most with universities for the provision of consultancy services and new technology. However, Antofagasta Minerals reports engaging in research and development only with Universidad de Antofagasta. Antofagasta Minerals is

the only one of the five mining companies analysed that claims engagement with universities to increase local employment: however, the universities' names or locations are not identified.

In the decade of CSR reports analysed, Antofagasta Minerals reports receiving awards from four Chilean universities. One of these awards was given to Antofagasta Minerals by the Santiago-based Pontificia Universidad Católica de Chile's IT Centre. Another award was given by the regionally-based Universidad de La Serena. In both cases, there is no indication of why these awards were received. Antofagasta Minerals also received an award from the Santiago-based Universidad Tecnologica INACAP for its support in the development of human capital. Antofagasta Minerals also reports receving an award from the regionally-based Universidad de los Lagos for co-financing a government-grant research project.

As Table 4.5 shows, Antofagasta Minerals is heavily engaged with national universities. Most of these engagements occur at the regional level with universities located closer to Antofagasta Minerals' operations.

Table 4.5: Antofagasta Minerals engagement with universities classified by types of engagements and location of universities

Antofagasta Minerals	**Universities as stakeholders**	**Community engagement**	**Awarded by university**	**Scholarships**	**Philanthropic funding**	**Training**	**R&D**	**Services/new technology**	**Environmental Management**	**Impact studies**	**Community Development**	**Graduate recruitment**	**Local Employment**
Universities in general	◊	◊		◊							◊	◊	◊
Universities in Santiago													
P. Universidad Católica de Chile		◊	◊		◊					◊			
Universidad de Chile		◊			◊			◊					
Universidad Adolfo Ibáñez						◊							
Universidad del Desarrollo						◊							
Universidad Tecnológica INACAP			◊								◊		
Universidad Andrés Bello											◊		
Universidad Alberto Hurtado								◊					
Regional universities													
Universidad de Antofagasta		◊					◊		◊				
Universidad Católica del Norte	◊	◊						◊			◊		
Universidad de la Serena	◊	◊	◊		◊	◊		◊			◊		
Universidad de Los Lagos			◊								◊		
P Universidad Católica de Valparaiso								◊		◊			
Universidad Arturo Prat				◊									
International universities													
The University of Queensland (AU)								◊					

Anglo American

Anglo American is a large and diversified mineral producer, including production of copper, diamonds, platinium, nickel, iron ore, and coal (Anglo American Chile, 2017). The company employs 113,000 people worldwide (Anglo American Chile, 2017). Headquartered in London, United Kingdom, Anglo American's operations are located in Southern Africa, North and South America, and Australia (Anglo American Chile, 2017). The company has three operations in Chile: Los Bronces, Chagres, and El Soldado. It is also a major share-holder in the Collahuasi mine (Anglo American Chile, 2017). In Chile, the company employs 12,875 direct employees and contrators.

Anglo American clearly states that universities in general are company stakeholders. Compared to the other four mining companies analysed, Anglo American engages with the highest number of universities (twenty four in total). Nine of these universities are located in Santiago, ten located in regions, and five are international universities. Anglo American also reports engaging with the highest number of universities for 'community engagement' and 'scholarships' purposes. The regional university, Universidad Arturo Prat is the only named recipient of philanthropic funding from Anglo American. Anglo American reports high levels of engagement with universities for provision of most services, including training, research, and graduate recruitment. It engages with ten universities for environmental management, the highest number of all companies analysed. Anglo American also reports high levels of engagement with different universities (national and international) for 'community development' initiatives.

In its CSR reports, Anglo America registered one award, which was given to the company by the Santiago-based Pontificia Universidad Católica de Chile's Faculty of Communications (in conjunction with the Reputation Institute). In this case, the company was recognised as the company with the best reputation in the category of natural resources.

Of the mining companies analysed, Anglo American shows the highest levels of engagement with universities. These engagements are particularly intense with the Santiago-based Pontificia Universidad Católica de Chile and Universidad de Chile, which are the best ranked and most prestigous universities in Chile. Anglo American reports engagements with universities from across the globe, including US, UK and Australian universities.

Table 4.6: Anglo American engagement with universities classified by types of engagements and location of universities

Anglo American	Universities as stakeholders	Community engagement	Awarded by university	Scholarships	Philanthropic funding	Training	R&D	Services/new technology	Environmental Management	Impact studies	Community Development	Graduate recruitment	Local Employment
Universities in general	◊	◊		◊		◊			◊		◊	◊	
Universities in Santiago													
P. Universidad Católica de Chile		◊	◊	◊		◊		◊	◊	◊	◊		
Universidad de Chile		◊		◊		◊	◊		◊	◊	◊		
Universidad Adolfo Ibañez						◊					◊		
Universidad de Santiago de Chile				◊									
Universidad Tecnologíca INACAP				◊							◊		
Universidad Andrés Bello		◊											
Universidad Santo Tomás		◊											
Universidad Alberto Hurtado		◊			◊								
Universidad Mayor									◊				
Regional universities													
Universidad de Concepción				◊			◊		◊				
Universidad de Antofagasta							◊		◊				
Universidad Católica del Norte		◊		◊		◊					◊		
Universidad Arturo Prat		◊		◊					◊		◊		
P. Universidad Católica de Valparaíso				◊				◊			◊		
Universidad de Atacama				◊							◊		
Universidad de Viña del Mar									◊				
Universidad de Tarapacá		◊		◊					◊				
Universidad de Valparaiso									◊				
Universidad Playa Ancha									◊				
International universities													
The University of Queensland (AU)		◊				◊	◊	◊					
University of Wollongong (AU)							◊						
University of Cambridge (UK)		◊				◊							
UC Berkley (USA)											◊		
Universidad Nacional de Edu a Distancia											◊		

Barrick

Barrick defines itself as a gold-producer company. However, the company also produces other minerals, including copper. In Chile, Barrick employs 2,433 direct employees and contractors (Barrick Chile, 2017) and has an annual revenue of USD$ 1,224 million (Consejo Minero, 2017). In Chile, Barrick operates the Pascua-Lama and Cerro Casale projects, as well as part of Zaldivar mine (Barrick Chile, 2017). Barrick claims to be committed to 'responsible mining' and in Chile, the company develops several social programs in the Antofagasta and Tarapacá regions (Barrick Chile, 2017).

At the time of this research, Barrick had made publicly available sustainability reports just until 2012. The reason why there were no available reports from 2012 onwards is uncertain. However, at the end of 2015, fifty per cent of Minera Zaldivar (the main operation of Barrick in Chile) was sold to Antofagasta Minerals, which could explain the lack of reports due to the management transition associated to these owner changes.

Barrick clearly states that universities in general are company stakeholders. Barrick reports engaging with nine universities, the majority of which are regional universities. The regionally-based Universidad Católica del Norte is the university that Barrick reports engaging the most with in terms of number of types of engagements. No engagement with international universities is reported. Most of Barrick's engagement with universities occurs for 'community development' initiatives. Compared with the other mining companies analysed, Barrick reports the least engagement with universities for the provision of services.

In its CSR reports, Barrick registered one award received by a Chilean university: the regionally-based Universidad de Atacama. Barrick reports that the award was given to the company by the Vocational Training Centre of this university for Barrick's support of the Atacama region's human capital development. As the smallest mining company of those

companies analysed, Barrick engages less with universities than the other companies report doing.

Table 4.7: Barrick American engagement with universities classified by types of engagements and location of universities

Barrick	Universities as stakeholders	Community engagement	Awarded by university	Scholarships	Philanthropic funding	Training	R&D	Services/new technology	Environmental Management	Impact studies	Community Development	Graduate recruitment	Local Employment
Universities in general	◊			◊		◊	◊					◊	
Universities in Santiago													
P. Universidad Católica de Chile		◊									◊		
Universidad de Chile											◊	◊	
Universidad de los Andes						◊							
Regional universities													
Universidad Catolica del Norte		◊					◊					◊	
Universidad de la Serena									◊				
Universidad de los Lagos													
Universidad Arturo Prat								◊			◊		
Universidad de Atacama			◊										
Jniversidad Federico Santa María													

Universities as stakeholders

In the CSR reports analysed, all mining companies clearly stated that 'universities' are part of their stakeholders or 'groups of interest'. However, they typically refer generically to 'universities' without naming specific universities. The exception to this is Antofagasta Minerals, which explicitly identified Universidad Católica del Norte and Universidad de Antofagasta, both of which are located in Antofagasta Region, as company stakeholders.

Some companies graphically represent their different stakeholders and their relative importance to the company. For example, in its latest Sustainability Report (2016, p. 15), CODELCO positioned universities (referred to as academy and represented by the number nine in Figure 4.3) on the border of 'directly affected' stakeholder and 'indirectly affected' stakeholder. The position of 'academy' in this figure demonstrates the ambiguous status of universities as stakeholders. By being neither a 'directly affected group of interest' nor an 'indirectly affected group', mining companies have the capacity to manage their commitment towards universities (and other stakeholders) depending on the circumstances. It is important to notice that 'academy' is located in the same position as 'providers of goods and services' perhaps because for many mining companies universities are first and foremost providers of services to mining companies.

In the case of CODELCO, it is interesting to note that this figure also represents a division between the national and international setting. Under this figure, CODELCO aims to demonstrate that they do not consider the international setting as relevant. Only the national setting is relevant. However, out of the five mining companies analysed, CODELCO is the mining company with the highest number of engagements with international universities.

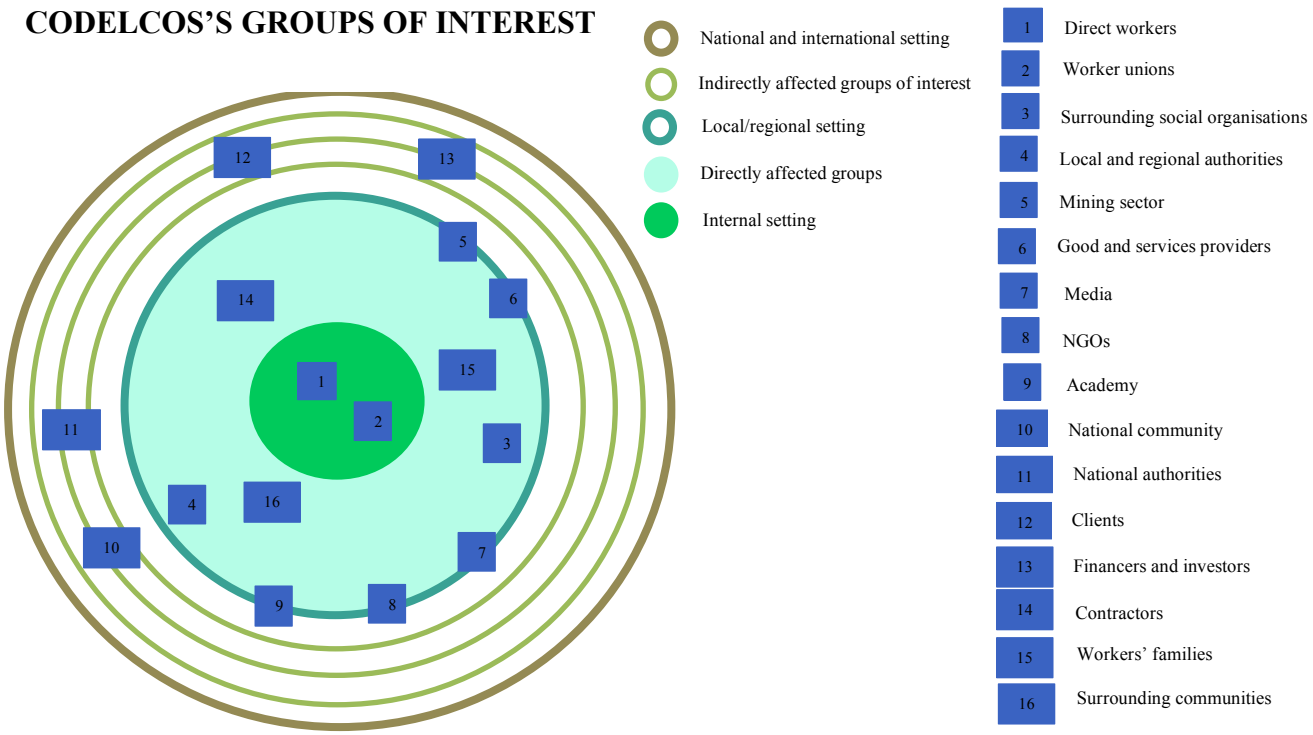

Figure 4.3: Graphic representation of different groups of interest.
Source: CODELCO (2016)

Summary

This chapter has provided an overview of the Chilean mining industry and its reported engagement with universities. Some academic literature and reports represent a mining industry somehow disconnected from universities. At the same time, some geographic issues, such as centralism, make mining company-university engagement difficult. However, based on their CSR reports, mining companies articulate a clear commitment to engage with universities in a number of different ways. The content of mining companies CSR reports give readers the impression of an industry highly engaged with universities across a very broad spectrum of initiatives. However, analysis of CSR reports does not provide an understanding of why mining companies engage with different universities for diverse purposes. The following chapters explore the role of universities as providers to mining companies (Chapter 5) and as recipients and validators (Chapter 6).

Chapter 5: Universities as mining company providers

Based on the interviews, this chapter contributes to understanding why and how mining companies engage with universities by exploring the most common forms of mining company engagement with universities: universities' provision of services and human resources to mining companies. The following sections detail the nature of, and motives driving, mining company engagement with universities as providers of these services.

This chapter is divided into five sections. The first section examines, in general terms, the nature of mining company engagement with universities as providers, which is presented by interviewees as contextual, transactional and short-term. The second section develops the argument that mining companies select universities to engage with as providers based on two main criteria: university prestige and personal contacts. The interview data suggest that these criteria are used because mining companies lack of processes to engage with universities. The third section explores mining company engagement with universities as providers of human resources (i.e. university graduates). Here, the findings suggest that mining companies seek this type of engagement with universities to recruit graduates but also seek to influence university curricula in specific disciplines. The findings show that mining companies seek to hire the best graduates but, at the same time, they seek to increase local employment by hiring more local/regional university graduates. The fourth section examines mining company engagement with universities as providers of research services. The fifth section focuses on mining company engagement with universities as providers of education and training services. This chapter concludes with a discussion of the implications of this engagement with universities.

Universities as providers

This section presents a general overview of the nature of mining company engagement with universities as providers of services and human resources based on interviews carried out with senior mining executives. When asked why mining companies engage with universities, all interviewees named provision of research and training services as one of the main reasons why mining companies engage with universities. At the same time, interviewees acknowledged the important role universities play in providing them with new human resources. In this context, mining company executives consider universities as mining company providers.

Two main themes emerged from the data regarding these types of engagement in the Chilean context. The first theme is mining companies' lack of trust in universities: this is the main driver of the contextual, transactional and short-term nature of most engagements with universities. The second theme arises from the perceived gap between mining company needs and universities' solutions to these needs. Notably, that gap is perceived to be greater in relation to the capacity of local universities. The following sections analyse these themes.

Lack of trust: contextual, transactional and short-term engagement

The first theme that emerged from the data is the contextual, transactional and short-term nature of mining company engagement with universities in the provision of services. This is particularly the case when interviewees refer to provision of research and education/training services. Clear examples of this view are comments such as: *'in my experience, the mining industry relationship with universities is not a close one'* (Javiera) and *'we work under the logic of responding to specific project requirements rather than a long-term view of partnerships'* (Mauricio).

Comments on the lack of engagement between mining companies and universities are not surprising. These interviewees' perceptions align with the view of some academics

that industry-university engagement in Chile is limited (Gonzalez & Yanez, 2016). However, at the same time, this short term and contextual nature of mining company engagement with universities can be considered as a measure of the lack of success of mining industry CSR practice. Mining companies claim to be engaged with their communities through dialogue with stakeholders (Mayes, Pini, & McDonald, 2013); this is, for example, stated in publicly-available information such as BHP Billiton's 2015 Chile Sustainability Report (2015). In this report, the company declares: 'open, ongoing, and transparent engagement with our stakeholders helps us to identify, understand, and prioritise the sustainability issues, which are fundamental to our business and to our stakeholders' (BHP-Billiton, 2015, p. 4). If mining company engagement with universities is contextual, short-term and transactional, as the interviewees suggest, this implies that mining companies are not engaging with relevant stakeholders, including universities, in the way that they claim in their sustainability reports. When interviewees were asked about reasons for this lack of engagement, lack of mutual trust was recurrently mentioned as the main reason for this situation. The following comment made by a very senior executive with extensive experience reflects this issue:

> *The relationship between [mining] companies and universities is not a relationship based on trust. It can happen, but it happens in particular cases. But, in structural terms, it is a relationship based on mutual unawareness and it is contextual.* (Jaime)

Mining executives were asked to clarify if this lack of trust exists in all relationships with universities or if there are some particular engagements with universities that lack trust. On this issue, a senior mining executive commented:

> *From the point of view of Chilean mining companies, I would say that regional universities can't be trusted.* (David)

When asked about the reasons behind the lack of trust in relationships with

universities, interviewees explain that the main reason for this lack of trust is the existing gap between mining companies' needs and requirements and the capacity of Chilean universities to address these needs.

This lack of trust fundamentally contradicts mining companies' CSR speechmaking. The above-mentioned 'mutual unawareness' is inconsistent with company policies and publicly-available information, mainly presented in sustainability reports. The sustainability reports of the biggest mining companies operating in Chile declare trust as an essential feature of their relationship with stakeholders, including suppliers and contractors, as demonstrated in Table 5.2.

Table 5.2: Statements from mining companies operating in Chile on the importance of trust in their relationships with stakeholders, including suppliers and contractors.

Mining company	Statement
BHP Billiton	'We strive to build long-lasting relationships based on open, respectful, and trusting communication, which allow us to better understand our impact and ensure significant contribution to economic and social development' (BHP-Billiton, 2015, p. 36)
CODELCO	'Building trust-based relationships with our suppliers is of utmost importance for CODELCO' (CODELCO, 2015, p. 30)
Antofagasta Minerals	'Relationship with stakeholders: building trust and shared development' (AM, 2015, p. 26)
Anglo American	'[regarding Anglo American's Framework Agreement with Contractors] … commitment to build and develop mutual trust' (AngloAmerican, 2014, p. 46)

Perceived gaps between industry needs and university capabilities

Interviewees explained that Chilean universities lack the capabilities to address mining companies' needs is in part because *'universities are not updated in knowledge'* (Javiera). At the same time, interviewees acknowledged that universities have different engagement practices, commenting for example that *'they have a different sense of urgency'* (Sergio). The following quote develops this rationale further:

> *Always the relationship, at least with national universities, was that they are not at the vanguard of issues, they were not sufficiently resourced with internal capacities so they can have a peer-to-peer dialogue with the mine. There is always that feeling that they are a bit behind, except for particular people. Think this… during the mining boom, the majority of mining programs had closed in Chile. There were no people to hire. Just then, universities got active and started to offer these programs. And now, as mining is today, nobody needs them! [referring to new university graduates].Always late, not reading the market, just reacting…* (Javiera)

Interviewees criticised universities for not being able to provide them with high-quality and relevant services and some interviewees questioned the quality of graduates. During interviews, it was important to clarify to which universities interviewees were referring. For most interviewees, the gap between mining companies and universities increases when referring to universities located closer to mining operations (compared to those located in the capital city of Santiago or abroad). This 'local gap' is the rationale for seeking provision of services from universities in other regions and countries. One interviewee described his experience in the Antofagasta Region like this:

> *We were looking for an intervention program to strengthen education […] and the truth is that we couldn't find anything in the region. In the case of Antofagasta, there were not specialisations; there was not a single centre. They [universities] did not do research. So, we ended up creating partnerships with Sydney or Harvard.* (Jaime)

The gap between mining companies' needs and universities' capacities to address these needs is a consequence of mining companies' locations in underdeveloped regions. From a CSR perspective, it could be argued that mining companies are responsible for reducing this gap by assisting universities to become relevant providers. In a recent report, BHP Billiton states, "we acknowledge that providing a sustainable and long-term contribution means supporting the generation of local capacity" (BHP-Billiton, 2015b, p. 40). In this statement, this mining company acknowledges the importance of local capacity-building as a way to provide "sustainable and long-term contributions" to existing development gaps. Based on this, mining companies could be expected to provide the mechanisms to reduce the gap between mining companies and universities, particularly in relation to local/regional universities, as they are both providers and part of the immediate community. This gap between mining companies and universities is reinforced by the importance of universities' prestige (and ranking) when mining companies choose university providers.

Selecting university providers: prestige, 'amistocracy', and the lack of processes

Interviewees suggest that mining companies select universities as providers based on a number of criteria. The most important criterion is the prestige of universities. However, perceived quality is not the only criterion affecting the way mining companies select universities to engage with as providers. Personal contacts are critical to the selection of one university over another. When asked about reasons behind the importance of prestige and personal contacts when selecting universities to engage with, interviewees responded that the mining company's lack of processes and policies for engaging with universities is the main reason. There are thus three, inter-related factors informing how mining companies select universities with which to engage: prestige, personal contacts, and lack of internal processes.

The importance of prestige and being 'world-class'

Prestige was repeatedly named by interviewees as one of the main factors to consider when engaging with universities. Interviewees differentiated between the prestige of universities located closer to mine operations, particularly universities located in the north of Chile, and those located in the capital city of Santiago or abroad. The interview data suggests that the gap between mining companies' needs and universities provision of solutions to these needs narrows when referring to universities located away from mine sites (that is, those located in Santiago or in other countries). As one interviewee explained it, mining companies look for prestigious universities because they believe them to be much more experienced and better resourced:

> *Making a parallel with universities in Santiago or abroad, there is a condition of prestige that mining companies are looking for, which is linked to the institutional trajectory and the resources universities count with.* (David)

An important point made by an interviewee was about mining companies' constant discourse of being 'world-class'. As this interviewee explained, mining companies are known for considering themselves and their processes to be 'the best in the world'. Mining companies look for the best and most prestigious university partners according to mining companies' sense of being a 'world class industry', as this interviewee explained:

> *Mining companies have a rhetoric […] a culture based on excellence and that in our company is very important. You must be 'world-class' […] we are always going to work with the best.* (David)

Mining company discourse about being 'world-class' can be easily found on web pages and in corporate profiles and CSR/sustainability reports. Names of very recognisable and renowned universities, like 'Harvard' and 'Oxford', were frequently mentioned by interviewees when referring to excellent and prestigious universities. This is another

example of mining companies' 'world-class' culture.

Mining companies' appreciation for universities' prestige and mining companies' rhetoric about being 'world-class' are important factors to consider when analysing CSR practices of mining companies. These are clearly discriminating factors in the engagement process with universities, which disadvantage local/regional universities. Considering that most mining companies in Chile are located in regional and isolated areas of the north of the country, where there is not a single 'world-class' university, engagement with local/regional universities is restricted by the premise of 'engaging with the best'. Even engagement with the best national universities located in Santiago could be minimal, as the best national universities are not ranked highly in global terms.

Meritocracy or 'amistocracy'?

When asked about the importance of personal contacts and how they influence mining company engagement with universities, interviewees agreed that they are an essential component. They described two types of personal connections that are relevant for the mining company engagement with universities. One type of personal connections refers to the importance of having a valid technical counterpart at universities. Interviewees referred to these people as critical for choosing a partner university and for the success of joint initiatives. One interviewee explained:

> *What you are looking for is a person who understands what you need, who empathises with your needs and you with his/hers, and who can articulate a joint project […] so a close counterpart, technically competent, trustful, and who understands you, is very valuable.* (Javiera)

A second type of personal connection between mining company employees and university employees is related to the influence of previous relationships/friendships in the engagement processes between mining companies and universities. Interviewees stressed

that an ‘Alma Mater’ connection is the main form of such relations.

> *It could happen that engineers from Universidad Católica del Norte, for example, that today are working in Minera Escondida, keep a relationship with their community of origin and when they go playing soccer on weekends with their former university mates, one says to another ‘hey, we are working on this process (at the university), what if we do something together?’ At the end of the day, an agreement is reached through personal relations in a project that goes beyond a simple service provision.* (Sergio)

This type of personal connection also extends to previous personal friendships that are not linked to the Alma Mater. One interviewee referred to this as an ‘amistocracia’, which is a word created by mixing amistad (friendship) and meritocracia (meritocracy). This interviewee described the situation as follows:

> *Things end up as everything in Chile: through ‘amistocracia’. It is not about managing stakeholders, engagement […] everything is amistocracia […] not meritocracy in which executives make decisions about programs based on merit. No, it happens because they know a professor.* (Jaime)

This comment is consistent with the perception that in Chile many businesses are shaped by personal connections rather than based on analytical and objective business processes. One interviewee stressed these issues by expressing that *‘in these big organisations mysterious things happens’* (Sergio). This study is based on interviews about the personal experience of executives working for the biggest and most prominent mining companies in the world, and which claim to base their performance on the best business practices in the resource sector and other industries. It is at least surprising to learn that the biggest mining companies in Chile engage with universities based on their executives’ personal relations. The following quote, taken from BHP Billiton’ 2015 Code of Business, is an example of mining companies’ statements regarding ethical engagement processes: ‘it is not just achieving our goals that matters but also the manner in which we achieve them’

(BHP-Billiton, 2015, p. 10).

Lack of processes to select university partners

Interviewees explained that university prestige and mining executives' personal contacts play very important roles when choosing university providers because there is a lack of mining company processes for engagement with universities. According to one interviewee:

> *In the mining industry, there are not very well established processes for concrete long-term actions with universities.* (Miguel)

If interviewees considered universities as providers for mining companies, then universities should be considered as any other mining company provider. That is, engagement should occur under the same rules that frame engagements between mining companies and providers of engineering services, or stationery supplies, among many others. In their publicly-available reports, mining companies claim to consider their providers as relevant stakeholders that deserve fair treatment: 'Procurement and supplier evaluation tasks are performed pursuant to equality, transparency and competitiveness principles defined in corporate policies and applicable regulations. The supplier selection process considers those applicants technically, financially, legally, and economically eligible to provide goods required' (CODELCO, 2015, p. 30). If universities were considered in the same way as any other mining company providers, then the decision to work with one university over another should be based on a business-based logic with predetermined relevant business variables and processes as expressed in the above quote. If universities are not being considered as 'common providers', then the fundamental reasons why mining companies engage with universities is based on a CSR rationale.

From a CSR perspective, the selection of relevant stakeholders, including universities, must be based on the impact mining operations have on stakeholders (Freeman, 1984, p. 25). Basic concepts like 'community engagement' or 'community relations' are

used in the mining industry on the assumption that stakeholders and communities are affected by their operations (Parsons, 2008) or that they could eventually become source of conflict or risk for the firm (Freeman, 1984). Furthermore, the literature on stakeholder management urges mining companies to prioritise stakeholders based on how much they are impacted by mining companies operations and/or how risky they could be for them (Griesse, 2007). In this way, mining companies are encouraged to map and understand universities as parts of affected communities and to consider how they could become a source of risk for mining companies. Neither meritocracy nor 'amistocracia' should be the base for mining companies' engagement with universities. For mining companies that claim they are leading CSR practice, engagement with universities based on personal connections is, at least, inconsistent.

Universities as providers of university graduates

Interviewees indicated that universities provide mining companies with different types of services. Five out of nine interviewees acknowledged that one of the motivations for mining companies to engage with universities is to have access to human resources and, in particular, to new university graduates. This motivation for engagement with universities was acknowledged by interviewees as a *'fundamental part of the relationship'* (Jaime) and as a *'basic form of engagement'* (Javiera).

This section explores how mining companies seek 'new talent' in their engagement with universities and how, at the same time, they seek to influence the training of new graduates. Again, a university's prestige and ranking become very important for this type of engagement. Mining companies engage with universities at a global scale in order to have access to the 'best' graduates. However, this global recruitment strategy can be inconsistent with mining company CSR rhetoric on increasing local employment. This section addresses these issues.

Seeking and controlling talent

In the experience of this study's participants, mining company engagement with universities as providers of graduates takes two main forms. One form is mining company engagement with universities to have access to lists of the best students or best graduates. After companies have accessed these lists, they can make first contact with potential employees. Interviewees mentioned that these students and graduates are commonly invited to participate in mining company 'graduate programs', in which recently graduated employees undertake different tasks and training initiatives before they are finally allocated to one definitive position.

The other form that this type of engagement can take involves attempts to influence university curricula and programs as a way to secure the industry's ideal quality of graduates. This means *'influencing at some point the content that is delivered among programs'* (Alejandro). The following comment by another interviewee further explains this issue:

> *Mining companies engage with universities because they need each other. Here, nothing is for free. Universities need to have contact with companies of the mining sector to update their study plans, programs, and trends in market needs. Companies engage too because of their interest in universities training people with the necessary competencies and skills that they [mining companies] need for their operations.* (Francisco)

It can be argued that this is a way in which mining company dialogues with universities lead to mutually beneficial outcomes: universities increase the employability of graduates and mining companies shorten the gap between the desired and actual skills of graduates. However, from a CSR perspective, this practice is a form of exercising control over universities in order to achieve competitive advantage.

Influence of university prestige

The majority of interviewees agreed that mining companies look for the best graduates by engaging with *'the big national universities'* (Javiera), which are commonly located in Santiago. One interviewee noted that '*the driver of people from the human resources department is to have the best professionals…wherever they are'* (Miguel). The quality of graduates is a driver for mining companies and it seems to be associated with university prestige; as one interviewee suggested, quality of graduates varies among universities and there is a sense that local/regional universities produce lower-quality graduates in comparison to the most prestigious universities located in Santiago.

> *The big national universities are more prestigious regarding their graduates than regional universities […] it is not the same a civil engineer from Universidad de Chile than one from Universidad Católica del Norte or Universidad de Tarapacá.* (Javiera)

If the hiring process for new graduates is not driven by the personal and academic attributes of graduates but by the perceived attributes of the universities from which they graduated, then mining companies are being inconsistent with CSR concepts in two different ways. First, mining companies' Code of Ethics and 'fair treatment of providers' is being infringed. Second, this contradicts basic principles of stakeholder engagement and community relations practice by disadvantaging people and institutions in communities directly affected by mine operations. However, some interviewees acknowledged more recent efforts by mining companies to overcome this issue, as explained in the next section.

Encouraging local employment

Two interviewees explained that discrimination against graduates from local/regional universities has changed in recent times. Mining companies are recruiting more and more

graduates from local or regional universities. One interviewee commented that the main reason why mining companies are increasing the number of graduates hired at local universities is because of their need to be accepted by local communities. The interviewee further explained:

> *One way to reduce opposition is by incorporating into the mining company people from communities and regions where their operations are inserted. This made companies starting looking for, connecting with, and even encouraging the creation of programs at regional universities.* (Francisco)

Another interviewee explained that by encouraging local employment, mining companies demonstrate their good ethical behaviour to government authorities. This interviewee asserted:

> *You can assure authorities that you are hiring local people through a formal process in which you are involving local universities.* (Alejandro)

Not all interviewees who acknowledged graduate provision as one of the forms of mining company engagement with universities mentioned local employment as part of the mining industry approaches to local engagement. In fact, analysis of mining company CSR reports over the last ten years show that just one mining company (Antofagasta Minerals) clearly states that they engage with local universities to increase the numbers of the mining company's staff who have graduated from local universities.

However, there was a strong sense that the majority of mining companies, due to the vital role that human resources play in the efficient management of mine operations, are prepared to look for highly-qualified graduates wherever they are available.

Universities as providers of research

Most interviewees indicated that a further reason why Chilean mining companies engage with universities is to obtain research services. However, they acknowledged that there is a

lack of research more generally which results in a low level of engagement between mining companies and universities in Chile: 'm*ining companies in Chile, in general, don't carry out research or invest little in research'* (David). However, the CSR reports imply that joint mining industry-university research projects happen regularly. All mining companies included in this analysis reported engaging with Chilean universities for research purposes. This situation occurs even when, according to interviewees, these research projects return little value to the mining company. Interviews with senior mining executives suggest that the main reason why these research projects go ahead is based on a CSR rationale. According to interviewees, mining companies feel they must engage in some of these projects so they can be considered ethical and engaged companies.

Research collaboration: unequal benefits of 'cacho' projects

Some interviewees noted that it is not in the interest of mining companies to get involved in research projects with universities. One interviewee reasoned:

> *For mining companies, engaging with universities for research and knowledge management is a peripheral issue […] we have encouraged this engagement but, in general, and what I can see from outside, it is not a big issue for mining companies to work with universities.* (David)

One of the main problems with this type of engagement is the lack of value for mining companies because of the absence of relevance of the research projects they commission from universities. Universities are described as *'disconnected from mining companies' real problems'* (Miguel) and research projects are seen to be *'driven by academic needs rather than real industry issues'* (Miguel).

Nevertheless, some research projects are carried out between mining companies and universities. Interviewees suggested that these research projects benefit universities more than mining companies. In the words of one interviewee:

> *You are involved in these projects that, in reality, benefit the universities more […] as I mentioned, we are carrying out an energy storage project with Universidad de Antofagasta and, in reality, to our operation this is a 'cacho' [Chilean expression for nuisance]. Why are we doing this? For what?* (Miguel)

These views regarding the nature of research engagement between mining companies and universities is based on the perception that interviewees have of Chilean universities and, in particular of those universities located closer to the mine operation. Interviewees noted a clear difference between research services provided by local or regional universities and by universities located in Santiago or abroad. There is a perception that local or regional universities lack the resources and expertise to carry out relevant research, forcing mining companies to search elsewhere for research services. When it comes to searching for the best research providers, location is not relevant. One of the participants explained:

> *If the mine operation doesn't engage more with the university located closer to the mine operation is it not because it is not interested in engaging with that university […] it is because the company is looking for universities that have the capabilities to generate that relationship. And, as there exists a capability gap between universities, you end up choosing the university that can deal with what you are looking for. Then, there is a logical sequence. You first go to Antofagasta, if you don't find the knowledge there, then you go to Santiago. If you don't find that knowledge there, you go to Australia or wherever.* (Sergio)

As in the case of universities as providers of graduates, mining companies look for the best providers of research wherever they are. As expressed in the above quote, mining companies may start looking for a valid research counterpart in the local/regional universities, but if capacities are not found locally then mining companies look for expert providers out of the immediate community. However, as mentioned before, mining companies still go ahead with some research projects with local/regional universities.

Interviews suggest that these research projects with local/regional universities exist in order to fulfil community CSR expectations. One of the participants commented:

> *[…] university's research agenda is not relevant to the company. So, if the company funds that research, it does it as a donation act, as CSR, not as an investment that is of the company's interest. (Sergio)*

Mining companies move from a provider rationale to a CSR rationale when local/regional universities cannot fulfil mining companies' demands as providers. Local/regional universities are no longer considered providers but they become recipients of CSR. At this point, it is relevant to consider that in any case (as providers or as recipients of CSR) mining companies have a need to engage with universities: they are important stakeholders.

Universities as providers of education and training

Four out of nine interviewees recognised staff education and training provision as a relevant type of mining company engagement with universities. Interviewees made a distinction between formal university degree programs (e.g. bachelor's degree, master's degree, etc.) and customised university courses. In the case of full university degrees, the data suggests that mining companies avoid this type of engagement with universities because of the perceived low quality of these programs. In the case of customised training, an area in which mining companies are keen to engage with universities, university prestige and location continue to be very important.

In the case of universities as providers of full degree programs (mainly postgraduate programs) for mining company staff, two interviewees commented that this type of engagement is more likely to be linked to employees' personal decisions to upgrade their skills and qualifications than to mining company policies or decisions. One interviewee mentioned that mining companies do not commit to these types of education programs

because the quality of the programs in general is seen to be very poor. This interviewee described the situation as follows:

> *How am I going to send my people to these programs that are endless programs just based on a blackboard and chalk? Not even the use of web technologies in the learning process […] and I am taking about very prestigious universities.* (Javiera)

In this description, the interviewee is generalising about the poor quality of university degree programs and consequent a lack of interest from mining companies to engage in these types of programs. The interviewee further explained:

> *We never hired a program like this with any university. It's another thing if people enrol by themselves. But to make a corporate decision and hire a degree program with University X […] No! They just didn't pass the learning impact filters!* (Javiera)

This situation changes when referring to short or customised training programs that respond to particular needs of a specific mining company at a certain moment in time. Interviewees did not refer to national universities and regional universities in regard to the provision of customised courses to the mining industry. One interviewee pointed out the importance of taking into account the cyclical nature of the mining business:

> *Four years ago [when the mining sector was booming], I would have said that prestige and rankings were very important, independently of location. Today [when the sector is depressed], I would say that location is important.* (Alejandro)

This comment indicates that the importance that prestige and ranking have in the selection of universities as providers is context-dependent. In this case, and as argued by this interviewee, local or regional universities are preferred when financial conditions of the company make it difficult to hire the services of universities located in Santiago or abroad. There is a clear sense that as soon as the mining sector is booming again mining companies

will go back to the most prestigious universities located away from their immediate communities.

Discussion

The findings on the role of universities as providers to mining companies have several implications for this study's research question. The findings suggest that one of the reasons for mining companies' engagement with universities is to be provided with three kinds of services: access to university graduates, research services, and staff education/training services. At the same time, mining company engagement with universities as providers has several implications for how mining companies develop this engagement. An important implication is that mining company-university engagement is of a short-term and contextual nature. This situation is explained by mining companies' lack of trust in universities mainly because they perceive a gap between mining companies' needs and universities' capacities to address these needs. At the same time, university prestige and personal contacts are very important drivers of engagement. This is partly due to mining companies' lack of formal processes to engage with universities.

At the same time, mining companies appear to seek to balance global recruitment and increased local employment. In terms of universities as providers of research, joint research projects do not add much value to mining company business purposes, but companies go ahead with them as these projects are seen to be good for demonstrating CSR. Finally, and in terms of universities as providers of staff education/training, mining companies do not consider universities as good providers of short-term customised training. From a CSR perspective, the findings demonstrate a number of implications for the complex ways mining companies interpret and practice CSR.

Universities as 'group of interest' and provider of services

As this chapter has shown, mining companies acknowledge universities as stakeholders. This is also supported by mining company CSR reports. On the one hand, universities are considered as a 'group of interest' because they are affected by or can affect mining companies' operations and viability. On the other hand, universities are considered as mining company providers of services. The important point is the potentially contradictory nature of this dual role and the approach mining companies adopt to deal with this. Universities, particularly those considered as part of the local or affected community, are presented as suitable recipients of CSR. Nevertheless, this engagement gets complicated when these universities cannot offer good quality services on the eyes of the company staff. Further, mining companies engage with universities without understanding whether their actions actually provide any benefit or development opportunities for universities and local communities. The interview data indicate that mining companies are not looking to deal with universities in a way that enacts the mining industry's own definition of 'sustainable development'.

Complexity of mining company engagement with universities as providers

It is important to comprehend not only the breadth of mining company engagement with universities, but also the complexity of these engagements. As demonstrated in this chapter, mining companies 'struggle' to deal with universities as stakeholders. Even though mining companies agree that universities are stakeholders, they do not have clear processes to engage with them, as interviewees articulated several times. As a result, personal contacts become the means to establish links with universities, and mining companies get involved in 'nuisance' research projects (as explained by Miguel). These situations validate the concept that mining company's CSR practice is somewhat amateur and ad-hoc (Jamali & Mirshak's 2007) and provide evidence of the 'indeterminate, multiply authored, always in

flux' corporate processes (Welker, 2014, p.4).

This demonstrates the constant contradictions that mining executives face when balancing different corporate interests with CSR and the constant struggle to enact corporations in different situations (Welker, 2014). On the one hand, mining companies want to be seen as engaging with stakeholders and to give the impression that they are committed to sustainable development and high moral values. On the other hand, mining companies must fulfil their business needs. They need training, university graduates and research providers. However, the interviewees indicate a strong belief that universities do not have the expertise and capacity to provide valuable services to mining companies. This creates a dilemma for mining executives who must balance mining companies' need to engage with the university as a stakeholder and their need to make the best business decisions regarding providers of services.

Geographical dimensions of engagement

There is a clear geographical dimension of the mining company engagement with universities as providers. The CSR reports demonstrated that mining companies engage with local, national and international universities. However, these interactions are not just linked to a CSR rationale. Based on the interviews, mining company engagement with universities appears to happen at different geographical scales depending on mining company business needs and the perceived quality of universities.

Here too, problems arise when mining companies must balance their CSR needs and their core business requirements. In this case, mining company emphases on having the 'best' university graduates, research, and training services can be in opposition to their need to engage particularly with universities at the local level. The way in which mining companies have dealt with this issue is by selecting universities depending on the context and specific need they are seeking to address.

From a purely CSR point of view, mining company engagement with universities is an exemplification of the geographical context in which mining operations are inserted. Mining operations are embedded in a geographical context that defines its relations with society and, therefore, with universities.

This chapter has provided evidence that universities are not just stakeholders of mining companies, but they are also considered providers of services. In the interviews, participants explain that there is little value for the core business in engaging with universities as provider of research, education and training, and university graduates. This raises questions about the fundamental reasons why mining companies decide to continue engaging with universities even when they know that there is little to gain in terms of core business out of these relationships with universities. The following chapter explores arguments for the continued engagement with universities, which is mainly based on the need to legitimise mining companies' activities.

Chapter 6: Universities as CSR recipients and validators

As argued in the previous chapter, the main value that mining companies are looking for in their engagement with universities is the legitimisation of mining operations to secure long-term business continuity. Based on the interview data, this chapter provides evidence related to two different roles that universities play in terms of mining companies' CSR practice in Chile. The chapter is divided into four sections. The first section explores the role of universities as recipients of mining company CSR practices through philanthropic support, mainly in the form of donations. The second section examines the role played by universities as validators of mining companies' CSR practice by providing technical studies to assess or evaluate the societal and environmental performance and the impacts of mining operations. The third section analyses the hiring practices of mining companies with respect to local university graduates as an example of the complexity of mining company engagement with universities and the positive social impact for society of 'in-reach' initiatives. The final section presents universities as multi-dimensional stakeholders and highlights the complex ways engagement serves corporate interests, particularly in relation to seeking and maintaining mining companies' social licence to operate.

Universities as CSR recipients

Mining company engagement with universities as recipients of CSR occurs through philanthropic initiatives disconnected from the mining company's core business. Interviewees defined clear motivations for engaging with universities in this way. These initiatives were seen to respond to the general perception that mining companies damage the environment and communities as a result of their mining operations. These initiatives could be understood as moral-based exercises to address these harms, but they also add value to

mining companies by contributing to the building of local legitimacy and the 'social licence to operate'.

All interviewees agreed that one of the key reasons mining company engage with universities is mining company need to execute CSR strategies and there was consensus that engaging with universities as CSR recipients occurs mainly with universities located closer to mining operations. This is because mining companies consider that universities located closer to mining operations are stakeholders that can provide them with enhanced reputation and commitment to local communities. One senior mining executive explained:

> *If the issue is of reputational nature, so public opinion gets to know you, but not in a time of crisis, but in terms of social responsibility, you will probably go to the closest university independently if it is not the most prestigious in certain aspects. You go to them for a very specific reason that is related to issues of engagement and setting.* (Miguel)

Local universities often become recipients of CSR because they are perceived to be unable to add value to mining companies as a provider of services. Interviewees provided several examples of mining company engagement with local universities as CSR recipients. These mainly take the shape of donations and funding arrangements for a range of university projects such as: opening mine operations for visits and projects by university students and academics; providing mining executives and experts to deliver workshops and seminars at universities; university cultural and extension activities such as concerts and theatre performances; university seminars on topics out of the mining field; research projects that are not related to the mining sector; university infrastructure and equipment; among others.

Data gathered from mining companies' CSR reports suggests that donations tend to be made to improve the infrastructure of universities campuses. However, mining companies' CSR reports also show many other types of engagements that could be

considered as philanthropic donations but are catalogued as 'community engagement' initiatives. These are activities intended to demonstrate mining companies' interest and acknowledgment of universities as part of communities rather than just engagement through provision of financial resources. They can involve financial resources (for example, funding of university cultural activities) or just opportunity costs (mining executives delivering workshops at universities).

During interviews, participants were asked to describe the underlying motives why mining companies engage with local universities in these ways. Most interviewees agreed that mining companies must engage with universities and communities in general to deal with the general perception that mining companies damage communities and environments. One interviewee explains this as follows:

> *The smear campaign against mining is based on that image that mining companies arrive, they extract wealth, and little or nothing is left in the territories. Mining companies, and in particular the big private mining companies, must deal with these perceptions and critical visions, whether they are justified or not.* (David)

Nevertheless, engagement with universities is not just a way to deal with 'wrong perceptions' of mining companies. As described by some interviewees, the current nature of the mining business context has changed and that needs to be considered by mining companies for their survival. One interviewee explained that it is now a standard business practice in the mining industry to engage in these types of activities, including engagement with universities:

> *From the moment that the first big mining companies settled in Chile, from the nineties or the end of the eighties until now the viability conditions have changed. There are more aware and informed citizens… and companies are realising that they cannot arrive in a territory and simply operate as they were used to. So, I don't think it is a free and voluntary decision [to engage with universities], it is just that the*

[business] context is different. (David)

The above quote highlights mining companies' lack of options regarding their decisions to exceed legal obligations, which is one of the main propositions behind the concept of CSR (Carroll, 1979). As the following quote explains, mining companies understand their impact on territories and the importance of dealing with them. There has been a shift in the way mining companies understand the reality of the places where they operate.

> *In our experience today, we have the opportunity to anticipate a series of impacts at the structural level that a mining project has over a territory. They have to be with migration processes, life style erosion, how an increased population affects quality of life in the city, how purchasing power of other parts of the population is affected, etc. I think new or recent projects must be alert to a series of issues that were not that clear before. Companies are not justified by creating jobs.* (David)

Funding local universities: moral or pragmatic motivations?

Interviewees explained that mining company engagement with universities, particularly those closer to mining operations, exists because mining companies must support local communities. This is congruent with mining companies' perception that engagement with communities is at the forefront of CSR strategies and practice, under the premise that more engagement with local communities means evidence of more social responsibility (Greenwood, 2007). The following quote expresses these issues.

> *[These initiatives] are forms of support from mining companies to universities with the aim of keeping a relation with communities, with universities … that is to maintain good relations, to collaborate. I haven't seen any of these projects being useful to achieve any relevant development at the company.* (Francisco)

Additionally, another interviewee points out that mining company funding for the development of university research initiatives is sometimes considered as a CSR action

because university research projects do not match mining company research needs.

> *...university's research agenda is not relevant to the company. So, if the company funds that research, it does it as a donation act, as CSR, not as an investment that is in the company's interest.* (Sergio)

Based on the analysis of mining companies' CSR reports, it is difficult to comprehend which mining company-university research projects could be catalogued as philanthropic donations. Mining companies' CSR reports indicate that mining companies are engaged in R&D with universities. These reports provide clear examples of research projects that aim to improve the performance of mining operations. Nevertheless, there are several research projects in which is not clear to what extent they are of relevance to mining companies. For example, some CSR reports name joint mining company-university research projects focused on environmental issues. Some of these research projects aim to understand biodiversity in areas that are not part of the immediately-affected areas of mining operations. This indicates support for university research projects that are not directly linked to mining company operational sites and direct interests but which are related to the mining company's interest in being seen as actively engaged with universities in matters that are of broader social interest, such as environmental protection.

Another interviewee defined mining companies as 'financistas' (financiers in Spanish) of local universities. In the view of this interviewee, universities consider mining companies as potential sponsors of university projects. He pointed out that mining companies were keen to provide funding to universities even when this funding was allocated to projects that do not have connections with mining companies' own interests. This interviewee explained:

> *My feeling is that, in the end, universities were looking for the support of mining companies, that is to say that the last resort of many universities was to look for support from mining companies that had resources ...*

> *but they [mining companies] didn't look for a counterpart, a service provision that was aligned with the needs of companies. That is, mining companies had a financier role … of certain programs that gave sustainability to universities.* (Jaime)

As some interviewees explained, mining companies engage in these types of initiatives (e.g. funding of university projects that are not connected to mining companies operational interests) in order to 'collaborate', to 'maintain good relations', as a 'donation'. Kapelus (2002) explains that there are two main corporate motivations for CSR, a moral and a pragmatic motivation. He explains that a moral motivation drives corporations to fulfil their obligations with stakeholders, even when this could involve minimising shareholder value. The pragmatic motivation is the use of CSR as a business strategy, in which corporations' CSR practice is profit-driven and, therefore, more interested in appearing as a socially responsible corporation rather than actually being responsible (Kapelus, 2002). It is uncertain if the above quotes refer to a pragmatic or moral motivation because, and as Kapelus (2002) clarifies, it is very likely that both motivations come into play.

Building legitimacy at different scales

Interviewees explained that mining companies are particularly interested in engaging with local or regional universities because they provide them with a particular local legitimacy.

> *…local universities are more knowledgeable, they have better networks with local institutions, and they have more local legitimacy. So, that leads you to get closer to Universidad de Antofagasta or Universidad Católica del Norte, instead of to Universidad de Chile or Pontificia Universidad Católica in Santiago.* (Mauricio)

The above quote describes local universities as owners of some social and institutional knowledge that mining companies do not themselves posses, namely a better understanding of local politics. Mining companies benefit from engagement with local universities because they understand local interactions and power in a different or deeper

way than do mining companies. In this way, mining company engagement with local universities helps mining companies to build their local legitimacy by understanding their surrounding communities in a more detailed form and from different perspectives.

The importance of local legitimacy is grounded in a common industry belief that 'being a good neighbour is good for business' (Kapelus, 2002, p. 291). Therefore, engagement with local communities (through engagement with local universities mainly in the form of philanthropic donations) is believed to bring some sort of development that the community wants, thereby providing mining companies with a perceived support from local elites and, as a consequence, passive acceptance by the local population (Kapelus, 2002). The development of this 'local acceptance' takes many forms according to interviewees. Some refer to it as 'public relations', 'community engagement', or 'social licence to operate'. Interviewees used concepts like 'public relations' or 'external affairs' to refer to mining companies' need to engage with local communities (and universities). As Kapelus (2002, p. 291) elucidates, mining companies are attracted to PR projects with communities that meet certain characteristics: (1) focus on projects closer to their area of operation so the per capita impact of these projects will seem more impressive; (2) keep control of projects to make sure that they provide good PR value for money; (3) look for symbolic participation so projects are not seen as imposed on the community; (4) include the interests of local elites. One initiative frequently mentioned by interviewees is the delivery of workshops or seminars by mining company executives or experts at local or regional universities, which seems to fulfil the above checklist. Mining companies seem to find in local universities an attractive 'partner' because they are highly valued in the public sphere and they attract the interest of government and other relevant institutions. When asked about the benefits of this type of engagement, interviewees noted the importance of this 'public relations' exercise. For example:

> *What do we win? Engagement in terms of public relations or external affairs with a good university and you can also inform public opinion that you are supporting regional universities and that you are training people who can potentially become your employees. From that point of view, we are interested.* (Miguel)

Interviewees seem to differentiate between PR exercises and the so-called 'social licence to operate' (SLO). SLO is a term frequently used in the mining industry to express societal consent to mining companies' right to operate (Owen, 2016). Most interviewees agreed that being seen to be a 'good citizen' facilitates community endorsement and increases the likelihood receiving 'green light' to keep operating (Owen & Kemp, 2013). An interviewee pointed out that activities to obtain the desired SLO, like engaging with universities in PR initiatives, may not add value to the core business but are needed to continuing with business as usual. This interviewee explained:

> *One benefit of the social licence to operate is that, by being a good citizen with community actors, communities say 'we are fine that you keep operating here'. Thinking that mining is a long-term investment and that our company wants to be here for the next fifty or hundred years, having these relationships [with universities] is very important. It strengthens what is called 'social licence to operate'. If you want to be a good partner of the country to jointly face challenges of development that the country has through this kind of activities. But they are not necessarily linked to productive processes. It could be, but not necessarily.* (Sergio)

In the above quote, the SLO is associated with a context that is larger than merely allowing mining operations to continue operating in the short-term, or carrying out isolated public relations initiatives. SLO is proposed as a long-term investment that provides the continuity needed to survive. The ultimate objective of SLO is the long-term survival of mining operations and, as interviewees noted, is achieved by carrying out PR projects with different community actors, including universities. By undertaking this engagement with universities, mining companies seek to increase legitimacy, which allows them to keep

operating in the long-term.

Analysis of mining companies' CSR reports shows that mining companies also engage with universities that are not located in areas immediately affected by mining operations. The mining companies examined have engaged in many different ways with universities located in the capital city of Santiago and abroad. All five mining companies, as evident in their CSR reports, engaged with universities located in Santiago, and four of the five mining companies engaged with international universities. The range of initiatives with universities located beyond the immediate mining operations' communities is wide, including research and development, training, hiring of university services and community development activities, among others. Some purely philanthropic initiatives involving important levels of funding are directed to universities located in Santiago. Some examples are: Minera Escondida BHP Billiton fully funded the creation of a new master's degree at Universidad de Chile involving at least USD15 million over a period of 5 years; and Antofagasta Minerals contributed USD4 million to Pontificia Universidad Católica de Chile for the construction of a new building for the Faculty of Engineering.

The interview data suggests that mining company engagement with universities located in Santiago is associated with mining company needs to legitimise their business beyond the communities immediately affected by mining operations. The mining industry plays a very important role in Chile's economy, government and broader society; therefore, the need to legitimise the industry extends to the whole country. Mining company CSR reports express this need by providing information on CSR initiatives that have a countrywide impact. This is not just evident in mining company engagement with universities but also in mining company engagement with different governmental and societal institutions at the local, regional and national level.

As Mayes (2015) points out, the SLO is a multi-scalar apparatus that allows mining

companies to have access to mineral resources at a global scale. The SLO extends from the local to the national and assists with international legitimacy. By engaging with universities at different geographical scales, mining companies secure not just current mining operations, but also enables them to extend their influence over key stakeholders at different geographical scales in an attempt to legitimise the future of the mining industry globally (Mayes, 2015). As one interviewee commented, *'there are different universities for different purposes'* (Matías).

CSR versus 'shared-value' (or 'in-reach' versus 'out-reach'?)

One interviewee made a clear differentiation between the concept of CSR and 'shared value'. He suggested that engagement with universities can be considered as a 'pure CSR' activity or as a 'shared-value' activity. This interviewee described CSR as a more philanthropic exercise with no relation to the core business, whereas shared value is mining company engagement with universities that is linked to the core business of the mining company. This interviewee explained:

> *One is CSR and the other is more related to the concept of 'shared value'…Personally, I think that it [shared-value] is more relevant than CSR. Shared value also generates SLO. CSR helps you, but its ceiling [potential] is very low in order to achieve the scale you need to make greater transformations… In general, when you do things of shared value the amount of resources involved are much higher than in the other case [CSR] because the business imperative shows up.* (Sergio)

As this interviewee explained, there seems to be higher levels of engagement when mining company and community interests meet. He refers to 'shared value' as the business concept in which value is created for both community and corporation by aligning societal and corporate interests (Porter & Kramer, 2011). This interviewee explained that both CSR and shared-value generates SLO. There is evidence in the above quote that any type of CSR initiative, including PR/community engagement initiatives/shared-value initiatives, involve

the gaining, developing or maintaining of mining operations' SLO. The above quote also suggests that the closer projects or initiatives are to the core business, the better for SLO purposes.

This discussion is at the forefront of current CSR literature. Some scholars argue that social development that is disconnected from the business would not bring SLO at all or only for a limited time (Harvey, 2014). Harvey clarifies that mining company direct involvement in social development initiatives (such as poverty alleviation) may not produce the desired SLO because mining company operating models are not relevant for this purpose (Harvey, 2014). Instead, the author proposes that a mining company should prioritise 'in-reach' (business-connected activities) rather than 'out-reach' (business-disconnected activities) projects. By 'in-reach' activities, Harvey (2014) refers to the 'behavioural shift' of the mining workforce towards an awareness that every mining activity could have a positive influence on social development, and therefore in maintaining the SLO.

Analysis of mining companies' CSR reports shows that mining company engagement with universities involves both in-reach and out-reach activities. An important number of mining company activities carried out in conjunction with universities are community development activities. In these types of activities, universities support mining companies' community development activities mainly through the delivery of training programs for communities. These types of engagement with universities can be categorised as 'out-reach' activities in Harvey's terms (Harvey, 2014). At the same time, there are a number of mining company engagements with universities that could be considered as 'in-reach' activities. The most salient types of engagements are hiring of local-university graduates, development of core-business research and development projects with local universities, and training of mining company employees at local universities. Based on

Harvey's point of view (2014), these last engagements between mining company and universities would provide mining companies with the SLO because they are embedded in the core of the business activity.

Universities as CSR validators

Interviewees acknowledged that mining companies hire universities to carry out technical studies related to mining companies' environmental and societal impacts. The same universities that were 'unable' to provide value to mining companies as providers are now considered as 'knowledgeable experts'. Interviewees suggest that this is a very inexpensive exercise for mining companies in which universities have much more to lose than mining companies. The following sections explore how these issues develop.

From 'adding no value' to 'prestige experts'

Most interviewees pointed out that universities are uniquely placed to become relevant validators of mining company studies of their operations' environmental and societal impacts. Interviewees described how mining companies hire universities to provide them with different types of environmental and social studies because universities are regarded as neutral or independent by the community. As interviewees explicated, universities '*provide irrefutable validity of samples' quality*' (Alejandro) because they are *'a kind of independent and neutral party that society trusts in'* (Sergio). The following quote is a good example of the perceived value of university studies.

> *I think that links with universities are mainly based on technical requirements. This means … many times they are linked to the needs of carrying out a study. For example, we need to carry out a study that gives guarantees to the community in relation to the use of water or regarding air emissions, etc. Then, what you do is to get closer to the university and validate with them [university staff] technical studies that allow giving guarantees to local communities.* (Mauricio)

Universities are considered by mining companies as relevant and 'expert' providers of technical studies that are used to demonstrate mining companies' appropriate care of the environment. The same universities that mining companies criticise for their lack of capabilities for providing services to them are, in this case, knowledgeable and experienced institutions. Interviewees explained that mining companies look for 'guarantees', 'validation', 'certification', 'academic seriousness', 'institutional backing' and 'partners' that can provide them with valid confirmation in the eyes of the community. As one interviewee explained:

> *One reason [to engage with universities] is to have access to expert knowledge, with technical support, that provides validity to decisions and associated products of this type of work [social development projects] … the possibility to give a certification or institutional support beyond company's own convictions or visions. I think it is always very attractive for the company to show itself with a partner that provides support, an 'academic seriousness' … but it sounds to me that it is related to a communications matter … the company looks for this partner to be able to give an academic or institutional backing to its actions.* (David)

The above quote denotes a different way of referring to universities. When it comes to validating mining companies in the mind of the community, universities are considered as 'technical experts'. This is quite a different description of universities from that given by interviewees when referring to the provision of direct services to mining companies. In the previous chapter, interviewees referred to universities as entities that cannot be trusted and which lack knowledge and appropriate processes. In the case of universities as validators of mining companies 'good environmental behaviour', universities are considered by mining companies to be 'experts'.

Little to lose for mining companies

As one interviewee explained, there is little that mining companies could lose in this process, except for the financial cost involved. One interviewee argued that universities have more to lose in this engagement because it is the universities' credibility with the community that is at risk:

> *I think in this relationship the one that could lose more is the university. It can lose engagement with its communities because of the sense that 'it got sold' [to mining companies]. Then, it is important that the university will explain to its communities why it is involved in this research and its impartial technical role in it. The fact that the company pays for the results doesn't mean they are going to be the ones that the company wants. This means, to show some autonomy to communities. But for the company there is a win-win situation when engaging with universities. They [mining companies] have little to lose above the [financial] investment. The only thing that it can lose is the profitability of the project, if the research doesn't go ahead … but I don't see more risks than that.* (Mauricio)

This interviewee clarified that universities must '*explain to the community'* why they are doing technical projects for mining companies. There seems to be a perception among mining companies that for universities there is a potential conflict of interests for universities in this process. Risk is assumed by universities in the shape of 'being sold' to mining companies and, therefore, losing credibility in the eyes of the community.

For this study, it is important to understand why mining companies believe universities can validate their behaviour. As already explained, the main reason is the credibility of universities with the community (but not their credibility with mining companies, which, it has already been explained, is limited to certain aspects of universities' practice). By validating mining company behaviour through university technical studies, a mining company can secure one of their more important CSR tools: sustainability reports.

In current times, sustainability reports are a common means to obtain information

about mining companies' activities, mainly regarding their economic contribution to society, and their environmental and societal impacts (Jenkins, 2004). These reports are an essential part of mining companies' communication with society. Therefore, including universities as validators of CSR is a sound exercise for mining companies. However, like most CSR 'tools', sustainability reports are voluntary statements in which mining companies publish information they think is relevant and useful for their own objectives rather than a transparent, non-selective source of information that serves society's objectives. This raises questions about the likelihood that universities' negative findings (such as rejection of mining companies 'good behaviour') are published in these reports. As one interviewee explained, mining companies want to produce sustainability reports that allow them to keep business as usual. He explained:

> *What is in the interest of mining companies is that their sustainability reports are good enough for the press. They think 'just allow me to keep producing, do what people want, but just allow me to keep producing'. Because what I am spending on paying the university, so people stay quiet, is a minimal part of what I am producing. By working with universities, environmental authorities allow me to keep producing without anxiety.* (Matías)

By providing 'good enough' information validated by universities, mining companies can continue their production as usual. Once again, interviewees mentioned the low cost involved in hiring universities to produce technical studies. Interview data suggest that gaining credibility with the community through university engagement seems to be a cheap exercise for mining companies.

Analyses of mining companies' CSR reports undertaken for this study have showed that three of the five mining companies analysed acknowledged that universities carry out impact studies. There are other joint projects between mining companies and universities related to the environment but they do not necessarily aim to assess the impact of mining

operations. These are mainly concerned with better ways to preserve or manage the environment.

Interestingly, all three mining companies that have carried out impact studies have commissioned them from the best-ranked universities in Chile: Pontificia Universidad Católica de Chile, Universidad de Chile and Universidad Adolfo Ibanez. This is important because, as explained in the next section, interviewees acknowledged that the higher the prestige of the university, the higher credibility the outcomes would have with the community. As one interviewee described, local universities do not provide the prestige that mining companies want:

> *It would be ideal to have spectacular [local] universities that allow us to obtain good quality information for the whole process of dialogue with society* (Sergio).

The same interviewee described how the perceived low quality of some universities, particularly local universities, could become a drawback in terms of mining company engagement with communities. He explained:

> *We were measuring a pollution parameter with a local university and it showed that the levels of lead in the city and environment … not necessarily because of the mine … was pretty much not for human life … an impossible thing. The situation was so bad that the government took new samples and sent them to accredited institutions, different to universities, and the results showed completely different levels [of lead]. There were some problems in the area but it was not as bad as the university showed … at the end, that university didn't have the capacity to analyse this parameter … yes, university can put you in trouble.* (Sergio)

Based on this information, previous experiences of working with local universities have provided potentially negative outcomes for some mining companies. The above interviewee stated that, at the end, 'accredited institutions' showed positive outcomes for this mining company. This statement suggests that mining companies look for this

affirmative outcome in other institutions in situations in which universities cannot provide them.

The higher the university prestige, the higher the credibility with the community

The prestige of universities plays a role when it comes to choosing universities that could provide technical studies to mining companies. As in the case of 'universities as providers of services', mining companies differentiate between universities located closer to mining operations (such as Universidad de Atacama in the following quote), those considered as national universities (exemplified by Pontificia Universidad Católica [PUC] and Universidad de Chile in the following quote), and international universities (such as Harvard):

> *For them [mining companies] it is far more useful to work at the national level [of universities]. It is far more important that universities like PUC or Universidad de Chile accredits that I am doing things well than a university like Universidad de Atacama. And, at a more international level, it is more convenient for me that accreditation is given by Harvard than Universidad de Chile. Ranking is important in image washing.* (Matías)

The above quote also raises the concept of 'image washing' as an important aspect for mining companies. This interviewee explained that the higher the prestige/ranking of universities, the better the outcome for 'image washing'. Prestige of universities seems to secure a better outcome or higher credibility. When asked about whether this situation could lead to universities hiding or covering mining companies' wrongdoing, this interviewee explained that universities do not commit to certain outcomes but their technical studies' results are always going to be within legal compliance parameters. He explained:

> *It is possible that universities are not hiding what mining companies are doing but their studies are within the parameters of what is stated in the Chilean law. That is what they try to achieve.* (Matías)

The above quote is a delicate statement that casts some doubts on universities' autonomy and capacity to make decisions over their type of engagement with industry. However, another interviewee described the same situation in a different way. For this interviewee, prestige or quality of universities is a way to secure 'unquestionable' outcomes to society. The higher the prestige, the more indisputable technical studies' outcomes are.

> *For us the best scenario is to work with a 'top', 'atomic' and 'spectacular' university. So, if it says that the parameter value is four…it's unquestionable.* (Sergio)

Hiring local graduates: a CSR approach

As explained in Chapter 5, universities are providers of university graduates for mining companies. Mining companies engage with universities to attract university graduates and graduates-to-be in different ways: by having access to list of 'graduates' or by offering scholarships to excellent students and job positions to graduates, among others. When these initiatives are linked to one or a few universities located in the immediate community, mining companies' objective of engaging with universities as providers merges with their need to engage with universities as CSR recipients. By providing funding to local universities and job opportunities to local-university graduates, mining companies are able to (a) find human resources needed for the core business and (b) state their commitment to the local community and good CSR practice. A senior mining company executive explained:

> *In regions, it is more about engaging with universities with the aim of encouraging local employment. That is, you are giving priority to local people, to people who have studied locally, to people who were born locally. For example, we are going to open the Pascualama project in Vallenar; we have Universidad de Atacama in Copiapó [closest biggest city to Vallenar]; we are going to hire mainly people from Universidad de Atacama because that will be mainly people who were born in Vallenar or Copiapó, and who are part of the influence area.*

(Alejandro)

One interviewee explained that mining companies '*need a local hiring policy so the project is viable at the local level'* (David), highlighting the need of mining companies to have access to workforce and to be 'accepted' by immediate communities. Hiring local university graduates gives the impression that mining companies are 'good neighbours' and, therefore, helps them to build local legitimacy. One interviewee explained:

> *So, what is the purpose of recruiting and training people at regional universities? It is basically a path or a way, among many others, for the mining company to be accepted by its closer communities. You know, mining is a highly … it alters the environment. Even when companies look for ways to minimise these actions, by following laws or just because mining companies want to, there are always people in the communities who are against them. One way to minimise this opposition is by incorporating people from communities and regions where operations are located into the companies. This made companies, little by little, start to look for and engage with regional universities … and even promoting the creation of programs at regional universities.*
> (Francisco)

However, in this context of hiring local-university graduates, universities are also 'validators' of mining companies CSR. Some mining companies commit to certain numbers or percentages of local workforce and, therefore, local-university graduates, which helps mining companies to validate their 'good' ethical behaviour. There seems to be a difference between hiring local-university graduates (CSR recipients) rather than stating that 70% of the workforce or university graduates will be local (CSR validators). An interviewee explained that mining companies' commitments to and fulfilment of certain percentages of local employment are very important to validate mining companies CSR practice. This senior mining executive explained:

> *If you say 'we are going to hire [locally] 70% [of the total company's workforce]', but the reality of the area and local capacities don't add up, you are getting into a compromise that it's impossible to fulfil.*

> *Somehow, the local government and other agencies demand you have these engagements (with universities). They don't tell you with whom but somehow they expect certain indicators and numbers. Right there is where mining companies must be very careful with commitments they make to communities and governments because at the end each one of those things (promises) become a commitment.* (Alejandro)

The above quote refers to the management of community and government expectations by mining companies when it comes to making commitments regarding hiring of a local workforce. If numbers or percentages are fulfilled, CSR is validated. As this interviewee explained, it is not only the local community that demands a higher number of local graduates to be hired. Local governments and other agencies are also sources of pressure for mining companies to hire local graduates. At the same time, this interviewee describes a geographical variable in this process. The remote location of mining operations could make local employment's commitments very difficult to fulfil:

> *As it is typical in South America, mining operations are located in the Andes Mountains. Normally, they are located far away from urban centres, making local workforce hiring something not too simple. You may find some people with certain skills and competences to carry out more operational tasks but not necessarily to develop activities that requires supervision or leadership. This forces you to go to urban centres.* (Alejandro)

This quote indicates that mining companies must balance the expectations of communities and the needs of the business. In the case of local employment, mining companies must show relevant communities and government that they are hiring enough local people (if 'enough' can be numerically defined). Nevertheless, their operations require certain skills that may not be found locally, forcing mining companies to hire outside of the main areas of direct impact, leading to a possible discontent in local communities.

This is a good example of why mining companies sometimes do not carry out 'in-reach' activities, as proposed by Harvey (2014). There is a constant tension among mining

company employees to define the correct balance between corporate interests and community interests. As described in the above quote, local realities could make it impossible for mining companies to achieve more 'in-reach' activities. In this case, it is the lack of qualified graduates from local universities. Development of these local capacities may be a solution to this issue but this raises again the issue of mining companies behaving as 'experts in development', which Harvey (2014) argues is unsatisfactory.

Discussion

Findings on the roles that universities play as recipients and validators of mining companies' CSR have several implications for the research question of this study. The analysis of mining companies' CSR reports and interviews with senior mining executives provides evidence that two further motives for mining company engagement with universities are (a) their need to fulfil with their CSR-based 'community engagement' strategies and (b) their need to have their CSR actions validated by a 'neutral party'. However, analysis suggests that these two motives are sub-objectives of a larger motive: to build legitimacy at different scales.

At the same time, analysis of the data suggests several implications attending the way in which mining companies engage with universities. The geographical dimension of engagement is relevant in mining company engagement with universities as CSR recipients and validators. Mining companies deploy CSR strategies in a way that creates the highest possible impact at different geographical levels in order to fulfil different geographical needs to legitimise mining companies. Also, this chapter provides evidence that mining companies differentiate the ways in which they engage with universities. Different universities serve different corporate purposes; mining companies therefore discriminate within the university system on the basis of corporate interests.

The following sections aim to explain the most relevant implications for this study:

the multi-dimensional nature of universities as stakeholders; how a complex engagement with universities exists to serve corporate interests; the geographical dimension of engagement and SLO; discrimination of stakeholders; and the influence of engagement with universities in the SLO.

Universities as multi-dimensional stakeholders

This chapter provides additional evidence of the multi-dimensional role of universities as articulated in the ways mining companies engage with universities. On one hand, universities are recipients of mining companies' CSR strategies because they are considered relevant stakeholders and, when they are local, are defined as part of the 'community'. This type of mining company engagement with universities as CSR recipients raises questions about moral and practical motives. On the other hand, universities are considered as relevant validators of mining companies' CSR practice by 'approving' corporate environmental and societal impacts. This type of engagement raises questions about the conflicts of interest that might arise in mining company engagement with universities.

Mining company engagement with universities as recipients of CSR is not a moral-based exercise in which mining companies are just 'doing the right thing'. This engagement is also based on business-oriented goals related to the legitimacy of mining operations or, in other words, the need to obtain and maintain the social licence to operate. If the same universities that receive 'benefits' from mining companies are asked to validate mining companies' good environmental and social behaviour, there is a clear pressure on universities to work towards the benefit of mining companies. There is no evidence in this study to suggest that universities are not capable of managing these conflicts of interests but, from mining companies' point of view, these different types of contradictory engagements with universities serve the corporate interest well.

Complex engagement serves corporate interests

Engagement with a multi-faceted stakeholder is challenging for mining companies in some respects, especially in terms of managing a variety of different initiatives that mining companies carry out when engaging with universities. However, as explained before, mining companies seem to engage with universities in a complex formula that maximises corporate interests. After analysing mining company CSR reports and hearing senior mining executives referring to a multiplicity of engagements with universities and the different motives behind them, it is easy to state that mining companies engage with universities in different ways depending on the corporate objective behind each engagement.

The above rationale supports Welker's (2014) view of the complexity of corporate processes and their unpredictability, particularly when they must engage with external stakeholder such as universities. Corporate practices vary among geographical locations and the people who carry out these practices, making mining company engagement with universities very ad-hoc.

Geographical dimension of corporate interest and SLO

As explained above, mining company engagement with universities takes many shapes depending on the corporate goal behind each engagement. These different engagements occur with universities located in different places. There is a clear geographical aspect in mining company engagement with universities that corresponds with corporate interests. For example, local universities are useful CSR recipients when mining companies refer to 'local engagement'. However, big national universities are better recipients of CSR when mining companies need to demonstrate their engagement with the national interest and, international universities are particularly relevant when mining companies want to increase global legitimacy. In the same way, mining companies prefer more prestigious national universities when they need to validate CSR.

This geographical dimension of mining company engagement with universities is parallel with the geographical dimensions of SLO. The reason why mining companies engage with universities located in different geographical spaces responds to the mining companies' need to build their legitimacy at different geographical scales, as suggested by Mayes (2015) and Moffat, et al (2016). For example, mining company engagement with international universities responds to mining companies' need to reduce the risk that global stakeholders could bring and their implications on a global SLO. Similarly, mining companies engage with universities located close to their operations to obtain a 'local' SLO. This issue is grounded in the global nature of the mining industry and the global implications of local issues.

Discrimination among stakeholders

The issues presented above have an important implication for mining company discrimination among universities. Mining companies select university partners based on particular corporate needs in a defined moment. Some universities serve certain corporate interests better than others; different universities serve different interests. This situation sustains a discriminatory relationship with mining company's own stakeholders, and this has clear moral implications.

The unintended consequence of this discrimination is the maximisation of the inequality in the higher-education system. Discrimination of universities as providers, CSR recipients and CSR validators increases the already existing inequality in the Chilean university system. By not creating truly long-term partnerships with universities that aim to achieve local/national/international development, mining companies simply strengthen the current order, in which prestige, rankings and personal contacts drive mining company engagement with universities in Chile. At the same time, this issue has consequences for the mining company's social licence to operate.

Does engagement with universities influence SLO?

Mining companies engage with universities to obtain the SLO without really understanding whether their actions increase their chances of obtaining it. Nevertheless, by serving only their corporate interests and discriminating among their own stakeholders, the possibilities of achieving 'sustainable development' decreases.

This study does not aim to evaluate the impact of mining company engagement with universities. However, there is sufficient evidence in mining companies' CSR reports and in interviews with senior mining executives that a coordinated corporate strategy for engagement with universities is lacking.

Summary

This chapter demonstrates that these two types of mining company engagement with universities (as CSR recipients and CSR validators) are linked to mining company interests to achieve social legitimacy. The findings suggest that some interactions between mining companies and universities do not involve any benefit to mining companies other than increasing the legitimacy of their operations.

This chapter explained that due to the perceived limited benefits of engaging with universities (mainly local or regional universities) as providers of services, mining companies engage with universities in a philanthropic manner. What could be seen as an act of goodwill is in fact a way in which companies aim to minimise their 'bad reputation', to build local legitimacy and, ultimately, seek and maintain their social licence to operate. The same universities that could not provide mining companies with relevant services are, in this case, considered as 'respected experts'.

Chapter 7: Discussion and Conclusions

The objective of this study was to understand, from a CSR perspective, how and why mining companies operating in Chile engage with universities. The findings demonstrate that mining companies engage with universities in three main ways: (1) as providers of research, training and graduates; (2) as CSR recipients; and (3) as validators of mining company CSR behaviour. At the same time, this study has found that mining company engagement with universities can take many shapes in a complex set of interactions.

Basing this thesis on the Chilean experience, this study responds to the need to understand mining companies' CSR deployment in developing countries (Banerjee, 2010; Hilson, 2012; Kapelus, 2002; Welker, 2014). This study finds that mining companies engage with universities to fulfil their needs to legitimise mining operations at the local, national and international level. This study finds that mining company engagement with universities often has little to do with either the provision of services or philanthropy. The findings of this study aligns with the scholarly literature that argues that mining company CSR activities are public relations exercises that seek to legitimise mining operations (Banerjee, 2010; Jenkins, 2004; Kapelus, 2002; Welker, 2014) at different scales (Mayes, 2015).

At the same time, this study offers a new insight into CSR practice, namely that mining companies have little understanding of the consequences of their CSR practice through engagement with universities. As result, in addition to understanding why and how mining companies deploy CSR through engagement with universities, it is necessary to understand the 'intended' and 'unintended' consequences of this engagement (Sharp, 2006). Accordingly, the following sections aim to provide insights into the implications of mining company engagement with universities.

Complex engagement with universities

This study has provided insights into the complexity of mining company engagement with universities. This complexity exists because CSR practice is carried out by people who must balance corporate interests against societal expectations (Welker, 2014). This creates a complex set of interactions with universities to serve diverse corporate benefits and societal interests. Mining company engagement with universities occurs at different levels and, as this thesis suggest, mining companies sometimes struggle to engage with universities in a way that brings positive outcomes for both sides.

This study also found that mining companies do not have robust processes for engaging with universities, making interaction sometimes unpredictable. However, the main issue with mining company engagement with universities is the somewhat contradictory motives underpinning these engagements. As the findings of this thesis demonstrate, mining companies engage with universities to have access to university graduates, education and research services that are relevant to their core mining business. At the same time, mining companies may also choose to engage with universities in a way that provides universities with philanthropic funding, which may be completely disassociated from the mining companies core business. Similarly, mining companies want universities to validate the ethicality of their behaviour by conducting (and validating) impact studies of mining operations. Maintaining good relationships with universities can therefore be important for mining companies because they are part of a complex set of relationships and practices that can impact mining companies' SLO and, therefore, their long-term survival and economic viability.

The geographical dimension of mining company engagement with universities adds additional complexity to the relationship and may leads to a number of unintended consequences. The importance of this geographical dimension of engagement is that mining

companies choose to engage with universities located in different places based on different corporate needs that must be satisfied in each of these engagements. Some universities, mainly large national and international universities are, in the eyes of mining companies, perceived to be better providers of research, training and graduates. In the same way, local and regional universities may be perceived to better serve corporate interests when mining companies are looking to engage with local communities. Large national universities become more appealing CSR recipients when corporate interests look to increase legitimacy at the national and global level.

This study supports the work of Altbatch (2004) by providing evidence that mining company engagement with universities at different geographical scales has unintended consequences for the development of both individual universities and the national university system. This research study reinforces Albatch (2004) suggestion that globalisation and liberalism are deepening the uneven development of universities worldwide. The current levels of strategic, yet uneven, engagement with universities could be detrimental for some universities. For example, mining company decisions to fund major projects at the most powerful, prestigious and rich national and international universities serve to make these universities even more powerful and rich. There are two main consequences of this action. First, it increases the current inequality of the university system by growing the power and resources of the already most privileged universities (uneven geographical development) and, secondly, denies the most disadvantaged local universities the opportunity to benefit from the resources and relationships with major mining companies. The unintended consequences of mining company engagement with universities are supported in the academic literature by the work of Hamilton and Downie (2007). Hamilton and Downie (2007) argue that the close ties (including big donations and sponsorships) between mining companies and universities in Australia is creating an inappropriate level of influence on

universities' teaching and research agendas.

This last point refers to the opportunity costs associated with the provision of funding to one university over another university. This is a fundamental contradiction of broadly accepted CSR principles, in which mining companies are expected to bring development to the most affected stakeholders and, ultimately, build corporate legitimacy at the local level. By providing resources to the most powerful and rich universities, mining companies may increase legitimacy at the national and global level but this may also have the unintended consequence of decreasing the legitimacy of the local universities by not investing in them, which may be perceived by others as a lack of faith in their capacity.

The uneven nature of mining company engagement with universities located at different scales is a product of the geographical context in which mining operations are embedded. Each mining operation is immersed in a unique economic, social and cultural context that shapes the relationships mining companies have with stakeholders (Bridge, 2009). The Chilean university system is different from many other university systems in the world, particularly those of developed and mining-focused countries. Chilean regional universities are living with the consequences of a centralised nation where 'everything happens in Santiago', including appointment of regional authorities and distribution of regional budgets. Regional universities must compete with the rest of Chilean universities for resources, as well as trying to attract as many students as possible to keep universities financially viable. There seems to be a general perception (including by government) that those located closer to the big mining operations, including universities, should benefit from the presence of mining companies. The local presence of mining companies is seen as a source of development and, there seems to be an expectation that local universities should find a way to benefit from that. However, the mining company CSR reports analysed in this thesis suggest that the engagement efforts of the Chilean mining industry primarily benefits

big national universities by providing funding for projects that are not linked to the 'core business.'

Mining companies' relationships with national and international universities appeared to be governed by different structures of power and moralities than when they engage with more underdeveloped universities located at local/regional level. Another geographical dimension of mining company engagement with universities is the potential implications it has for the geographical aspects of mining companies' SLO. As explored in this thesis, the main reason mining companies engage with universities located in different geographical spaces responds to a mining company need to build its legitimacy at different geographical scales. As Mayes (2015) points out, the mining industry is a global industry that needs to build legitimacy at different scales to be able to secure business continuity and global productions networks.

A consequence of the above-mentioned geographical dimensions of mining company engagement with universities is that mining companies discriminate among stakeholders based on location. In this way, the main unintended consequence of mining company engagement with universities is uneven development, which is the opposite to the standard mining company narrative of 'sustainable development'.

Research contributions

This thesis has extended the literature on CSR by studying mining company engagement with universities, which has to date been only narrowly explored in existing scholarly work. Universities are considered by mining companies to be stakeholders but previous academic work on stakeholder engagement has not given much space to engagement with universities as important stakeholders.

This research has also extended the academic literature on CSR deployment in developing countries. Countries like Chile offer a different context to countries where

university systems are more developed and industry-university engagement is perhaps more sophisticated.

Implications for practice

The findings of this thesis have practical implications for mining companies, universities and governments. Mining companies could improve CSR practice through better understanding the complexity of their relationships with universities, as well as the geographical dimensions of these engagements. This study has demonstrated that mining companies' engagement with universities in Chile is more diverse and strategic than might appear in CSR reports. Mining companies have developed a variety of engagements with universities to meet societal pressures related to benefiting or compensating affected stakeholders and to behave in a socially responsible manner. The analysis of mining company CSR reports provides a picture of the nature of mining company engagement with universities that could be useful to the industry in order to rethink or reflect on its engagement with universities.

This study also offers a rich insight into mining companies' expectations and needs with respect to mining company-industry engagement, which could be of benefit to universities seeking to engage with mining companies. Finally, the findings of this study could assist Chilean national and regional governments to better align initiatives aiming to increase mining company engagement with universities, particularly in terms of capacity building and research outcomes.

As elucidated in the introduction to this thesis, the Chilean government undertakes a number of initiatives that aim to increase mining company engagement with universities, particularly at the local level. This study provides new insights into the reality of mining company engagement with universities. By considering issues such as mining company expectations to build legitimacy at different scales, mining company lack of robust

processes for these types of engagements, the regional and national governments have the opportunity to articulate higher-impact initiatives.

Further research

This research study is one of small number of academic works aiming to understand mining company engagement with universities. Therefore, this study sets a starting point for further research in the space of industry-university engagement more generally and, specifically, regarding mining company engagement with its stakeholders from a CSR perspective.

This thesis focuses on the mining industry-university engagement from the point of view of mining companies. Further research on this topic must include the voice of universities. Universities have a very unique set of values and beliefs and, therefore, their engagement with other organisations is very different to the corporate world. Nevertheless, universities are becoming more entrepreneurial and are incorporating more corporate practices (Hamilton & Downie, 2007). From an ethical point of view, it could be argued that universities also have their own 'corporate social responsibility' agenda. However, the not-for-profit and community-based nature of universities create very different priorities and set of external engagements when compared to mining companies. The complexity of mining company engagement with universities cannot be fully understood if the point of view of universities are not included.

This research study is based on the mining company engagement with universities in one particular country, Chile. Given the importance of mining in Chile and the diversity of mining companies operating in the country, Chile is a very relevant site for this research. However, the findings might be mainly extended to countries with similar characteristics. Further research in different sites with different university systems, mining industry and governments would add value to the understanding of mining-company engagement with universities. It would be of particular interest to understand how this engagement unfolds

when research is based on countries with higher levels of university development in which universities are in different power positions relative to their counterparts in developing countries. This would assist in the further understanding of the geographical dimensions of mining company engagement with universities.

Given the push for universities and mining companies to increase engagement with each other, it is imperative that there is a greater understanding of mining company perceptions of universities as providers of a range of services, and as recipients and validators of industry's CSR approaches. This study has provided a new insight regarding mining company engagement with one of their most important stakeholders, universities. By analysing mining company CSR reports and interviewing mining company senior executives, this research project brings into focus the practical, ethical and geographical dimensions of an unexplored type of mining company engagement with society.

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Appendixes

Appendix 1: List of mining company reports analysed

CODELCO (13)
Sustainability Report 2015
Sustainability Report 2014
Sustainability Report 2013
Annual Report 2013
Sustainability Report 2012
Sustainability Report 2011
Sustainability Report 2011- Chuquicamata Division
Sustainability Report 2010
Sustainability Report 2009
Sustainability Report 2008
Sustainability Report 2007
Sustainability Report 2006
Sustainability Report 2005
Antofagasta Minerals (24)
Sustainability Report 2015
Annual Report 2015
Sustainability Report 2014
Annual Report 2014
Sustainability Report 2013
Sustainability Report 2013- Minera Los Pelambres
Annual Report 2013
Sustainability Report 2012
Sustainability Report 2012- Minera Los Pelambres
Annual Report 2012
Sustainability Report 2011
Sustainability Report 2011- Minera Los Pelambres
Annual Report 2011

Sustainability Report 2010- Minera Los Pelambres
Annual Report 2010
Sustainability Report 2009- Minera Los Pelambres
Annual Report 2009
Sustainability Report 2008- Minera Los Pelambres
Annual Report 2008
Sustainability Report 2007- Minera Los Pelambres
Annual Report 2007
Sustainability Report 2006- Minera Los Pelambres
Annual Report 2006
Annual Report 2005
Anglo American (32)
Sustainability Report 2015- Global
Sustainable Development Report 2015- Chile
Sustainability Report 2015- Minera Collahuasi
Sustainability Report 2014- Global
Sustainable Development Report 2014- Chile
Sustainability Report 2014- Minera Collahuasi
Sustainability Report 2013- Global
Sustainable Development Report 2013- Chile
Sustainability Report 2013- Minera Collahuasi
Sustainability Report 2012- Global
Sustainable Development Report 2012- Chile
Sustainability Report 2012- Minera Collahuasi
Sustainability Report 2011- Global
Sustainable Development Report 2011- Chile
Sustainability Report 2011- Minera Collahuasi
Sustainability Report 2010- Global
Sustainable Development Report 2010- Chile
Sustainability Report 2010- Minera Collahuasi
Report to Society 2009- Global
Sustainable Development Report 2009- Chile

Sustainability Report 2009- Minera Collahuasi
Report to Society 2008- Global
Sustainable Development Report 2008- Chile
Sustainability Report 2008- Minera Collahuasi
Report to Society 2007- Global
Sustainable Development Report 2007- Chile
Sustainability Report 2007-2006 Minera Collahuasi
Report to Society 2006- Global
Sustainable Development Report 2006- Chile
Sustainability Report 2005- 2004 Minera Collahuasi
Report to Society 2005- Global
Sustainable Development Report 2005- Chile
BHP Billiton (24)
Sustainability Report 2015- Global
BHP Billiton Chile Sustainability Report 2015
Management Report 2015- Fundación Minera Escondida
Sustainability Report 2014- Global
BHP Billiton Chile Sustainability Report 2014
Management Report 2014- Fundación Minera Escondida
Our Contribution: BHP Billiton in the Community 2014-Global
Management Report 2013- Fundación Minera Escondida
Sustainability Report 2013- Minera Escondida
Sustainability Report 2012- Global
Management Report 2012- Fundación Minera Escondida
Sustainability Report 2012- Minera Escondida
Sustainability Report 2011- Global
Sustainability Report 2011- Fundación Minera Escondida
Sustainability Report 2010- Global
Sustainability Report 2010- Minera Escondida
Sustainability Report 2009- Global
Sustainability Report 2009- Minera Escondida

Sustainability Report 2008- Global
Sustainability Report 2007- Global
Sustainability Report 2007- Minera Escondida
Sustainability Report 2006- Global
Sustainability Report 2006- Minera Escondida
Sustainability Report 2005- Global
Barrick (7)
Sustainability Report 2012- Barrick Chile
Sustainability Report 2011- Barrick Chile
Sustainability Report 2010- Barrick Chile
Sustainability Report 2009- Barrick Chile
Sustainability Report 2008- Barrick South America
Sustainability Report 2007- Barrick South America
Sustainability Report 2006- Barrick South America