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## **'Trusting the numbers': mineral prospecting, raising finance and the governance of knowledge**

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**'Trusting the numbers': mineral prospecting, raising finance & the governance of knowledge**

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Abstract:	<p>Mineral prospecting and raising finance for 'junior' mining firms has historically been regarded as a speculative activity. For the regulators of securities markets upon which 'junior' mining companies seek to raise capital, a perennial problem has been handling not only the indeterminacy of scientific claims, but also the social basis of epistemic practices. This paper examines the production of a system of public warrant and associated knowledge practices intended to enable investors to differentiate between 'destructive' and 'productive' varieties of financial speculation. It traces the use of the notion of 'disclosure' in constructing and legitimizing the 'juniors' market in Canada. It argues that though the work of 'economics' may be necessary in the construction of markets, it is by no means sufficient. Attention must also be given to the ways in which legal models of 'the free-market' can be translated and constantly re-worked across the sites and spaces of regulatory practice, animating the geographies of markets.</p>

**Abstract**

Mineral prospecting and raising finance for 'junior' mining firms has historically been regarded as a speculative activity. For the regulators of securities markets upon which 'junior' mining companies seek to raise capital, a perennial problem has been handling not only the indeterminacy of scientific claims, but also the social basis of epistemic practices. This paper examines the production of a system of public warrant and associated knowledge practices intended to enable investors to differentiate between 'destructive' and 'productive' varieties of financial speculation. It traces the use of the notion of 'disclosure' in constructing and legitimizing the 'juniors' market in Canada. It argues that though the work of 'economics' may be necessary in the construction of markets, it is by no means sufficient. Attention must also be given to the ways in which legal models of 'the free-market' can be translated and constantly re-worked across the sites and spaces of regulatory practice, animating the geographies of markets.

**Key words:** finance, mining, Canada, knowledge practices, geographies of marketization

## Introduction

In 2004 the International Accounting Standards Board (IASB) set up an international project to research financial reporting practices for the extractive industries, encompassing exploration, evaluation, development and production activities. The project team drew together staff from the national accounting standards setters of Australia, Canada, Norway and South Africa, who were tasked with developing a framework for the harmonisation of accounting, valuation and disclosure models for non-regenerative resources. In prefacing their recommendations, the project team noted that 'extractive activities are subject to several significant uncertainties. During exploration it is common to have insufficient data to evaluate whether a deposit of minerals or oil and gas will be developed and will generate future net cash inflows from extraction and sale ... these uncertainties revolve around the quantity ... that can be extracted given the geological, technical and economic conditions. ... [Moreover] there is no direct relationship between the risks and rewards of a particular exploration programme' (IASB 2010, 15). Indeed, historically financing mineral exploration firms has been regarded as a highly speculative activity. In part this stems from what Braun (2006) has characterised as 'the intransigence of nature' (p.202), the ways in which the physical qualities of geological phenomenon pose particular barriers to commodification processes. However, it also stems from how those promoting the sale of shares in exploration companies exploit in an entrepreneurial fashion the articulation of prospectors' provisional knowledge claims with a range of culturally specific sets of commitments and practices, 'conjuring' economic potential, animating speculative capital flows (Tsing 2005). Consequently, for market participants a perennial problem has been not only handling the indeterminacy of scientific claims based upon field surveys, exploration drilling, chemical assays and inference, but also the social basis of these epistemic practices (Schaffer 2002). This paper examines the construction of a regime to standardize the disclosure and circulation of information considered material to the valuation of shares in these sorts of enterprises, that is, the production of a system of public warrant and associated knowledge practices intended to enable investors to differentiate between 'destructive' and 'productive' varieties of financial speculation (Preda 2009). It focuses on the world's largest equity market (by number of listings) for mineral exploration or 'junior' mining firms – Canada – tracing the use of the notion of 'disclosure' in the construction and legitimization of this market.

## The rule of markets

In a recent review of the 'geographies of markets', Berndt and Boeckler (2010) have argued for more research on 'how exactly markets and other economic entities are put to work' (p. 599). Driving this project is concern that markets are too often taken-for-granted in geographical scholarship and the social sciences more generally. Over the past ten years transdisciplinary scholarship has eschewed notions of 'the market' and begun to view markets as bundles of practices and material arrangements always in the making (Callon 1998; MacKenzie 2006; Mackenzie et al. 2007). This work has queried the processes through which particular ideas, objects and spaces are qualified as 'economic', directed our attention to the processes by which markets are constituted through particular socio-technical arrangements and problematized how market orders emerge and expand (Caliskan

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3 and Callon 2009; 2010). As recently acknowledged, common threads that bind together  
4 much of this research on 'geographies of marketization' are the 'concrete translation  
5 processes which see to it that economic and social realities are brought into line with  
6 laboratory conditions, in so doing allowing the radical project of neoclassical economics to  
7 realize itself' (Berndt and Boeckler 2011, 1058). In understanding these translation  
8 processes, emphasis has been placed on the role of economists (whether 'confined' or 'in  
9 the wild') and things ('market devices') (Callon et al. 2002; MacKenzie et al. 2007, 311-357).  
10 As a consequence, this paper argues, often glossed over is the significance of the 'methods  
11 of control and trials of strength' (Mitchell 2007, 245) embedded within the design and  
12 deployment of 'economic' arguments and calculations. Though the work of 'economics' may  
13 be necessary in the construction of markets, it is by no means sufficient (see Mitchell 2002;  
14 Parry 2004; Blomley 2008; Mansfield 2008). Emphasis on 'economics' and associated  
15 calculative arrangements alone often takes much for granted in the workings of private  
16 regimes of self-regulation, their relationship with the state and wider legal processes in  
17 shaping market-like rule.  
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22 For example, MacKenzie's (2001; MacKenzie and Millo 2003) path-breaking discussion of  
23 option pricing and the development of modern financial markets, casts necessary moral and  
24 legal boundary work as points of departure. Outlining the social, cultural and political  
25 'conditions of felicity' that explain the Black-Scholes-Merton model's success at the Chicago  
26 Board Options Exchange, MacKenzie places emphasis on the growing authority of  
27 economics, the model's cognitive simplicity and its material means of calculation (MacKenzie  
28 et al. 2007, 54-86). The on-going boundary work within regulatory structures to manage  
29 distinctions between private and public information (animated by notions of 'fairness') and the  
30 legitimacy of market-making practices (as forms of 'destructive' or 'productive' speculation) is  
31 assumed to be *fait accompli*. As a consequence, lost are the variety of ways in which legal  
32 models of 'a free market' can be translated and constantly re-worked across the sites and  
33 spaces of regulatory practice into governing norms, statutory provisions, institutional  
34 arrangements and associated calculative possibilities – that is, the generative power of law  
35 (Riles (2011)).  
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40 In the sections that follow, the paper traces the enrolment of 'disclosure' into the Canadian  
41 capital market and associated debate over what it means in practice, i.e. what ought to count  
42 or be considered 'material' in the valuation of shares. As will be discussed shortly, practical  
43 investments by the state and industry participants in a disclosure regime were animated  
44 largely by what investors perceived as '*the Canadian problem*' – fraud associated with the  
45 marketing of speculative shares in mineral prospecting firms. The construction of a system  
46 to govern the circulation of 'material' information proved necessary to legitimise this form of  
47 financial speculation, yet in doing so established a template for Canada's wider capital  
48 market. From the case study it is evident that 'disclosure' can be put to work in a number of  
49 ways. How legal processes frame epistemic practices, translating legal models of 'a free  
50 market' into standards and statutory requirements, can have a bearing on what forms of  
51 governance are brought into being and the kind of economy set in motion. Over time  
52 disagreement among market participants in Canada over what 'disclosure' ought to mean for  
53 financing mineral prospecting did not yield a space of convergence, centred on a shared  
54 understanding built up over the course of transactions. Even though 'disclosure' may appear  
55 as a technical given, in fact it has functioned more like a 'trading zone' (Galison 1997), a  
56 socio-technical space in which divergent understandings and commitments towards the idea  
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3 circulate, facilitating in a generative fashion the work of market coordination and  
4 legitimization in different temporal and socio-spatial configurations.  
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7 The remainder of this paper first traces Canada's importance as a place for raising equity  
8 finance for junior mining and the context in which disclosure regulations were first introduced.  
9 It then identifies three shifts in how regulators made sense of 'disclosure' in practice. These  
10 shifts reframed the significance of disclosure for the prevention of fraud: first, in terms of the  
11 well-being of mineral exploration and resource development; then, wider processes of  
12 industrialization; and finally, promoting 'knowledge industries' within the global economy.  
13 Each shift re-drew boundaries that demarcate flows of private information controlled by  
14 mining promoters from what are deemed 'material' to the valuation of shares and so should  
15 be publically available within the market making process. These shifts in interpretational  
16 practice had consequences for the governance of both issuing firms and the markets they  
17 listed upon. As such, the technical qualities of disclosure requirements were profoundly  
18 political (Mitchell 2007; Riles 2011). In the Canadian example, 'disclosure' gained traction  
19 through contingent associations forged with scale-making projects of: first, province-building;  
20 then, the construction of a national space economy; and finally, securing Canada's place  
21 within a global economy. This case study suggests that the power of the idea of disclosure  
22 resides less in an idealized notion of some sort of self-executing means of economic  
23 regulation, than in the situated politics of calculation it puts in place. Attention to the  
24 geographies of the institutions, actors, ideas and material practices that constitute these  
25 sorts of legal knowledge practices can greatly enrich our understanding of the situated logics  
26 and imperatives that animate the variegated landscape of contemporary capitalism (Peck  
27 and Theodore 2007).  
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### 32 **Canada & resource exploration**

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34 Canada has long been recognised as a leader in mining and its financing. Fifty-seven per  
35 cent of the world's public mining companies are listed on the Toronto-based TMX Group of  
36 securities exchanges, over twice as many as its nearest foreign rival, the Australian Stock  
37 Exchange (TMX 2010). Most of these mining issuers are exploration companies with no  
38 financial interest in a producing mine. They focus on finding promising locations, evaluating  
39 the site to determine if is economically viable (i.e. 'proving'), securing the rights to the  
40 materials (i.e. 'staking') and developing a mine for production. These activities are non-  
41 revenue generating with an uncertain pay-off. As Tsing (2000) has argued, in such  
42 'speculative enterprises, profit must be imagined before it can be extracted' (p.118) and so 'in  
43 this industry, the line between various kinds of expertise is thin: geologists (with salaries  
44 supplemented by stock options) must be promoters to raise the money to finance their  
45 mineral finds, market analysts must be geologists to evaluate those finds, and stock  
46 promoters must explain their offerings in geologically convincing terms' (p.123). Junior  
47 mining contrasts with the activities and risks undertaken by 'the majors' or senior mining  
48 companies, a relatively smaller number of large multinational firms that concentrate on  
49 mineral production, processing and marketing activities. The latter dominate the mining  
50 listings in markets centred in New York and London, where the average quoted market  
51 capitalisation for a mining firm is \$11.3 billion (NYSE/AMEX) and \$3.4 billion (LSE/AIM)  
52 respectively. On the TMX group of exchanges, by comparison, the figure is only \$0.4 billion.  
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3 Canada's significance as a place in which to raise capital for junior mining ventures can be  
4 traced back to mineral finds in the 1890s in the Rocky Mountains of British Columbia, and  
5 later in the Pre-Cambrian Shield of northern Ontario (Armstrong 1997). These discoveries  
6 served to popularise trading in highly speculative 'penny stocks'. Growing public interest in  
7 these types of shares drew upon prior investments by scientists, commercial interests and  
8 the state in constructing what Braun (1997, 2000) has described as a 'geological vision' of  
9 the new country. The Geological Survey of Canada's (GSC, established 1842) regular  
10 output of reports, sketches and maps won praise nationally and internationally as reliable  
11 guides to mining enterprise. These publications amounted to more than the enumeration of  
12 Canada's mineral wealth. Rather, they were part of broader efforts by provincial and federal  
13 governments to generate a geologically literate public at home and abroad, presenting  
14 investment opportunities in Canadian mining as an 'as an exercise in reason, rather than  
15 speculation' (Braun 2000, 31).  
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19 Under the terms of Canadian confederation, powers over land and resources were ceded to  
20 provincial governments. It was left to provincial legislatures and their administrative agencies  
21 to determine how to regulate the distribution, use and financing of what were now cast as  
22 Canada's 'mineral lands'. Legislation emerged in the wake of gold rushes in California  
23 (1849), Australia (1851) and New Zealand (1857), mirroring those jurisdictions' 'free entry  
24 system' (Leshy 1987; Bakken 2008). This separated surface from sub-surface property  
25 rights, privileging mining interests over and above other pre-existing claims to the land,  
26 whether indigenous or settler (Barton 1993). Dis-entangling sub-surface property rights from  
27 other claims was regarded by state officials as necessary as providing physical infrastructure  
28 (roads, railways and ports) in promoting investment in the 'resource frontier' (Ontario 1890).  
29 Together, geological and legal practices made legible to power a space of administration,  
30 advancing the frontiers of the Canadian state (Zaslow 1975), configuring the imagined  
31 geographies of a transcontinental nation (Zeller 1987; Baldwin, Cameron and Kobayashi  
32 2011) and incorporating new territories into imperial forms of political and economic  
33 calculation (Stafford 1990).  
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38 As the state harnessed both private initiative and its own resources to administer its  
39 territories as a geological resource, financiers in Toronto and Montreal seized upon the  
40 opportunity to promote the sale of 'penny' shares in mineral exploration companies. On the  
41 trading floors of the cities' stock exchanges (founded in the 1870s), penny stocks were sold  
42 alongside opportunities to invest in banks, insurance companies, railroads and utilities,  
43 seeming to guarantee in the minds of investors the liquidity of mining investments. Whereas  
44 shares in banks and utilities commanded prices beyond the reach of most salaried workers  
45 and wage earners, penny mining stocks offered many the prospect of handsome dividends  
46 and capital gains if there was a rich strike of minerals. Armstrong (1997) notes that most  
47 investors in junior mining ventures at this time 'knew little and cared less about geology or  
48 mineralisation, but all were eager to get in on the ground floor and ride a stock for as much  
49 profit as they could' (p.27). By the 1920s low-priced shares in 'juniors' came to serve as  
50 vehicles for extending share ownership beyond the ranks of the financial elite, drawing in  
51 retail investors from across North America. However unscrupulous sales techniques, false  
52 and misleading claims and share price manipulation quickly earned mining promoters and  
53 their brokers operating out of Toronto international notoriety. In the wake of the Wall Street  
54 Crash, one of the first initiatives the United States' Securities and Exchange Commission  
55 (SEC) undertook was to address what had become known as '*the Canadian problem*': the  
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3 unlicensed cross-border marketing through letters, telegram wires and telephone calls of  
4 highly speculative unregistered Canadian mining shares. The high-pressure sales  
5 techniques of Toronto's boiler rooms sought to capitalize upon the staging of Canada as a  
6 'resource frontier', conjuring the prospect of wealth from the spaces in between the drill holes  
7 that animated revisions to the GSC's *Geological Map of Canada* (1869).  
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10 By the late 1930s, exploitation of prospectors' knowledge claims by Toronto's boiler rooms  
11 and a series of scandals involving the salting of drill hole cores, severely eroded public  
12 confidence in Canada's capital markets and its mineral exploration firms in particular. A  
13 sustained publicity campaign by the SEC and non-profit Better Business Bureau to stem the  
14 flow of marketing communications and mining shares across the U.S. border helped push  
15 Ontario's government to convene a *Royal Commission on Mining* (Ontario, 1944). Canada's  
16 dependence on external investment to fund its economic development, in particular from U.S.  
17 residents, figured prominently in the Commission's deliberations. Significantly, its report  
18 linked promoting the mining industry with fraud prevention. It argued that existing securities  
19 legislation should be repealed as it had a 'retarding influence' on mining in failing 'to solve  
20 the problem of preventing fraud in the sale of securities'. It concluded that fraudulent activity  
21 had reached 'serious proportions', 'hampering the financing of legitimate mining  
22 development'.  
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### 26 **Making space for disclosure**

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29 Until this point the prevention of securities fraud relied upon the by-laws and initiative of stock  
30 exchanges and the investigative powers of each province's Attorney General. In 1928  
31 Ontario passed the *Security Frauds Prevention Act* (SFPA), requiring the registration of all  
32 brokers and salespeople, empowering courts to suspend them where fraud was proven and  
33 strengthening the Attorney General's powers. However, reliance on the latter's resources  
34 and the burden of proof required by the courts proved largely ineffective (Armstrong 1997).  
35 Further public resources were directed at the issue in 1931, with the creation of a specialized  
36 tribunal to enforce legislation, eventually named the Ontario Securities Commission (OSC).  
37 Yet reliance upon the deterrence of well publicized investigations, broker registration and  
38 self-regulation was evidently not adequate to address '*the Canadian problem*'.  
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42 Recognising the moral and political challenges that threatened to stem new financings, the  
43 *Royal Commission on Mining* argued that public confidence in mining securities depended on  
44 some form of assurance that market practices could be trusted as ethical. It suggested this  
45 assurance should be provided by regulation; interventions to ensure the public be given 'a  
46 *fair run* for its money'. It advocated measures to govern the circulation of knowledge among  
47 prospectors, their promoters and the investing public; measures that would 'demand  
48 personal integrity and financial responsibility' of brokers and ensure 'the reasoning person'  
49 had access to 'all the important facts' considered necessary to judge a share's worth in  
50 relation to his or her best interests. The specific regulatory strategies recommended were,  
51 firstly, a new form of registration for brokers requiring applicants to provide evidence that  
52 they met 'the ordinary standards' for 'fair dealing' and, secondly, a requirement that issuers  
53 circulate a standardized prospectus before any new issues are sold to the public, *disclosing*  
54 key information in advance of a company's initial public offering (IPO).  
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3 As a regulatory ideal, 'disclosure' is grounded in legal constructions of 'fairness' or 'equity'  
4 and rooted in a longer standing belief in the goal of transparency, the struggle for which is  
5 considered a hallmark of liberal government (Scheppele 1988; Sunstein 1990; Sarra 2007).  
6 As a regulatory technique, disclosure was championed in the early twentieth century by legal  
7 realists such as Brandeis (1914), Berle and Means (1932) and Frankfurter (1933), and became  
8 the cornerstone of the U.S. securities regulatory framework established under Roosevelt's  
9 New Deal (Williams 1999; Wang 2010). For Brandeis, 'disclosure' was a means to an end –  
10 a regulatory strategy that could bring pressure to bear from shareholders and the wider  
11 public on the activities of powerful market insiders. This, according to Berle and Means,  
12 would make those who hold economic power more accountable. Frankfurter, who was  
13 instrumental in guiding the Securities Act (1933) through Congress, argued publicity could  
14 transform the 'competence and character' of corporate managers, bankers and accountants,  
15 as 'many practices safely pursued in private lose their justification in public' (1933, 55).  
16 Disclosure, he maintained, was 'essential to a fair judgment upon the security offered' (op.  
17 cit.), enabling the public to efficiently and accurately value securities, thereby affecting  
18 'business morals'. In contrast to past reliance on deterrence-based measures, this marked a  
19 critical departure in market governance, placing a legal responsibility for the public circulation  
20 of accurate, timely 'material' information in the hands of market insiders.  
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25 Whereas in the United States the introduction of mandatory disclosure was framed in terms  
26 of making those who hold economic power more accountable, in Canada it was introduced a  
27 decade or so later with a very different frame of reference. It was the *Royal Commission on*  
28 *Mining* (1944) that successfully advocated its introduction, arguing that adapting U.S.  
29 practice was necessary to shore up confidence among investors in financing the  
30 development of Canada's resource economy. Further to this end, whereas in the United  
31 States the SEC was granted sweeping discretionary powers, advancing the regulatory state  
32 (Rittich 2005), in Canada the Commission argued the OSC's powers be clearly defined,  
33 curtailed and limited to the administration of government policy, namely promoting resource  
34 development (Coleman 1994; Condon 1998). If the OSC controlled the terms of entry to the  
35 brokerage profession and had oversight of the production and circulation of information at the  
36 point of initial public offering (IPO), it was envisaged that the market itself would govern the  
37 flows of information and sales practices in a self-executing fashion. For Ontario these  
38 measures intended to displace moral and political concerns with utilitarian ones (economic  
39 development), while making legible to state administrators elements of the market making  
40 process.  
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45 The credibility of Ontario's mining industry loomed large as an organising principle for  
46 provisions within the province's *Securities Act (1945)*. However, contrary to the spirit of the  
47 Commission's report, the OSC was offered no guidance in the legislation on *how* to  
48 determine 'the integrity' of those who applied to be registered as brokers, nor *what*  
49 constituted 'full, true and plain disclosure of all material facts' in a prospectus. Rather, in  
50 transferring jurisdiction for securities regulation from the courts to an administrative agency  
51 (i.e. the OSC), the new Act granted the agency substantial discretionary powers to pursue its  
52 standard-setting task and statutory mandate (Baillie 1965). This said, the legislation *also*  
53 demonstrated continued faith in the self-regulatory capacities of recognized stock exchanges.  
54 The Act provided for members of exchanges and issuers listing on them to be exempted  
55 from OSC regulatory scrutiny (Coleman 1989). As Barkan (2011) notes, states have long  
56 granted such legal privileges in business, trade and finance to promote and maintain  
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3 particular regimes of accumulation. Consequently, what amounted to a form of 'regulatory  
4 expansion' (Levi-Faur 2005), not only included the creation of a regulatory agency and  
5 development of new technologies of regulation through rule making and enforcement, but  
6 also ring fenced from state oversight those market-making activities controlled by self-  
7 governing bodies. This approach mirrored that pioneered in the United States by the SEC a  
8 decade earlier, conceiving of the task of regulators as stimulating self-regulatory vigilance  
9 where there was scope for extreme opportunism (Abolafia 1996; Seligman 2003). In seeking  
10 to 'clean up' the financing of Ontario's junior mining sector, the provincial legislature had  
11 established a template for the governance of securities markets in general, one that other  
12 Canadian provinces soon emulated.  
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### 15 **Making sense of disclosure**

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18 With the passage of Ontario's *Securities Act* (1945), the newly empowered provincial  
19 regulator set about working with other stakeholders to translate the idea of 'disclosure' into  
20 procedural norms, seeking to codify existing practices as standards to govern the circulation  
21 of information. Significantly, its initial deliberations over the practical meaning of 'full, true  
22 and plain disclosure' pivoted around what the agency understood to be its role in realising  
23 provincial government policy. Early decisions and judgments by the OSC over what should  
24 and could not be circulated within a prospectus accorded greater significance to the  
25 language of risk-taking in the interests of economic development rather than paternalistic  
26 investor protection. As Hess (2007) notes, there is a politics to knowledge dissemination.  
27 For example, an article in the *OSC Bulletin* (April 1949) stated, 'if the basic concept of the  
28 administrative authorities is that the public should never risk capital but only embark on "sure  
29 things", there is good reason to believe that exploration and primary development would  
30 either cease or become the sole right of the big companies. On the other hand, the public  
31 can participate and enter into these speculations with eyes wide open and with full  
32 knowledge of all material facts, where a prospectus of the type required under our type of  
33 securities legislation is required' (quoted by Condon 1998, 30). Consequently, given the  
34 uncertainties such enterprises managed and the how the OSC understood its mandate, the  
35 regulator initially viewed its role in policing the circulation of information as quite limited.  
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41 The OSC's framing of disclosure resonated with a widely held notion that most of country's  
42 great mineral finds had been made by lone prospectors pursuing hunches, each embodying  
43 what society could gain from speculation, enterprise and scientific exploration. For example,  
44 in 1939 at the annual meeting of the Prospectors and Developers Association of Canada  
45 (PDAC), a mining executive repeated often rehearsed praise of the entrepreneurial virtues of  
46 independent prospectors and their collective contribution to the nation's prosperity, arguing:  
47 'let the government recognize prospecting for what it is: an out-right gamble ... Surely it is  
48 better that a man should gamble on a prospect than on a racehorse or an Irish Sweepstake.  
49 On this, if you lose, you lose. When money is gambled on prospects, if you lose, that money  
50 stays in Canada and more is known about mining country' (quoted in Armstrong 1992, 98).  
51 Throughout the 1940s and 1950s junior mining firms, financiers and their regulators framed  
52 controversies over the knowledge claims circulated in company prospectuses, the media and  
53 cold calls in terms of productive speculation, province building and knowledge making. In  
54 doing so, they sought to displace moral and political anxieties about the culture of investing  
55 in mineral exploration with notions of a national spirit and its wider economic and scientific  
56 significance (cf. Preda 2009). However, as Armstrong (2001) details, waves of fraudulent  
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3 'drill hole' promotions continued to threaten the sector's fragile reputation, undermining  
4 confidence in the country's capital markets at large. At one point in 1964 three public  
5 enquiries were concurrently investigating various aspects of the financing of exploration  
6 activities (see Canada 1964; Ontario 1965a; 1965b). A common thread that traversed each  
7 of these was the subject of disclosure, in particular the ability of shareholders and other  
8 investors to access accurate and timely 'material' information.  
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11 Illustrative of this was a scandal that involved the president of PDAC, Viola MacMillan (see  
12 Ontario 1965b; Condon 1998; Armstrong 2001). In 1959 a major American mineral producer,  
13 Texas Gulf Sulphur, began a systematic aerial geophysical survey and drilling programme of  
14 the Precambrian Shield around Timmins, Ontario. In April 1964 it issued a press release in  
15 New York announcing it had discovered a significant ore body (copper, zinc and silver) and  
16 had secured mineral rights for the surrounding properties. On hearing the news, Viola  
17 MacMillan made a locational bet, purchasing from local prospectors a claim surrounded on  
18 three sides by Texas Gulf lands and selling the claim to a company she and her husband  
19 controlled - Windfall Oils and Mines. By July the MacMillans had a drill team on site and  
20 rumours began to circulate about the value of minerals it had discovered, fed in part by  
21 misleading statements, unusual halts in the drilling programme and unexplained delays in  
22 sending the cores to an assay laboratory. The MacMillans groomed the market for Windfall  
23 shares, even though they knew as early as July 6<sup>th</sup> that the drill cores contained nothing of  
24 commercial value. However, optimistic statements released to the press, the theatrics of a  
25 fitful drilling programme and the circulation of rumors encouraged investors to speculate on  
26 the future value of the company's mineral claims. By July 30<sup>th</sup>, when assay results were  
27 finally made public and the stock price collapsed, the MacMillans and other insiders had  
28 netted over \$1 million (Canadian) from the disposal of their shares.  
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### 33 **Re-mapping the institutional basis of warrant**

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36 The Windfall scandal highlighted shortcomings in existing practices of self-regulation and the  
37 inadequacies of a system of disclosure that relied upon *only* the point of primary distribution  
38 of shares. Two major reviews of banking, finance and securities legislation undertaken at the  
39 time, one federal (Canada 1964) and the other provincial (Ontario 1965a), found that existing  
40 arrangements did not provide investors with an adequate *amount of information*. In addition,  
41 the Windfall affair exposed to public scrutiny the ways in which mining promoters marketed  
42 shares in the secondary market, manipulating prices through the carefully timed  
43 orchestration of well crafted rumours, leaks and official press releases. The Windfall enquiry  
44 (Ontario 1965b) concluded that this was commonplace, arguing a key issue was the  
45 *accuracy of information*. The report went so far as to characterise the membership of the  
46 Toronto Stock Exchange (TSE), Canada's primary securities exchange, as 'a private gaming  
47 club' (Ontario 1965b, 97) maintained for the benefit of insiders. This highlighted a persistent  
48 problem with the institutional basis of warrant established under the *Securities Act (1945)*;  
49 allocating responsibility to self-governing bodies for ensuring the accuracy of information  
50 circulated to investors on exchange-listed stocks.  
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55 Exemptions granted to stocks listed on the TSE had served to marginalize the influence of  
56 OSC oversight, entrusting the practical implementation of disclosure requirements to  
57 members of the exchange. Under the Act, legal exemptions in effect corralled broker-dealers  
58 who continued to operate in the Over-The-Counter market (OTC) within a space subject to  
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3 state surveillance and regulation. While this represented an extension of legal authority over  
4 an element of the junior market, it also delimited intervention by assigning those mining  
5 stocks listed on exchanges to a space exempt from direct bureaucratic oversight,  
6 demarcated by assumptions regarding the probity and collective interest of exchange  
7 members (cf. Barkan 2011). However, the Windfall report questioned this arrangement and  
8 highlighted conflicts of interest, arguing the primary distribution of mining issues was no  
9 longer compatible with the TSE's function as an exchange. Countering this, the exchange  
10 asserted that members' experience, personal knowledge and professional integrity ensured  
11 the TSE was in fact guarantor of the public interest. Surprisingly the provincial regulator  
12 supported this, arguing that if the distribution of mining securities moved off the exchange  
13 and onto the OTC market, which the OSC regulated, the market would be open to even more  
14 manipulation (see Condon 1998, 64-68). The OSC maintained that the agency would be  
15 more effective in meeting public policy objectives if granted enhanced powers of oversight of  
16 self-governing bodies, not the market-making process itself.  
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21 Consequently with the passage of a new *Securities Act (1966)*, trust in the capacities of the  
22 exchange to regulate its members' market-making activities prevailed. However the OSC  
23 was granted new sweeping powers to ensure that the exchange would undertake its  
24 regulatory responsibilities. So even though the idea of responsible self-regulation continued  
25 to prove persuasive, under the new Act the OSC was granted authority to require procedural  
26 reforms of the exchange and to oversee its disclosure practices, marking a significant  
27 extension of legal authority. Even though the OSC moved slowly to exert its new powers, the  
28 exchange itself did not delay in deferring to the political debates out of which the new  
29 legislation had emerged. By the close of the 1960s it had appointed its first non-member  
30 president, revised rules governing floor trading, introduced a department for market  
31 surveillance and helped develop an accredited system of national qualifications for market  
32 professionals (Majury 2007). Positioning itself as guarantor of 'the public interest', the TSE  
33 also introduced enhanced disclosure requirements, including the production of both a  
34 preliminary and final prospectus in the course of primary distribution, the publication of  
35 annual and interim financial statements by issuers, and a requirement that statements on the  
36 financial position of a listed company be accompanied by an accredited auditor's judgment.  
37 Through such initiatives, Ontario's capital market inched towards a formal system of  
38 'continuous' financial disclosure – the *Securities Act (1978)* - an 'evergreen' circuit of  
39 standardized financial information, up-dated in a more 'timely' fashion, verified by  
40 professionally accredited auditors.  
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### 45 **Mobilizing disclosure in different registers**

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47 What at first may have appeared under the new legislation as a straightforward regulatory  
48 strategy - enhanced disclosure - in practice actually involved elements of judgment that soon  
49 exercised both the TSE and OSC in adjudications and policy directives. Although the  
50 legislation maintained that the OSC should not exercise judgment on the merits of an  
51 investment (this was for the investing public to do), it did grant the regulator discretionary  
52 powers to ensure the terms of a purchase advertised within any prospectus were 'equitable'  
53 between parties and that mining promoters were not making 'unreasonable' profits at the  
54 expense of the investor. Under these provisions, the meaning of 'disclosure' proved  
55 sufficiently malleable to incorporate situated judgments by the OSC and TSE about equity,  
56 reasonableness and the balancing of harms among investors, mining promoters and issuers.  
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3 What was at stake here was the governance of listed firms (specifically the interests of  
4 corporate insiders vis-à-vis the investing 'public') and the market as a whole (in challenging  
5 market insiders' power to establish interpretative norms).  
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7  
8 Whereas in the 1950s disclosure requirements were narrowly interpreted in terms of  
9 assisting capital formation and the resource economy, by the late 1960s, under the OSC's  
10 direction, fraud prevention began to be reframed in wider terms than solely maintaining 'the  
11 well-being' of mining. This 'interpretative turn' unfolded neither abruptly nor without tension.  
12 For example, reflecting past practice, in 1968 an enquiry into financing mineral exploration,  
13 the *Beatty Enquiry* (OSC 1968), arranged public hearings for representations from  
14 'prospectors, developers and others associated with the financing of mining exploration and  
15 development companies' but not, significantly, from investors. Still sympathetic to the  
16 concerns of mining promoters, the OSC proved willing often to recognize situations where  
17 public disclosures could cause 'harm' to the issuer sufficient to out-weigh any likely  
18 consequences for shareholders. However, ceding to industry interests in exercising  
19 discretion was increasingly countered by instances where the OSC required issuers to  
20 introduce safeguards intended to 'balance' interests, re-shaping governance arrangements.  
21 'Disclosure', it seemed, proved sufficiently pliable to be mobilized in different registers than  
22 had prevailed in the past (cf. Galison 1997). Examples include judgments on the number of  
23 shares that could be underwritten by a speculative mining company (*Great Pine Mines* in  
24 OSCB 1966a) and the nature of payments due to promoters upon the sale of their shares  
25 (*Prima* in OSCB 1966b), positioning the agency as an advocate for shareholders in  
26 transactions with promoters.  
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31 By the turn of the decade the OSC began putting the idea of disclosure to work to broker a  
32 more diverse set of interests than had hitherto prevailed. Tellingly, in *Maybrun Mines* (OSCB  
33 1969), the OSC turned down the issuer's application to be exempted from filing a prospectus,  
34 arguing 'we have confined ourselves to considerations of the public interest in the protection  
35 of the investing public (which is within our jurisdiction) and have excluded considerations of  
36 the interests of a different and wider public in the discovering and bringing into production of  
37 new mines (which is outside our jurisdiction)' (op. cit. 169). Acknowledging that the public  
38 interest could be framed in terms other than just the promotion of mineral exploration, this  
39 judgment signaled a shift in regulatory practice, ultimately encouraging the province's most  
40 controversial mining promoters (dubbed 'stockateers') to seek out more amenable regulatory  
41 regimes, such as British Columbia's 'venture exchange' (the Vancouver Stock Exchange)  
42 (Wells 1991, VSE/BCSC 1994). Working with a chastened TSE, the OSC sought to shore up  
43 confidence among investors in the 'investment image' of Canada (see *Meta Uranium*, OSCB  
44 1967) by increasingly translating a wider array of political claims into the configuration of the  
45 public and private information flows that constituted Ontario as a space for capital raising  
46 activities.  
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### 51 **Reframing the market: 'balancing interests' through 'disclosure'**

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53 This shift in the practical meaning of disclosure reflected not just the 'dynamics of profit and  
54 prudence', whereby opportunism and legitimacy animate market politics and institutional  
55 change (Abolafia 1996). It also reflected a re-configuration of the frame and scale of  
56 reference of the associated sites and spaces of regulatory practice associated with: Ontario's  
57 industrialization and growing ambivalence among an increasingly influential segment of TSE  
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3 members towards the junior mining sector; changing attitudes towards the influence of  
4 foreign direct investment on the structure of the country's development; and a re-appraisal of  
5 the role of junior mining firms in advancing geological knowledge.  
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8 During the 1960s divisions emerged within the TSE between those brokers that specialised  
9 in promoting speculative mining issues and those who provided services for 'blue chip'  
10 issuers. With the rapid post-war industrialization of Ontario's economy, the interests of 'blue  
11 chip' brokers began to hold sway in the governance of the exchange. Institutional reforms  
12 implemented after the Windfall scandal ensured mining promoters had less influence in both  
13 the daily operations of the TSE and the internal regulation of its activities (Armstrong 2001).  
14 At the same time, by virtue of the province's economic dynamism relative to the rest of  
15 Canada, Ontario's capital markets assumed strategic significance for a wider project of  
16 national economic development. By the late 1960s a critique of past reliance on foreign  
17 direct investment (FDI), in particular American, re-framed resource extraction in terms of  
18 dependency, and FDI more generally in terms of the immobilization of Canadian  
19 manufacturing's innovative capacities (e.g. Canada 1968; Ontario 1971; Canada 1972).  
20 Foreign control of the economy had, it was argued, 'arrested' Canadian industrialization.  
21 Reframing national economic space in these terms positioned capital formation and the role  
22 of Ontario's securities markets at the centre of wider debates about engineering *Canadian*  
23 economic development (Clement and Williams 1997).  
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28 The political and institutional marginalization of mining promoters was furthered by some who  
29 questioned long-standing assumptions that junior mining performed a key role in advancing  
30 knowledge of the country's geology. Significant in this respect was Cork's (1962) brief for a  
31 federal review of the future of Canadian banking and finance (Canada 1964). Cork queried  
32 whether resource development would be impeded if fuller disclosure requirements  
33 discouraged the flotation of new junior mining issues, citing evidence that 86% of prospecting  
34 activity in Canada was financed by the majors using retained earnings. Historically, he  
35 argued, the majority of commercially significant finds had been discovered by these firms, not  
36 independent prospectors or 'juniors'. Indeed, returns for investors on 'surface prospecting',  
37 the favoured technique of independent prospectors, seemed to be diminishing. Instead,  
38 large mining companies, investing in systematic programs of aerial geophysical survey, had  
39 the means to identify 'anomalies' that could be subjected to further targeted ground-level  
40 testing and sampling.  
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45 By the 1970s one OSC study was bold enough to publically question 'junior mining's' very  
46 purpose. It reported that only a relatively small proportion of money raised through the sale  
47 of shares was actually spent on exploration activities. Typically just 40% went to the  
48 company's treasury, whereas 11% went to the underwriter-promoter and 49% to the broker-  
49 dealers who marketed the stock. The study concluded that 'involving broker-dealers in the  
50 raising of funds for junior exploration is like sending the fox to feed the chickens' (quoted by  
51 Armstrong 2001, 277). This re-appraisal gained force as Ontario's legislature formalized the  
52 OSC's legal authority over the affairs of the markets' self-governing bodies and the OSC  
53 exercised its powers to define 'disclosure' in terms other than just securing finance to  
54 develop the province's resource economy. With this the notion of 'the investor' to be  
55 protected in governmental discourse shifted from patriotic risk-takers (who were to be given  
56 'a fair run for their money') to the prudent saver, whose confidence in investing in Canada  
57 could be secured through enhanced compliance by issuers and interpretative acts by the  
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3 OSC and TSE in 'balancing interests' (cf. O'Malley 2004). Consequently, the practical  
4 meaning of 'disclosure' pivoted increasingly around the perceived impact of speculative  
5 mining finance on the ability of *other* Canadian industrial sectors to raise share capital, re-  
6 working its frame and scale of reference, informed in important ways by a wider politics of  
7 market making and statecraft.  
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### 9 10 **Uncertainty, enterprise and governing knowledge**

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12 In the introduction to this paper it was noted that the speculative nature of financing mineral  
13 exploration in part stems from how the physical qualities of specific geological phenomenon  
14 can disrupt commodification processes. As the Windfall Oils and Mines scandal illustrated,  
15 mining promoters have proven adept at exploiting in an entrepreneurial fashion the  
16 provisional nature of geological knowledge. Consequently, a perennial problem for investors  
17 has been handling not just the indeterminacy of scientific claims, but also the social basis of  
18 associated epistemic practices (Schaffer 2002). Entrepreneurs who start up and provide the  
19 initial backing for exploration firms typically draw upon past experience gained as a geologist,  
20 engineer or promoter in the mining sector. As such, the line that distinguishes different forms  
21 of expertise is thin, as investment opportunities must be explained in geologically convincing  
22 terms. Since 'profit must be imagined before it can be extracted' (Tsing 2000, 118) in such  
23 ventures, handling the indeterminacy of prospectors' knowledge claims within public  
24 disclosures is fraught with conflicts of interest. However, as Ontario's *financial* reporting  
25 practices were being re-worked during the 1960s and 1970s, regulators continued to rely  
26 upon quite basic, industry-led practices to govern the reporting of scientific claims, that is,  
27 *technical* disclosure. It was not until the 1990s, with the collapse of Bre-X (a gold  
28 prospecting firm working in Indonesia), that the quantity, qualities and timeliness of technical  
29 disclosure and the associated institutional basis of warrant became sufficiently politicized to  
30 prompt regulators to re-evaluate the implicit trust they and the public had vested in technical  
31 information.  
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37 Technical disclosures introduced under the *Securities Act (1945)*, subsection 43(5), were  
38 basic: a property's known history; means of access; the character, extent and condition of  
39 the development; and a description of any work done by its present management. Over time,  
40 these requirements were added to. From 1949 a report's author had to demonstrate that he  
41 or she was exercising independent judgment, having no financial interest in its reception. By  
42 1956 a map of the property had to be included (Frohberg 1960). However, terminology  
43 remained ill defined and loosely applied. It was not until the introduction by the OSC in 1967  
44 of *Form 11* that reporting of estimates of mineralization was first codified. This linked  
45 deposits that might be mined and sold at a profit, 'ores', to a classification agreed by the  
46 Association of Professional Engineers of Ontario (PEO) in 1963. Adopting the industry's  
47 norms (cf. Dashwood 2007), *Form 11* translated degrees of geologic assurance into  
48 marketable financial risk, tethering the system of warrant to conventions fashioned through  
49 the training and experience of PEO members (Hoover 1909; Blondel and Laskey 1956, PEO  
50 1963). This effectively displaced ethical considerations from questions of trust, embedding  
51 trust within technical expertise. This approach was rolled out nationally under National Policy  
52 (NP) 2-A (CSA 1971) and NP 22 (CSA 1983). By the 1980s other jurisdictions, led by the  
53 United States, began to qualify 'economic feasibility' further in terms of technological, legal,  
54 environmental and political contingencies (McKelvey 1972; USBM/USGS 1980; SEC 1992).  
55 However, Canadian regulators retained the PEO system, offering mining promoters greater  
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3 latitude in the sorts of knowledge claims that could circulate within technical disclosures  
4 (Micon 1998).  
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7 The uneven use of terminology for technical reporting purposes internationally helped sustain  
8 Canada's reputation as a favorable environment within which to raise finance for junior  
9 mining. This assumed particular significance as the mineral prospecting and extractive  
10 industries globally embarked upon complex and far-reaching changes during the 1980s.  
11 Incremental innovations in the technology of exploration cumulatively delivered dramatic  
12 reductions in costs. In addition advances in data processing drove a shift in methodologies  
13 from traditional approaches that make reference to regional analogues towards a new  
14 emphasis on modeling basic principles (Bridge and Wood 2005). To a degree this  
15 undermined the value of place-based, regionally specific geological knowledge accumulated  
16 over time and opened up opportunities for new entrants to apply their expertise in distant  
17 countries and unfamiliar environments. In parallel with this, new opportunities were created  
18 for mining firms to apply these techniques overseas with the liberalisation of investment  
19 regimes and mineral exploration laws in many developing countries (Otto 1997; Bridge 2008;  
20 Emel and Huber 2008). While mergers and acquisitions increased the controlling influence  
21 of large multinational integrated companies within the sector, growth in out-sourcing of up-  
22 stream activities, coupled with falling exploration costs, sustained an increasing number of  
23 small and medium-sized junior firms listed in Canada, but committed to overseas exploration.  
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28 Amidst these structural changes within the mining industry globally, the Bre-X scandal  
29 dramatically exposed fragilities within the system of metrology with which geological 'facts'  
30 were produced and circulated within the juniors' market (Gould 1998; Wells 1999; Tsing  
31 2000; 2005). In 1994 Bre-X announced assay results from drill cores it had taken in Busang,  
32 East Kalimantan. This prospecting claim had previously been abandoned by a senior  
33 Australian firm, however Bre-X claimed its own drill team had discovered a major gold  
34 deposit. Fuelled by speculation circulating on digital media, its share price climbed from  
35 \$0.51 (Canadian) in 1993 to a peak of \$286.50 by 1996. With a market capitalisation of over  
36 \$6 billion, Bre-X was inter-listed both the TSE and NASDAQ. However, additional assays  
37 undertaken the following year by a senior American firm which was in the process of  
38 brokering a partnership, found nothing of commercial value in Bre-X's samples. Indeed,  
39 evidence suggested the cores had been 'salted' with stream-rounded alluvial gold. This  
40 scandal prompted the OSC and TSE to establish the *Mining Standards Task Force* to  
41 enquire into the disclosure issues Bre-X and other contemporaneous mining scandals raised.  
42 These frauds included not only salting of cores, but also unreliable proprietary sample  
43 preparation and assay methods, mis-representations of visual field estimates as drilling  
44 results, overly optimistic geological reports and even, occasionally, human error.  
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49 The Task Force's recommendations (TSE/OSC 1999) were implemented under *National*  
50 *Instrument (NI) 43-101 - Standards of Disclosure for Mineral Projects* (CSA 2001) – replacing  
51 *NP 2-A* and *NP 22*. As in the past, measures were justified as necessary to shore up  
52 confidence in Canadian capital markets and promote economic development. However,  
53 whereas previous disclosure regimes were framed in terms of the relative significance of  
54 prospectors in producing wealth *within* Canada (i.e. debate over Canada as a 'resource  
55 economy'), these reforms were framed in terms of Canada as a 'knowledge-based economy'  
56 (OECD 1996; Gertler and Wolfe 2004; Jones et al. 2005) and support for the *export* of  
57 expertise in mining finance, mineral exploration, assaying and mine development. At the  
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3 heart of the reforms it devised were strategies to formalise, institutionalise and re-scale the  
4 system of warrant by which scientific claims can be assessed by investors. This involved  
5 accommodating the globally distanced connectivities and informational flows that now  
6 characterise significant elements of the junior mining sector in Canada, putting in place  
7 market infrastructure that recognises and works with the micro-orders of industry practices,  
8 the contingent relations that constitute 'value' across diverse sites of exploration, and foreign  
9 regimes of reporting and valuation. In doing so, NI 43-101 drew upon regulatory strategies  
10 forged earlier in relation to the disclosure of financial information: trust was formally vested in  
11 self-governing bodies, industry expertise, and the generative power of 'disclosure' (cf. Levi-  
12 Faur 2005, Riles 2011).  
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16 Firstly, the legislation formally tasked a self-governing body of professionals, the Canadian  
17 Institute of Mining, Metallurgy and Petroleum (CIM), with revising Canada's system for  
18 classifying commercially significant deposits (NP 2-A). Illustrative of the structural couplings  
19 that now bind together international economic actors within this element of the 'knowledge  
20 economy' (Teubner 1992; Dezalay and Garth 2002), CIM was required to work with the  
21 national reserve committees of Australia, South Africa, UK, Chile and USA to establish a  
22 framework for translating Canadian practice into common terminology, standardised  
23 definitions and 'best practice' guidelines (CIM 2000; 2005; 2010). The standards CIM  
24 devised and Canadian regulators recognized do not impose some arbitrary, internationally  
25 benchmarked, form of precision. Rather, they work with the indeterminacy of scientific  
26 knowledge claims, creating a space in which situated legal understandings of 'fairness' can  
27 frame epistemic practices, deploying notions of 'reasonableness' in judgments about  
28 'economic feasibility' and 'value'.  
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32 Secondly, NI 43-101 restricted authorship of a technical disclosure to those who could verify  
33 they were 'competent' to make such judgments on the economic significance of geological  
34 'facts'. 'Competency' was defined in terms of professional accreditation as a 'geoscientist' or  
35 'engineer' and at least 5 years of relevant industry experience. In formally anchoring the  
36 notion of 'competent person' to Canadian self-governing professional bodies, these  
37 institutions were required to ensure there was provision for 'public welfare' in their codes of  
38 ethics and associated disciplinary mechanisms. At the same time, securities regulators  
39 established a system for vetting and recognizing the expertise and governance  
40 arrangements of foreign accrediting professional bodies. In extending their authority through  
41 the formal recognition of accrediting bodies, Canadian regulators delegated practical  
42 responsibility for regulating the production and circulation of scientific claims to a rule of  
43 experts, constituted through a globalising network of self-governing associations of  
44 professional engineers and geoscientists (Mitchell 2002; O'Neill 2002). Given the provisional  
45 nature of prospectors' knowledge, where uncertainty is the norm, private regimes of self-  
46 regulation have been formally drawn into regulatory strategies to handle the social basis of  
47 epistemic practices.  
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52 Finally, the legislation also mandated disclosing the provenance of scientific data, including  
53 details of the identity of the assay laboratory, its relationship to the mining company and  
54 whether its processes met international standards established under *ISO/IEC Guide 25* (ISO  
55 1990). Requiring the public dissemination of information on the institutional geographies of  
56 devices, individuals, organizations and sites of scientific testing and evaluation, serves a  
57 ritual function (Power 1999). It assumes the 'value' of scientific data is best secured through  
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3 the demands that traceability place on market participants to exercise 'reasonable  
4 expectations' and foresight (O'Malley 2004 in contrast with Beck 1992), holding the brokers  
5 of knowledge to account, and echoing earlier arguments made by legal realists with regards  
6 to financial disclosure.  
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### 8 9 **Concluding Remarks**

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11 If we accept, as Boeckler and Berndt have argued, that "a world 'after markets' will only  
12 emerge on the terrain of 'markets' themselves" (2012, 1), then it is incumbent to understand  
13 what holds particular market orders in place. As Boeckler and Berndt provocatively go on to  
14 ask, 'what is it that holds neoliberalism in place even though its core principle, that is self-  
15 regulated markets, has itself proven to be a failure?' (p.2). In tracing the application of the  
16 legal concept of 'disclosure' and shifts evident in its practical application, this paper has  
17 argued that 'economics', though necessary for the construction of markets, is by no means  
18 sufficient. Analytical emphasis on the work of 'economics' within 'the performative turn' (e.g.  
19 MacKenzie 2001, Caliskan and Callon 2009; 2010) tends to under-estimate the significance  
20 of the 'methods of control and trials of strength' (Mitchell 2007, 245) that are routinely  
21 mobilized in market-making processes, steering reflective human cognition and action (Stark  
22 2009). The power of legal knowledge practices, such as 'disclosure', stems not from self-  
23 executing capacities to govern markets, but rather from their polyvalent qualities. 'Disclosure'  
24 may appear as a technical given, however as the case study illustrates, divergent  
25 understandings and commitments towards the idea circulate. Since its introduction to  
26 address '*the Canadian problem*', the practical significance of disclosure as a regulatory  
27 technique has been reframed in terms of: firstly, the well-being of Ontario's resource  
28 economy; then, wider processes of Canadian industrialization; and finally, promoting  
29 Canadian 'knowledge industries' within the global economy. Each shift in interpretational  
30 practice attempted to codify and shape the circulation of information deemed by regulators  
31 as 'material' to the valuation of shares. These practices drew upon a liberal 'imaginary of  
32 entrepreneurial calculation that is pragmatic and situational, rather than abstract or  
33 quantifiable' (O'Malley 2004, 92). Given the implications of associated judgments for the  
34 governance of junior mining firms, the markets they listed on and the type of economy they  
35 helped put in motion, it is clear that there is a political economy to the geographies of  
36 knowledge dissemination within markets, differentially empowering different types of  
37 stakeholders (Rittich 2005; Hess 2007; Dhir 2009).  
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44 This argument also has bearing for our understanding of the re-scaling of economic  
45 regulation associated with globalization and the emergence of sectoral regimes of  
46 transnational authority. Sassen (2009) has characterized such emergent sectoral regimes as  
47 'transversal borderings', 'chipping away' at what historically has been constructed as the  
48 authority of state institutions and actors per se. However, as this case study evidences,  
49 claims about the novelty of the extension of market-like rule through the generation of norms,  
50 rule-making and efforts to 'enhance' self-regulatory capacities in the shadow of the state,  
51 often fail to consider how the re-configuration of markets under globalization is predicated  
52 upon liberal legal regimes and a long history of states granting legal privileges to promote  
53 and maintain particular regimes of accumulation (see Barkan 2011). Work invested by  
54 Canadian regulators to convince investors to 'trust the numbers', to enable them to  
55 distinguish between 'productive' and 'destructive' forms of financial speculation, has entailed  
56 working closely with private regimes of self-regulation and been framed by wider strategies of  
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3 statecraft. The knowledge practices that channel and bind associated market-led  
4 governance arrangements are 'creatures and creations of grounded processes of institutional  
5 reproduction, regimes of discursive framings and contours of political power' (Peck 2011,  
6 793), and as such, are transformed by their journeys across sectors and over space. This  
7 raises as a matter for enquiry how the situated rationalities that make distinctions between  
8 'knowing things' and 'knowing people' (Schaffer 2002), 'value' and 'values' (Thevenot 2009),  
9 'market economies' and 'moral economies' (Sayer 2007; Tsing 2009), come to delineate  
10 particular geographies of marketization and a wider politics of calculation.  
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## 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

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